UDC 616-083.98 https://doi.org/10.64266/amu ISSN 3044-3105

ANNALES MEDICINAE URGENTIS

Zagreb, June 2026 International Journal of Emergency Medicine

AMU

Sonus Medicus
2nd Student Ultrasound Conference
Abstract Book

Student Section for Emergency Medicine
University of Zagreb School of Medicine
Zagreb, Croatia
6–7 June 2026

ANNALES MEDICINAE URGENTIS

Supplement 4
PP 1-62

IMPRESSUM

SUPPLEMENT IMPRINT

Publication Title
Abstract Book of Student Contributions Presented at the Sonus Medicus Conference

Publication Type
Supplement to Annales Medicinae Urgentis (AMU)

Conference
Sonus Medicus – Second Student Ultrasound Conference

Conference Organizer
Student Section for Emergency Medicine, University of Zagreb School of Medicine

Conference Dates
6–7 June 2026

Venue
Zagreb, Croatia

Supplement Publisher
Annales Medicinae Urgentis (AMU), the official open-access, peer-reviewed journal of the Croatian Medical Association – Croatian Society of Emergency Medicine

Journal Publisher
Croatian Medical Association – Croatian Society of Emergency Medicine

Editor-in-Chief
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Supplement Editorial Board

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Authors of Abstracts
Medical students and mentors according to the conference programme and submitted abstracts

Language of Publication
Croatian and/or English, according to the language of the submitted abstracts

Year of Publication
2026

ISSN 3044-3105 (Print); ISSN 3044-4489 (Online)

Journal Website
amu.hr

ABOUT JOURNAL

Aim and scope

Annales Medicinae Urgentis (AMU) is a open-access peer reviewed medical journal published by the Croatian Society for Emergency Medicine that aims to improve the care of patients with emergency and critical illness by acquiring, discussing, distributing, and promoting evidence-based information relevant to emergency physicians and intensivists.

It publishes original original articles, reviews, case reports, meta-analysis, comments, methodologies, perspectives/ viewpoints, editorials, images, news, communications, letters to the editor, etc with no restrictions on the maximum length of manuscripts, provided that the text is concise and comprehensive. The AMU uses the Diamond Open Access model. This means that there are NO author processing fees and no fees to access the published papers.

HLZ - HRVATSKO DRUŠTVO ZA HITNU MEDICINU
CMA - CROATIAN SOCIETY OF EMERGENCY MEDICINE

CONTENT

Editorial

Prof.
Višnja Nesek Adam,
MD, PhD

The advancement of medicine depends not only on scientific discoveries and technological innovation, but also on the continuous engagement of new generations of physicians in academic and research activities. Encouraging students to participate in scientific inquiry at an early stage of their professional development is therefore essential for the future of medical education and clinical practice.

This supplement brings together a collection of student contributions that reflect intellectual curiosity, critical thinking, and a commitment to evidence-based medicine. The diversity of topics presented within these pages demonstrates the breadth of interests among medical students and highlights their ability to recognize clinically relevant questions and communicate their findings in a scholarly manner.

Scientific publishing plays an important role in shaping future healthcare professionals. Through the process of preparing, reviewing, and presenting scientific work, students acquire valuable skills that extend beyond the classroom and contribute to their development as physicians, researchers, and lifelong learners. Providing opportunities for publication is therefore not only an academic responsibility but also an investment in the future of our profession.

As editors, we are pleased to support initiatives that promote student scholarship and foster collaboration between students, mentors, and clinicians. We hope that this supplement will serve as a platform for the exchange of knowledge, encourage further scientific engagement, and inspire future generations to contribute actively to medical research and education.

On behalf of the Editorial Board, I would like to congratulate all authors and mentors whose dedication and enthusiasm made this publication possible. Their work reflects the values of academic excellence, professionalism, and collaboration that continue to strengthen our medical community.

Preface

Prof. Ivan Gornik, MD,PhD

The present volume contains the abstracts presented at the Second Student Ultrasound Conference Sonus Medicus, a two-day scientific and educational meeting dedicated to the application of ultrasound in emergency medicine and to the growing role of ultrasound-based teaching in undergraduate medical education. Established as an initiative of the Student Section for Emergency Medicine at the University of Zagreb School of Medicine, the conference has evolved into a recognized forum for students, young physicians, and academic mentors who share an interest in emergency and acute care medicine.

This abstract book is published as a supplement to Annales Medicinae Urgentis (AMU), the official journal of the Croatian Society of Emergency Medicine. By publishing student contributions within a peer-reviewed professional journal, this supplement provides an opportunity for the integration of student scholarly activities into the broader scientific and professional community of emergency medicine. In doing so, Sonus Medicus serves not only as an educational event but also as an important platform for introducing students to scientific communication, academic inquiry, and professional development.

Over the past decades, point-of-care ultrasound has become an indispensable component of contemporary emergency and critical care practice. Its ability to provide rapid, real-time bedside assessment has transformed the diagnostic approach to acutely ill and critically injured patients, facilitating timely clinical decision-making and improving patient care. Concurrently, the incorporation of ultrasound into undergraduate medical curricula has emerged as an effective educational strategy, enhancing the understanding of anatomy, physiology, and clinical examination while fostering the development of practical diagnostic skills.

The abstracts collected in this volume reflect a broad spectrum of interests and clinically relevant topics. They demonstrate the intellectual curiosity, critical thinking, and academic engagement of students who seek to address contemporary clinical challenges through evidence-based approaches and the practical application of ultrasound technology.

A distinctive feature of Sonus Medicus is the integration of scientific scholarship with experiential learning. In addition to presenting original student work, participants engage in hands-on ultrasound workshops, bedside simulation exercises, and direct interaction with clinicians who routinely employ ultrasound in everyday practice. Such activities create a learning environment in which theoretical knowledge, research, and clinical skills are closely interconnected.

As a teacher and mentor, it is particularly rewarding to witness the enthusiasm and commitment of students who have recognized the value of continuity and academic collaboration. Through their dedication and organizational efforts, Sonus Medicus has progressed beyond a single event and is steadily developing into a sustainable academic tradition. Their achievements demonstrate that future physicians are not merely recipients of knowledge but active contributors to the advancement of medical education and clinical practice.

It is my sincere hope that this abstract book, published as a supplement to our journal, will serve not only as a permanent record of the scholarly accomplishments of the participating students but also as an inspiration for future generations to further advance the role of ultrasound as a core competency in emergency medicine.

Zagreb, June 2026

Ivan Gornik

GALLBLADDER PERFORATION IN A PATIENT WITH DIABETES MELLITUS: A CLINICAL CHALLENGE

***Bruno Hrvoje Aurer[1], Matej Paić[2], Dinko Bekić[2], Željka Belošić Halle[2], Matija Ivančić[2]**

Introduction

Gallbladder perforation is a rare but life- threatening complication of acute cholecystitis occurring in 3-15 % of cases. In patients with diabetes mellitus perforation is more likely to occur, more likely to be severe and more likely to be diagnosed later.

Case presentation

A 77- year old patient with diabetes mellitus type II presented to the emergency room because of upper right abdominal pain and nausea after a meal. He vomited multiple times. With no ultrasound signs of cholecystitis and non-elevated C-reactive protein level he was given antibiotics, analgetics, spasmolytics and discharged home. The patient was advised to return for follow-up the next day. On the follow-up the next day, CRP was elevated, and multi-slice computed tomography showed a mildly dilated gallbladder, suspicious of early gallbladder inflammation without biliary tract dilatation. The patient was admitted to the clinical pharmacology ward and treated conservatively with analgetics and antibiotics. Two days later he was transferred to the gastroenterology ward. After the transfer he presented with acute abdomen, ultrasound was suggestive of gallbladder perforation, and after surgical consultation an emergency operation was performed: median laparotomy with evacuation of abdominal abscess and cholecystectomy. Following the procedure, the patient was stable and treated conservatively. Oral diet was gradually introduced and he was discharged three days after the operation.

Conclusion

This case underscores the importance of ongoing and frequent monitoring of patients with suspected gallbladder pathology. High clinical suspicion and prompt surgical intervention are of utmost importance in high-risk population such as patients with diabetes mellitus.

Keywords: cholecystectomy; cholecystitis; diabetes mellitus

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MULTIPARAMETRIC ULTRASOUND IN THE FOLLOW-UP OF LIVER TRANSPLANT RECIPIENTS

***Josip Basić[1], Ivan Romić[1,2], Hrvoje Silovski[1,2]**

Introduction

Ultrasound is a fundamental imaging tool in liver transplantation patients due to its wide availability, affordability and the ability to perform it bedside along with its ability to assess vascular, biliary and parenchymal abnormalities. Along the standard B-mode and Doppler ultrasound, newer methods such as contrast enhanced ultrasound (CEUS) and elastography added a new layer to evaluation of graft patency and function.

Materials and methods

We conducted a narrative review of literature describing the use of Doppler, CEUS and elastography in liver transplant follow-ups focusing on recognizing vascular, biliary and parenchymal pathology.

Results

Doppler ultrasound remains the first line option when assessing hepatic artery, portal vein and hepatic veins of the graft. CEUS improves diagnostic accuracy, especially when there is a doubt about thrombosis or stenosis of hepatic artery, and in select cases in biliary complications (i.e. biliary leak). Multiparametric approach enables better visualization and characterization of perfusion and parenchymal characteristics of the graft. Elastography, including transient elastography and shear wave elastography, shows potential in non-invasive assessment of fibrosis, inflammatory activity and chronic graft degeneration, with increasing interest in its correlation with biopsy findings.

Conclusion

Today, ultrasound superpasses the role of standard imaging method after liver transplantation. Combination of conventional ultrasound with Doppler, CEUS and elastography creates multiparametric approach that can improve early complication detection, reduce the need for more invasive and more expensive diagnostic workup and thus optimize liver transplantation follow-ups.

Keywords: doppler ultrasonography; elasticity imaging techniques; follow-up studies; liver transplantation; ultrasonography

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LIFE-THREATENING MULTIFACTORIAL PERICARDIAL EFFUSION AFTER TRAUMA AND PNEUMONIA SUCCESSFULLY MANAGED WITH ULTRASOUND-GUIDED PERICARDIOCENTESIS - CASE REPORT

***Laura Badovinac[1], Sandra Jakšić Jurinjak[1,2]**

Introduction

Pericardial effusion may compromise hemodynamic filling of the ventricles and cause life threatening condition. Transthoracic echocardiography (TTE) is pivotal in detection of pericardial fluid, risk stratification, and monitoring, as well as in guiding pericardiocentesis when indicated. We report a case of multifactorial pericardial effusion hemodynamically causing tamponade, managed with echocardiographic guidance of pericardiocentesis.

Case presentation

A 78-year-old woman was admitted to the cardiology department suffering from dyspnea, cough, and fatigue due to hemodynamically significant large pericardial effusion. Her medical history included arterial hypertension, permanent atrial fibrillation, chronic kidney disease, Hashimoto thyroiditis, prior colon carcinoma surgery, and transcatheter tricuspid valve repair five months before this hospitalization. Initially, she had been hospitalized in the infectious diseases Clinic for left-sided pneumonia following thoracic trauma with suspected rib fracture. Chest radiography revealed pleural effusion and cardiomegaly. With progression of pericardial effusion causing hemodynamic compromise, she was referred for urgent cardiology evaluation. TTE demonstrated preserved biventricular systolic function, and a large circumferential pericardial effusion with signs of impaired ventricular filling. TTE was also indicating pericardial fibrin strands. Ultrasound-guided pericardiocentesis was done, evacuating serosanguinous fluid. Pericardial fluid cytology confirmed inflammation, biochemical analysis was consistent with a transudate, and microbiology identified Staphylococcus epidermidis, therefore patient was treated with antibiotics. Serum inflammatory factors were in the decrease following initial therapy. Quantiferone test was negative. Before removal of the pericardial drain, intrapericardial triamcinolone was administered. After clinical improvement was achieved and TTE showed no pericardial effusion, patient was discharged on colchicine in addition to her baseline therapy and is now in follow up.

Conclusion

This case highlights the importance of timely ultrasound-guided pericardiocentesis in acute setting of hemodynamic compromise of ventricular filling. The role of echocardiography in the diagnosis and management of pericardial effusion with hemodynamical consequences, particularly in complex cases of unknown etiology, is paramount.

Keywords: echocardiography; pericardial effusion; pericardiocentesis

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ULTRASOUND AS A "GAME CHANGER" IN EMERGENCY MEDICINE DIAGNOSTICS

***Barbara Balić[1], Klara Balog[1], Matea Banić[1], Lana Barlović[1], Ivan Gornik[2]**

Introduction

Peripheral edema is often encountered in emergency medicine and is usually related to cardiac, renal or liver dysfunction. Protein-losing enteropathy is less common cause of peripheral edema, but should be taken in consideration as it can cause severe hypoalbuminemia and gastrointestinal protein loss.

Case presentation

A male patient with a history of pulmonary fibrosis, pulmonary hypertension, chronic respiratory insufficiency, arterial hypertension, dyslipidemia and hyperthyotirroidism presented to the emergency department with acute peripheral edema of right arm and both legs. Upon admission the patient was hemodynamically stable and physical examination revealed bilateral basal crackles on lung auscultation. His recent medical history indicated hospitalization due to Clostridium difficile infection that was complicated by hypovolemic shock. Given the patients complicated medical history and normal NT-proBNP levels, an ultrasound of lungs and thorax was performed in search for other possible pathology. It showed pleural effusions, minor pericardial effusion and small inferior vena cava with inspiratory collapse which argued against the diagnosis of right heart failure. Laboratory findings showed preserved renal and hepatic function and absence of proteinuria which ruled out renal or liver etiology. In addition, hypoalbuminemia, coagulopathy that appeared because of the hypokalemia which occured as a result of the mucosal damage during the recent severe gastrointestinal disease and ultrasound findings which didn't support volume overload led to the idea of protein-losing enteropathy secondary to severe Clostridium difficile colitis which patient had suffered recently. The patient was administered albumin, loop diuretics and supportive therapy which led to visible clinical improvement.

Conclusion

In patients with cardiac comorbidities presenting with edema we firstly tend to think of heart failure which doesn't always end up to be true. This case report highlights an example of patient where jumping to conclusions would lead to faulty treatment if we haven't used the diagnostic tools such as ultrasound.

Keywords: edema; emergency medicine; hypoalbuminemia; protein-losing enteropathies

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THE ROLE OF ULTRASOUND IN THE RECOGNITION OF POSTOPERATIVE COMPLICATIONS: A RARE CASE OF DOUBLE-INLET LEFT VENTRICLE

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Introduction

Double-inlet left ventricle (DILV) is a rare congenital heart defect in which both atria connect to a single functioning left ventricle, often associated with a hypoplastic right ventricle, transposition of the great arteries, and pulmonary stenosis.

Case presentation

At birth, the male infant presented with mild central cyanosis and tachypnea. Prenatal cardiac ultrasound performed two months before birth revealed the diagnosis of DILV, associated with hypoplasia and stenosis of the pulmonary artery, with duct-dependent pulmonary blood flow. A continuous infusion of prostaglandin, aminophylline, and 10%-glucose was initiated. Six days after birth, the child underwent Norwood procedure: a modified Blalock-Taussig (mBTT) shunt using a Gore-Tex graft was made, with ligation of the ductus arteriosus, establishing a subclavian–pulmonary artery connection to increase pulmonary blood flow until the definitive procedure. Postoperative paralysis of the left hemidiaphragm was suspected clinically after weaning from mechanical ventilation and confirmed by ultrasonography. At the age of six months, bidirectional partial cavopulmonary anastomosis (Glenn procedure) was made, connecting the superior vena cava to the right pulmonary artery, along with atrial septectomy and excision of the distal portion of the mBTT shunt. The patient was admitted to the pediatric intensive care unit. The patient achieved Sp of 77-80%, at Fi 70%. During the spontaneous breathing trial, the patient presented with significantly increased work of breathing, unexpected for breathing supported with positive airway pressure. The previously diagnosed left diaphragm paresis raised suspicion of bilateral involvement, which was confirmed by sonography after extubation. This condition is caused by phrenic nerve injury during cardiothoracic procedure and requires time for spontaneous partial or complete resolution.

Conclusion

This case emphasizes the importance of prenatal and early postnatal clinical assessment in patients with complex congenital cardiac anomalies, with ultrasound playing a key role in the preoperative diagnosis and in the early detection of postoperative complications.

Keywords: Blalock-Taussig procedure; Norwood procedures; ultrasonography

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DILATED CARDIOMYOPATHY IN A CHILD: A STRAIGHTFORWARD CONSEQUENCE OF MYOCARDITIS OR GENETICS GONE WRONG?

***Luka Balog[1], Klara Balog[1], Lovro Balen[1], Marko Barić[1], Vanja Zvonar[2]**

Introduction

The most common myocardial diseases in childhood are myocarditis and primary chronic cardiomyopathies. Myocarditis, mostly triggered by viral infections, ranges from mild presentations to fulminant forms causing sudden and severe heart failure. Primary cardiomyopathies usually present themselves as sudden cardiac death or otherwise follow a more indolent course becoming clinically evident with child growth.

Case presentation

A 4-year-old girl was admitted because of hepatomegaly and coagulation abnormalities combined with fatigue, nausea and vomiting for the past 3 days. PT (prothrombin time) was measured at 0.44 (>0.70) with elevated liver enzymes and inflammatory markers. Further diagnostics revealed high troponin and an NT-proBNP of 12,083 (<125 ng/L). In the setting of clinically evident cardiac decompensation the patient was admitted to the intensive care unit where echocardiography was promptly performed to investigate the heart anatomy and function. Echocardiography showed global reduction in contractility (ejection fraction 30%), right ventricular enlargement, tricuspid and mitral insufficiency. Additionally, a fixed hyperechogenic mass suspicious of thrombus measuring 18mm was identified at the left ventricular apex. Medical history revealed recent Influenza type-A infection. Microbiological work-up also showed elevated Epstein–Barr virus antibodies (positive EBV-VCA IgM/IgG and EBNA), without active viremia (negative PCR analysis). These results make the dilated cardiomyopathy secondary to viral myocarditis most likely. However, patient's DNA was sent for genetic analysis of congenital cardiomyopathies, which could explain a chronic condition acutely exacerbated by viral infection. Despite the treatment with inotropes, IVIG, supportive therapy and anticoagulation therapy successfully regressing the thrombus, cardiac function remained severely impaired, and the patient was subsequently placed on the heart transplant list.

Conclusion

This case illustrates cardiac failure in a child with rapid transition to a decompensated state. Early clinical assessment, supported by rapid diagnostic modalities such as echocardiography, is crucial for timely diagnosis and initiation of therapy in conditions with an acute clinical course.

Keywords: cardiomyopathy; echocardiography; myocarditis

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ULTRASOUND BEYOND BIOCHEMISTRY IN GYNECOLOGIC EMERGENCIES: ECTOPIC PREGNANCY

***Matea Banić[1], Barbara Balić[1], Dora Bedenic[1], Ana Marija Laco[1], Josip Juras[1,2]**

Introduction

Ectopic pregnancy (EP) is a nonviable pregnancy with extraendometrial implantation. Diagnostic criteria for EP are amenorrhea, vaginal bleeding, unilateral pelvic/abdominal pain, inappropriate β-hCG dynamics for gestational weeks, and ultrasonography confirming empty endometrial cavity and/or ectopic pregnancy localization. Treatment options include Methotrexate for early stages in stable patients or salpingectomy/salpingostomy in unstable patients who are at risk of rupture and hemorrhage which is an emergent life-threatening condition.

Case presentation

The first patient (Grav.hbd 8+5) was admitted because of suspected EP. She presented with minimal signs and symptoms but very high β-hCG levels (7336 IU/L). Transvaginal ultrasound showed a gestational sac in the right uterine cornua, separated from the endometrium and close to the serosa, confirming cornual (interstitial) EP. Ultrasonic findings combined with laparoscopic exploration helped guide appropriate management and avoid unnecessary emergency salpingectomy. The curettage was performed, and the patient recovered well with both adnexae preserved.

The second patient (Grav.hbd 8+5) presented with vaginal bleeding lasting 10 days, left-sided abdominal pain and unexpectedly low β-hCG (233 IU/L). In contrast, transvaginal ultrasound revealed a left adnexal mass with "ring of fire" vascularity, left tube filled with coagulum, and pelvic free fluid, findings consistent with a tubal EP. Ultrasound was highly beneficial for this patient because it prevented an unsuitable conservative Methotrexate treatment and indicated emergent surgical management. Laparoscopic salpingectomy was the treatment of choice, which led to full recovery.

In both of these patients, the clinical presentation didn't correlate with β-hCG levels, making diagnosis challenging. Incorrect treatment decisions would have been made without the assistance of ultrasonic diagnostic imaging.

Conclusion

In emergency management of ectopic pregnancy, appropriate decision-making depends on identifying the pregnancy location, together with biochemical and clinical evaluation. These cases show that, especially in atypical settings, ultrasound should not be just supportive but central to appropriate emergency diagnostics and care.

Keywords: human beta chorionic gonadotropin; ectopic pregnancy; insterstitial pregnancy; ultrasonography

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WHEN PERICARDIOCENTESIS MUST WAIT: PROGRESSIVE MALIGNANT PERICARDIAL EFFUSION – A CASE REPORT

***Lara Barbir[1], Sandra Jakšić Jurinjak[1,2]**

Introduction

Malignant pericardial effusion can be a complication of advanced non–small cell lung cancer (NSCLC) and may progress to hemodynamically significant impairment of ventricular filling. Management can be challenging, particularly when anatomical constraints limit intervention, therefore transthoracic echocardiography (TTE) is paramount in this setting. We present a case of malignant pericardial effusion with echo guided pericardiocentesis.

Case report

A 57-year-old male with NSCLC adenocarcinoma of the right lung, in oncology treatment and history of cardiac tamponade and pericardiocentesis, which revealed malignant pericardial effusion, presented to emergency department with new onset of dyspnea and tachycardia. Chest radiography revealed progression of a left-sided large pleural effusion, which led to thoracentesis and transient clinical improvement. At initial TTE evaluation there was mild pericardial effusion, not indicating pericardiocentesis. The following day, the patient acutely deteriorated, developing tachypnea and severe dyspnea. Chest ultrasound now demonstrated bilateral pleural effusions and TTE significant pericardial effusion with right ventricular diastolic collapse. On TTE inferior vena cava showed reduced respiratory variation. As compared to prior TTE the effusion had increased, predominantly on the right side, however the left hepatic lobe posed a potential obstacle to safe pericardiocentesis. After repeated thoracentesis, the patient was transferred to the cardiology for echo guided pericardiocentesis, draining approximately 500 mL of hemorrhagic fluid. Continued drainage of hemorrhagic pericardial fluid was followed for two days, finally TTE confirmed regression of the effusion. After the patient was hemodynamically improved, oncologic therapy was resumed and is now in follow up.

Conclusion

Our case underscores possible rapid progression of malignant pericardial effusion and highlights the importance of on-site echocardiographic imaging in emergency department. Ultrasound is paramount in anatomical assessment and planning of timely multidisciplinary intervention in achieving successful management in complex cases.

Keywords: lung adenocarcinoma; pericardial effusion; pericardiocentesis

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ULTRASOUND IN DIAGNOSIS OF DIVERTICULITIS

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Introduction

Acute diverticulitis represents a common gastrointestinal condition, especially in developed countries. Precisely, it includes a variety of conditions, ranging from uncomplicated, localized diverticular inflammation to purulent or fecal peritonitis. Acute left sided colonic diverticulitis is a common disease in Western countries, with increasing global incidence attributed mainly to lifestyle changes.

Case presentation

A 63-year-old woman was hospitalized due to intermittent pain in the left lower abdominal quadrant and a sensation of incomplete defecation, worsening during bowel movements. On admission, she was febrile with temperature of 37,8°. Routine blood counts were within the normal range with moderately elevated inflammatory response parameters (ESR 43 mm/h and CRP 88.8 mg/L). Abdominal ultrasound (US) showed irregularly round hypoechogenic protrusion (longer diameter of 37 mm) from the sigmoid colon wall with hyperechogenic shadowing in the center and acoustic shadow which referred to acute diverticulitis with formation of paracolic abscess. Protrusion was surrounded by hyperechogenic noncompressible tissue. Multi-slice computed tomography confirmed the ultrasound findings, revealing wall thickening at the rectosigmoid border with a paracolic abscess surrounded by local fat stranding and the presence of gas bubbles. The patient was treated conservatively with intravenous antibiotics (co-amoxiclav and metronidazole), fluid therapy and analgesia. Clinical improvement was observed within days, with resolution of fever, pain, and normalization of inflammatory parameters. Follow-up ultrasound confirmed complete regression of the abscess prior to discharge.

Conclusion

Ultrasound can be an effective and reliable primary diagnostic tool for acute diverticulitis and even paracolic abscesses. Its use allows early diagnosis, timely management, and non-invasive follow-up.

Keywords: abscess; anti-bacterial agents; diverticulitis; x-ray computed tomography; ultrasonography

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AN UNUSUAL MANIFESTATION OF GENETIC AHUS TRIGGERED BY GASTRIC ADENOCARCINOMA IN AN ADULT PATIENT

***Petra Bašić[1], Luka Hanulak[1], Ivana Vuković Brinar[1,2]**

Introduction

Atypical hemolytic uremic syndrome (aHUS) is a rare thrombotic microangiopathy (TMA) caused by dysregulated complement activation, resulting in hemolytic anemia, thrombocytopenia, and acute kidney injury. Clinical manifestation of genetic mutations often requires a triggering event, with malignancies being rare but recognized precipitants. In the emergency setting, this presentation demands rapid recognition and differentiation from other thrombotic microangiopathies, particularly thrombotic thrombocytopenic purpura, as these conditions require urgent but different treatment approaches.

Case presentation

A 41-year-old patient presented in June 2025 with a 10-day history of generalized weakness and fever. Initial assessment showed acute kidney injury, anemia, and thrombocytopenia, with pleural and pericardial effusions. The suspicion of TMA led to urgent diagnostic evaluation and initiation of supportive measures, including hemodialysis. Kidney biopsy confirmed TMA, and complement analysis identified a pathogenic heterozygous C3 mutation that impairs C3/C5 regulation. The biopsy was complicated by bleeding that required embolization and surgical intervention, which highlights the potential risks of invasive procedures in unstable patients with active TMA.

The patient was transferred to KBC Zagreb in early July to receive the first dose of ravulizumab (Ultomiris), a complement inhibitor. His course was further complicated by recurrent bleeding, anemia, and suspected sepsis, and he required transfusions, antimicrobial therapy, and continuous renal replacement therapy. Over time, his hematologic parameters improved, and the effusions regressed. The patient was later discharged and no longer required dialysis.

Due to persistent epigastric pain and nausea, gastroscopy performed in October revealed antral gastric adenocarcinoma without evidence of metastasis. The patient underwent partial gastrectomy and continued complement inhibition therapy. He remains under follow-up with stable renal function.

Conclusion

This case demonstrates a rare and unusual presentation of genetic aHUS triggered by an underlying malignancy, emphasizing the importance of early recognition, complement inhibition therapy, and multidisciplinary management.

Keywords: atypical hemolytic uremic syndrome; complement system proteins; monoclonal antibodies; stomach neoplasms

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FALLING FROM THE FOURTH FLOOR: A MULTIDISCIPLINARY POLYTRAUMA SUCCESS

***Ivan Benčić[1], Karlo Bukvić[1], Julija Žanetić[2], Tin Ehrenfreund[3], Josip Lovaković[3]**

Introduction

According to the Berlin definition, polytrauma is defined as the presence of at least two injuries with an Abbreviated Injury Scale (AIS) score ≥ 3 in different body regions, together with at least one physiological risk factor such as hypotension, unconsciousness, coagulopathy, acidosis, or age ≥ 70 years[1].

Case report

A 36-year-old male was brought to the emergency department by ambulance after a suspected suicide attempt involving a fall from the fourth floor. The patient had a history of schizophrenia. On admission, he was conscious (GCS 15), normotensive (140/84 mmHg), tachycardic (150 bpm), and tachypneic (21/min) and reported lower back pain. Clinical examination revealed a deformity of the right wrist with preserved neurovascular status and bilateral foot deformities with associated motor and sensory deficits in the lower limbs. The abdomen was soft and non-tender, without signs of peritoneal irritation. A CT polytrauma protocol demonstrated burst fractures of the first and fourth lumbar vertebrae with spinal canal compression, a sacral fracture, a 6-mm left-sided pneumothorax, a splenopancreatic hematoma, a fracture of the lower third of the manubrium sterni, and multiple pulmonary contusions. Initial management included fluoroscopy-assisted closed reduction and immobilization of appendicular fractures, as well as left-sided chest drainage. The patient subsequently underwent urgent Th11–S1 posterolateral spondylodesis with spinopelvic fixation, L4 laminectomy, and spinal canal decompression. On the following day, due to hemodynamic instability, an exploratory laparotomy was performed, revealing no active intra-abdominal bleeding and approximately 100 mL of intraperitoneal hematoma, which was evacuated. Conservative management of the appendicular fractures was continued due to local soft tissue conditions. Neurological deficits resolved completely, and the postoperative course was uneventful.

Conclusion

This case highlights the importance of a coordinated multidisciplinary approach in managing severe polytrauma. Rapid diagnosis and timely surgical and supportive interventions were essential in achieving a favorable outcome despite extensive and life-threatening injuries.

Keywords: bone fractures; multiple trauma; spinal stenosis

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SURVIVAL OF A PATIENT WITH RUPTURED ABDOMINAL AORTIC ANEURYSM FOLLOWING MASSIVE HEMORRHAGIC SHOCK AND DOUBLE TOTAL BLOOD VOLUME REPLACEMENT

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Introduction

Rupture of an abdominal aortic aneurysm (AAA) represents one of the most critical conditions in medicine, carrying a high risk of intraoperative mortality. Successful management of such patients requires surgical precision and an aggressive anesthesiologic approach focused on maintaining hemodynamic stability during massive hemorrhage.

Case presentation

We present the case of a 58-year-old male admitted to the emergency department from General Hospital Karlovac with a diagnosis of a ruptured infrarenal AAA (10 x 8 cm). Upon arrival, the patient was conscious, responsive, normotensive, tachycardic, and respiratory sufficient with oxygen via nasal cannula. Given the life-threatening nature of the rupture, the patient was assigned a physical status of ASA IV/E (American Society of Anesthesiologists). An emergency surgical intervention was induced, consisting of a laparotomy and aortic reconstruction using a "Y" graft. The surgery was further complicated by bleeding caused by an iliac vein laceration, leading to a total blood loss of 10 liters. A massive transfusion protocol was initiated, including the administration of packed red blood cells, fresh frozen plasma, high doses of fibrinogen (5g), prothrombin complex concentrate, and clotting factor XIII to achieve adequate hemostasis despite hemorrhagic shock. A crucial role in the patient's survival during this massive hemorrhage was played by the CellSaver, which enabled the processing and reinfusion of 3 liters of autologous blood. Hemodynamic stability was maintained with high doses of norepinephrine and the introduction of vasopressin, allowing for the successful completion of the procedure and stabilization of the patient prior to transfer to the intensive care unit.

Conclusion

Although AAA rupture carries a high risk of mortality, this case highlights the importance of timely surgical control and an aggressive anesthesiologic approach to massive transfusion, which led to the successful management of a high-risk patient.

Keywords: abdominal aortic aneurysm; surgical blood loss; vascular grafting

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FROM ACUTE PAIN TO GIANT DIAGNOSIS: ULTRASOUND DETECTION OF OVARIAN MUCINOUS CYSTADENOMA

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Introduction

Giant ovarian mucinous cystadenomas are benign epithelial ovarian neoplasms that have become relatively uncommon due to widespread use of contemporary imaging and earlier detection of adnexal masses. As their presentation may resemble other intra-abdominal conditions, imaging is crucial for proper diagnosis and management.

Case presentation

A young female patient presented to the emergency department with a 10-day history of cramping pain in the left lower quadrant (LLQ), exacerbated by movement and accompanied by abdominal distension. Her past medical history was unremarkable and pregnancy was excluded. On examination, she was hemodynamically stable, afebrile, with a distended abdomen and tenderness in the LLQ, without peritoneal signs. Laboratory tests showed a mild inflammatory response (CRP 25 mg/L, neutrophils 75%, platelets 478 $\times 10^9$/L), while other findings were unremarkable. Point-of-Care Ultrasound (POCUS) revealed a large cystic mass occupying the entire abdominal cavity, extending from the pubic symphysis to the epigastrium. Multi-slice computed tomography (MSCT) imaging confirmed the presence of an unilocular cystic lesion extending from the level of Th10 to the cranial border of the sacrum, measuring 14.2 × 24.5 × 32.7 cm, with thin walls and homogeneous fluid content, without septations or solid components. The lesion compressed surrounding parenchymal organs without signs of invasion, while the remaining parenchymal organs show no focal lesions. The patient received symptomatic treatment and was referred urgently for gynecological evaluation and surgical management. During surgery, the mass was removed together with the left adnexa and submitted for histopathological evaluation, which revealed a cyst lined by regular single-layered columnar mucinous epithelium. Immunohistochemistry showed CK7 positivity with focal CK20 positivity, consistent with mucinous cystadenoma of the ovary.

Conclusion

Giant ovarian mucinous cystadenomas may present with mild, nonspecific symptoms despite their size. Imaging is essential for diagnosis and surgical planning, while excision with histopathological analysis confirms the benign nature and excludes malignancy.

Keywords: abdominal pain; diagnostic imaging; mucinous cystadenoma; ovarian cysts

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WHEN PET FEEDING GOES WRONG: TULAREMIA AFTER COOKING A WILD RABBIT CARCASS

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Introduction

Tularemia is a highly infectious zoonotic disease caused by the coccobacillus Francisella tularensis. Transmission to humans occurs through direct contact with infected animals, exposure to contaminated materials, or inhalation of contaminated aerosols. In humans, tularemia typically begins with acute flu-like symptoms and can later present in various clinical forms depending on the route of infection, including pneumonia and renal failure1.

Case presentation

A 72-year-old man was initially evaluated at University Hospital Dubrava with a 4-day history of fever and rhinorrhea. Laboratory tests showed creatinine 362 µmol/L and C-reactive protein (CRP) 161 mg/L, while chest X-ray revealed a right basal opacity. He was started on amoxicillin/clavulanic acid and azithromycin. Five days later, he presented to University Hospital for Infectious Diseases Dr. Fran Mihaljević (UHID) with persistent fever (up to 39°C). Imaging showed progression of the right basal pneumonic infiltrate, with leukocytes 9.8 $\times 10^9$/L, urea 33.2 mmol/L, creatinine 769 µmol/L, and CRP 307 mg/L. Meropenem was initiated, and due to worsening renal function and inflammation, he was referred to the emergency department of University Hospital Centre Zagreb. On admission, he had stable vital signs. Urea and creatinine remained elevated, with estimated glomerular filtration rate <15 mL/min/1.73 m^2. Meropenem was continued with crystalloid infusion, resulting in marked diuresis and gradual renal recovery. Epidemiological history revealed contact with a dead rabbit shortly before symptom onset, which he cooked for his dog. Testing for hantaviruses, Legionella, and Francisella tularensis was performed, with positive results for F. tularensis. The patient was transferred back to UHID in good condition, afebrile and cardiopulmonary stable, and started on aminoglycosides.

Conclusion

The incidence of tularemia is currently increasing in Europe1. While the saying 'when you hear hoofbeats, think horses' remains a guiding principle in clinical settings, this case emphasizes that 'zebras' should not be overlooked, particularly in atypical or severe presentations.

Keywords: acute kidney injury; pneumonia; rabbits; tularemia

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POSTOPERATIVE CARDIOPULMONARY ARREST IN AN END-STAGE RENAL DISEASE PATIENT WITH CRITICAL LIMB ISCHEMIA: THE ROLE OF INTERDISCIPLINARY CARE

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Introduction

Managing critical limb ischemia (CLI) in patients with end-stage renal disease (ESRD) requires a complex, multimodal strategy. These patients often present with extensive comorbidities, which significantly increase perioperative mortality risk. This case illustrates the critical role of an interdisciplinary approach in managing postoperative collapse in a high-risk surgical patient.

Case presentation

We present a male patient (73 kg, 170 cm) with a history of Type 2 Diabetes, hypoalbuminemia, and ESRD on automated peritoneal dialysis (APD), who was admitted for irreversible left limb ischaemia. He presented with a 10-day history of pain in the affected limb and 3 days of pedal cyanosis. Laboratory findings confirmed severe systemic inflammation and metabolic derangement. Following initial refusal and subsequent informed consent, he underwent an emergency left leg amputation. Due to the advanced systemic sepsis and established renal failure, he was classified as American Society of Anesthesiologists (ASA) IV E, a category with a perioperative mortality risk exceeding 23%. The surgery was successful, and the patient was transferred to the general surgery unit (GSU). He subsequently suffered a sudden cardiopulmonary arrest. The initial rhythm was asystole, progressing to Pulseless Electrical Activity (PEA). Resuscitating PEA is extremely difficult, as it reflects profound metabolic derangement rather than a primary electrical event. Advanced Life Support (ALS) was initiated, involving adrenaline administered in fractionated doses (1 mg every 3–5 minutes), calcium gluconate, and sodium bicarbonate. Following return of spontaneous circulation (ROSC) after four cycles, the patient was stabilised and admitted to the intensive care unit (ICU).

Conclusion

This case highlights the risk of sudden metabolic decompensation in ESRD patients following emergency surgery. Cardiopulmonary arrest in this population reflects systemic failure rather than a primary cardiac event. Clinicians should anticipate this proactively, maintaining a low threshold for ICU admission and early interdisciplinary involvement — both of which contributed to this patient's successful recovery.

Keywords: advanced cardiac life support; cardiac arrest; cardiopulmonary resuscitation; chronic limb-threatening ischemia

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LIVER FAILURE CAUSED BY HEPATIC PELIOSIS ASSOCIATED WITH SEVERE ALCOHOLIC HEPATITIS – A CASE REPORT

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Introduction

Hepatic peliosis (PeH) is a rare vascular disorder characterized by dilatation of hepatic sinusoids and the formation of blood-filled cystic cavities. It has been associated with chronic infections, immunosuppression, malignancies, and certain medications, although its exact pathogenesis remains unclear. We present an unusual case of diffuse PeH occurring concurrently with severe alcoholic hepatitis (AH), with emphasis on its ultrasound features and diagnostic implications.

Case presentation

A 55-year-old male with a long history of excessive alcohol consumption was admitted for evaluation of suspected liver disease. Although he had abstained from alcohol for three weeks prior to admission, clinical and laboratory findings suggested advanced hepatic injury. Initial abdominal ultrasound revealed hepatomegaly (20 cm in the midclavicular line) with irregular contours and numerous confluent focal lesions throughout the liver parenchyma. Most lesions appeared solid and hyperechoic, while some showed central hypo- to anechoic areas, raising concern for infiltrative or malignant disease. These findings were further corroborated by magnetic resonance imaging.

An ultrasound-guided biopsy of a focal lesion demonstrated histopathological features consistent with PeH. Screening for infectious and drug-related causes was negative. Over the following two weeks, the patient's liver function deteriorated. Due to worsening clinical status and a biochemical profile suggestive of alcoholic hepatitis, an endoscopic ultrasound-guided biopsy of liver tissue not involved by focal lesions was performed, confirming cirrhosis and acute toxic (alcoholic) hepatitis.

Despite treatment with methylprednisolone, no improvement was observed. The patient's condition rapidly declined, culminating in cardiopulmonary arrest and death.

Conclusion

This case highlights the diagnostic complexity of coexisting liver diseases, particularly diffuse PeH and AH. Importantly, recognition of the characteristic ultrasound appearance of PeH is essential in differentiating it from diffuse liver malignancy. Therefore, careful imaging assessment combined with timely liver biopsy is crucial to ensure accurate diagnosis and appropriate management in patients with complex liver pathology.

Keywords: liver; peliosis hepatis; ultrasonography

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MASSIVE HEMOTHORAX AND RESPIRATORY FAILURE FOLLOWING EMERGENCY TEVAR FOR RUPTURED THORACIC AORTIC ANEURYSM

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Introduction

Ruptured thoracic aortic aneurysm represents a life-threatening emergency with high mortality rates. Thoracic endovascular aortic repair (TEVAR) has emerged as the preferred treatment modality, offering improved survival compared to open surgical repair. However, post-procedural complications, particularly massive hemothorax and respiratory failure, remain significant challenges that can compromise patient outcomes.

Case presentation

We present a case of a patient with multiple cardiovascular comorbidities including arterial hypertension, benign prostatic hyperplasia, prior abdominal aortic aneurysm repair and obesity who underwent emergency TEVAR for ruptured thoracic aortic aneurysm. Following the procedure, the patient developed hemodynamic instability and respiratory insufficiency, progressing to cardiac arrest. Massive left-sided hemothorax was identified, requiring evacuation of approximately 2 liters of hemorrhagic fluid via thoracic drainage. Despite exclusion of active contrast extravasation on CT aortography, progressive hemothorax with obstructive atelectasis and mediastinal shift necessitated emergency thoracotomy for hematoma evacuation and hemostasis. The patient subsequently required prolonged mechanical ventilation and tracheostomy due to persistent respiratory failure and inability to wean from ventilatory support. Medical management for heart failure was gradually introduced as clinical improvement occurred.

Conclusion

This case highlights the severe complications that can occur following emergency TEVAR for ruptured thoracic aortic aneurysm, including massive hemothorax requiring surgical intervention and prolonged respiratory failure. Early recognition and aggressive management of post-TEVAR complications are essential for improving patient outcomes in this high-risk population.

Keywords: blood vessel prosthesis implantation; hemothorax; respiratory insufficiency; thoracic aortic aneurysm; tracheostomy

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FROM ARM TO LUNGS: A CASE OF DEEP VEIN THROMBOSIS WITH AMBITIOUS TRAVEL PLANS

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Introduction

Upper extremity deep vein thrombosis (DVT) accounts for approximately 4–10% of all DVT cases, most of which are secondary (e.g., trauma patients). Concomitant injuries in trauma patients can obscure or mimic the classic signs and symptoms of venous thromboembolism (VTE). When upper extremity venous obstruction is suspected, duplex ultrasonography is typically the first-line modality due to its accessibility, noninvasiveness, and high diagnostic accuracy.

Case presentation

A 54-year-old male patient was hospitalized due to a low-risk pulmonary embolism (PE), confirmed with CT pulmonary angiography. The report described a contrast filling defect in the segmental branches supplying the basal segments of the right lower lobe, consistent with occlusive emboli. Recently performed orthopedic surgery due to a traumatic injury of the right shoulder preceded the onset of symptoms. The patient presented with newly developed exertional dyspnea without associated chest pain, syncope, or hemoptysis. The patient's comorbidities included hypertension and a history of coronary artery disease treated with multiple percutaneous coronary interventions. Doppler ultrasound of the lower extremity veins excluded DVT, however, thrombosis of the right subclavian and axillary vein was detected. Apart from the recent trauma and surgical procedure, no additional risk factors for VTE were identified during further workup. During hospitalization, the patient was treated with heparin, followed by conversion to a direct oral anticoagulant prior to discharge with recommended outpatient follow-up.

Conclusion

This case highlights that upper extremity DVT, although uncommon, should be considered in the presence of risk factors. If lower extremity venous duplex scan is negative but PE symptoms and clinical suspicion persist, the upper extremity veins should be evaluated. If arm swelling persists after two weeks with impaired venous flow, endovascular intervention should be considered with close ultrasound follow-up.

Keywords: pulmonary embolism; ultrasonography; upper extremity deep vein thrombosis

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SEVERE POLYTRAUMA WITH INTRACRANIAL HEMORRHAGE AND MULTIPLE LONG BONE FRACTURES FOLLOWING PEDESTRIAN-MOTOR VEHICLE COLLISION – A CASE REPORT

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Introduction

Polytrauma is defined as the presence of multiple severe injuries, at least one life-threatening and represents one of the leading causes of mortality under age 45. Rapid assessment using the Airway, Breathing, Circulation, Disability, Exposure (ABCDE) approach is essential in identifying life-threatening conditions and initiation of appropriate diagnostic and therapeutic measures. The aim of this case report is to emphasize the importance of systematic trauma assessment and multidisciplinary approach in managing polytrauma patients.

Case presentation

A male patient presented with polytrauma after being struck by motor vehicle as a pedestrian. On arrival, he was conscious with a Glasgow Coma Scale score of 15 and initially hemodynamically stable. Primary survey revealed an open comminuted fracture of the left tibia with extensive soft tissue defect and absent distal pulses along with a proximal fibular and intra-articular calcaneal fracture. Moreover, multifragmentary distal humeral fracture and fractures of metacarpal and carpal bones were present. Initial management included analgesia and sedation with fentanyl, ketamine and paracetamol, administration of tranexamic acid, intravenous fluids, vasopressor support with norepinephrine and antibiotic prophylaxis with ceftriaxone. The affected extremities were immobilized. Computed Tomography (CT) imaging demonstrated multifragmentary fractures of the occipital, parietal, and frontal bones with subarachnoid hemorrhage and small subdural hematoma. Neurosurgical consultation recommended prioritizing extracranial injuries. Serial CT imaging demonstrated initial progression of subdural hematomas and subarachnoid hemorrhage, followed by stabilization without further progression or development of new lesions thus conservative management was continued.

Conclusion

This case highlights the importance of structured and systematic trauma assessment and timely multidisciplinary management in patients with severe trauma involving both orthopaedic and intracranial injuries. Early prioritization of life-threatening conditions and continuous reassessment are essential for optimal outcomes in patients injured in high-energy mechanisms such as pedestrian-motor vehicle collisions.

Keywords: traffic accidents; bone fractures; multiple trauma; subdural hematoma; subarachnoid hemorrhage

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THE ROLE OF ULTRASOUND IN THE DIFFERENTIAL DIAGNOSIS OF ELEVATED TRANSAMINASES: HEART FAILURE MIMICKING PRIMARY LIVER DISEASE

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Introduction

Significant elevation of aminotransferases represents a diagnostic challenge most commonly related to toxic injury, ischemic hepatitis, or less often chronic liver disease exacerbation. We present a case of extreme transaminase elevation initially suspected as toxic, viral or alcoholic hepatitis, eventually diagnosed as ischemic hepatitis secondary to heart failure with reduced ejection fraction.

Case presentation

A 63-year-old patient presented to the Emergency Department Osijek with a 4 – 5 day history of progressive generalized weakness and dyspnea. Medical history revealed that the patient had been diagnosed with diabetes mellitus three years earlier and reported alcohol consumption for the past five years. However, he was untreated and not on any chronic medication. On admission, the patient was hemodynamically unstable with a blood pressure of 55/30 mmHg. Laboratory investigations revealed elevated hepatic transaminases (AST 10100 U/L, ALT 3300 U/L), thrombocytopenia (platelets 51 × 10^9/L), and acute kidney injury (creatinine 267 μmol/L). Treatment according to guidelines for critically ill patients was initiated on admission, leading to a gradual decrease in liver transaminases, although they remained elevated. CT angiography excluded pulmonary thromboembolism and demonstrated bilateral pleural effusions. Abdominal ultrasound showed hepatomegaly with fatty infiltration of the liver. Serological testing for the most common viral hepatitis pathogens was performed, excluding viral hepatitis. After that, CT angiography ruled out hepatic vascular lesions. On the third hospital day, echocardiography revealed left ventricular systolic dysfunction with an ejection fraction of 20% and heart failure. Based on these findings, elevated liver transaminases were concluded to be due to ischemic hepatitis (shock liver syndrome) secondary to heart failure.

Conclusion

This case highlights the importance of ultrasound in the diagnostic workup since it is a fast, simple and widely available method. It also shows that in cases of very high transaminases we should consider extrahepatic causes as well, especially cardiac conditions.

Keywords: heart failure; hepatic insufficiency; transaminases

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DIASTOLIC MITRAL REGURGITATION: A CRITICAL ECHOCARDIOGRAPHIC MARKER OF IMMINENT HEMODYNAMIC COLLAPSE IN ACUTE AORTIC REGURGITATION

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Introduction

Acute severe aortic regurgitation (AR) is a life-threatening condition that causes a rapid increase in left ventricular end-diastolic pressure (LVEDP). In extreme cases, LVEDP exceeds left atrial pressure during diastole, leading to premature mitral valve closure and diastolic mitral regurgitation (DMR). This phenomenon is a rare but crucial finding in emergency echocardiography, signaling the exhaustion of compensatory mechanisms and the need for immediate cardiosurgical intervention.

Case presentation

A 63-year-old male, who previously underwent biological aortic valve replacement, presented to the emergency department with rapidly progressing symptoms of acute heart failure. Initial evaluation via transthoracic point-of-care ultrasound showed partial dehiscence of the prosthesis with floating vegetations and the leaflets destruction resulting in severe peracute aortic regurgitation. Hemodynamic instability was characterized by acute left ventricular dilation and extremely high filling pressures. A pivotal diagnostic finding was the presence of premature mitral valve closure and functional DMR. These signs indicated that the intraventricular pressure had surpassed the atrial pressure before the onset of systole. Given the echocardiographic evidence of imminent hemodynamic collapse, confirmed by transesophageal echocardiography, the patient was referred for emergency replacement of the infected biological prosthesis. Postoperative recovery was excellent; the functional DMR resolved immediately upon normalization of ventricular pressures. The patient was discharged on the tenth postoperative day.

Conclusion

This case highlights the importance of echocardiography evaluation in emergency settings. Diastolic mitral regurgitation is a specific indicator of critically elevated LVEDP in acute AR. Recognizing this sign is vital to expedite life-saving cardiosurgical management in patients with acute aortic regurgitation.

Keywords: aortic valve insufficiency; echocardiography; endocarditis; mitral valve insufficiency

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FEVER OF UNKNOWN ORIGIN AS THE FIRST SIGN OF GIANT CELL ARTERITIS

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Introduction

Giant cell arteritis is the most common systemic vasculitis in patients over 50 years of age. Its presentation is often nonspecific, frequently leading to delayed diagnosis. Classification is based on a combination of clinical features, imaging findings (including the ultrasound "halo" sign), and/or temporal artery biopsy. Early recognition is critical due to the risk of irreversible visual loss and other ischemic complications.

Case presentation

A 55-year-old woman with a history of hypertension and type 2 diabetes presented to the emergency department with a five-week history of fever up to 38 °C, accompanied by night sweats, chills, and dry cough, along with a 7-kg unintentional weight loss. Multiple empirical antibiotic courses prescribed in the outpatient setting, based on a suspected basal infiltrate on chest X-ray, failed to produce improvement. On examination, a tender, palpable nodule was noted over the left temporal artery, without headache, jaw claudication, or visual symptoms. Given the unclear etiology of persistent fever, point-of-care ultrasound (POCUS) of the temporal artery was performed at presentation. It demonstrated a tortuous left temporal artery with a characteristic concentric hypoechoic wall thickening ("halo" sign), raising suspicion of giant cell arteritis. Glucocorticoid therapy was promptly initiated, and the patient was admitted for further evaluation. During hospitalization, the patient underwent a biopsy of the left temporal artery that showed a narrowed lumen, fragmentation of the elastic lamina, and perivascular infiltrates of mononuclear cells with numerous CD68-positive macrophages, confirming the diagnosis of giant cell arteritis.

Conclusion

This case highlights giant cell arteritis presenting as fever of unknown origin without classic cranial symptoms. In this setting, POCUS enabled rapid diagnosis and timely initiation of therapy. The concordance between ultrasound and histopathological findings underscores the value of bedside ultrasound as a first-line noninvasive modality in the emergency evaluation of suspected large-vessel vasculitis.

Keywords: fever of unknown origin; giant cell arteritis; temporal arteries

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RECURRENT PLEUROPERICARDIAL EFFUSION OF UNCLEAR ETIOLOGY: A DIAGNOSTIC CHALLENGE AND THE FINAL DIAGNOSIS OF POLYSEROSITIS – A CASE REPORT

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Introduction

Polyserositis is an inflammatory condition involving two or more serous membranes simultaneously. The inflammation is accompanied by effusion, and associated symptoms depend on the affected membranes. The etiology is heterogeneous. Treatment includes a combination of anti-inflammatory therapy with nonsteroidal anti-inflammatory drugs, glucocorticoids, and colchicine, along with supportive care. This case presents a patient with recurrent episodes of identical symptomatology in whom the diagnosis of polyserositis was established by exclusion of other causes and empirical initiation of therapy.

Case presentation

A 73-year-old woman was admitted to the emergency department with fever and chest pain exacerbated by mechanical pressure, preceded by headache. Identical symptoms had occurred three times at two-month intervals. Workup revealed elevated inflammatory markers, mild pleural effusion, and a small pericardial effusion with pericardial thickening on echocardiography. No infectious source was identified. Ibuprofen was introduced for suspected pericarditis, and moxifloxacin was administered empirically. The patient was discharged following clinical improvement and reduction of inflammatory markers. Three days after discontinuation of antibiotic therapy, she returned with fever, headache, and chest pain. Further evaluation excluded malignant, specific rheumatologic, and other systemic diseases, while mild pleural and pericardial effusions persisted. In consultation with a rheumatologist, a diagnosis of idiopathic polyserositis was established by exclusion. Treatment with methylprednisolone, colchicine, and ibuprofen led to symptom improvement. At one-month follow-up, the patient was in good general condition, reporting two brief relapses, each lasting two days. Echocardiography showed reduced effusion compared to prior findings. At six-month follow-up, she reported no relapses, and echocardiography demonstrated no change in pericardial status. Gradual tapering of methylprednisolone was implemented during rheumatology follow-ups.

Conclusion

A systematic differential diagnostic approach in patients with recurrent symptoms can lead to the diagnosis of polyserositis, which is supported by a favorable response to anti-inflammatory therapy.

Keywords: echocardiography; immunosuppression therapy; pericardial effusion

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THE DIAGNOSIS YOU DO NOT WANT TO MISS: ULTRASOUND DETECTION OF RARE MIRIZZI SYNDROME

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Introduction

Mirizzi syndrome is a rare complication of long-standing cholelithiasis, occurring in a small percentage of patients with gallstone disease. It is defined by external compression of the common hepatic duct (CHD) due to an impacted gallstone in the cystic duct or Hartmann's pouch. Because of its rarity and nonspecific clinical presentation, it is frequently misdiagnosed preoperatively. Advanced imaging such as computed tomography (CT) or magnetic resonance cholangiopancreatography (MRCP) is typically required, while ultrasonography (US) is often underestimated in this context.

Case presentation

A 59-year-old female presented to the emergency department with acute right upper abdominal quadrant pain, accompanied by vomiting. The patient had a known history of gallstones. Physical examination revealed tenderness in the right hypochondrium without peritoneal signs, while laboratory analysis showed mild inflammatory changes. Initial abdominal ultrasound demonstrated a markedly distended (hydropic) gallbladder with a wall thickness at the upper limit of normal (3 mm).Notably, it also revealed an impacted stone in the cystic duct causing compression of the CHD, along with dilation of the intrahepatic bile ducts, raising suspicion for Mirizzi syndrome. Despite its rarity and the usual need for CT confirmation the diagnosis was established solely on US findings. The patient was treated with antibiotic therapy, resulting in clinical improvement, after which an elective cholecystectomy was planned; the diagnosis was subsequently confirmed by MRCP.

Conclusion

This case highlights both the rarity of Mirizzi syndrome and the diagnostic value of US in its early recognition. Prompt identification is essential for optimal management and surgical planning. Importantly, this report demonstrates that even rare conditions can be effectively diagnosed using readily available imaging modalities when interpreted with clinical awareness.

Keywords: cholelithiasis; gallbladder diseases; mirizzi syndrome; ultrasonography

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HIDDEN APPENDICOLITH IN ACUTE APPENDICITIS: THE DIAGNOSTIC VALUE OF ULTRASOUND IN AN INITIALLY UNCLEAR CLINICAL PRESENTATION

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Introduction

Luminal obstruction is a common cause of acute appendicitis, with an appendicolith present in approximately 10–30% of cases. Appendicoliths are not always visualized on ultrasound, which can further complicate early diagnosis. Their presence is associated with an increased risk of gangrene and perforation.

Case presentation

A 52-year-old female presented to the emergency department with severe abdominal pain initially localized in the epigastrium, later becoming diffuse across the abdomen. She reported multiple episodes of vomiting and chills, without fever. On physical examination, the abdomen was soft, with tenderness on palpation in the lower quadrants, without guarding. Abdominal ultrasound revealed a hypoechoic, poorly demarcated area adjacent to the medial wall of the cecum, accompanied by a pronounced inflammatory reaction of the surrounding fat tissue. Probe compression over the area elicited pain and guarding, raising suspicion of acute appendicitis. Laboratory findings were nonspecific (CRP < 1 mg/L, leukocytes 10.2×10^9/L), and after consultation with a surgeon, observation was recommended; however, the patient declined. The following day, the patient returned with a clear clinical picture of acute appendicitis. Laboratory values showed a significant increase (CRP 160 mg/L, leukocytes 14.2×10^9/L). Repeat ultrasound demonstrated edema of the mesenteric fat in the ileocecal region and the presence of free fluid. A thickened appendiceal wall (15 mm) was visualized, along with several hyperechoic areas with posterior acoustic shadowing consistent with appendicoliths. An appendectomy was performed, and a gangrenous appendix was removed.

Conclusion

This case highlights the importance of clinical monitoring and repeated ultrasound evaluation in suspected acute appendicitis, particularly in the early stages of the disease when laboratory findings may be nonspecific. Although not always visible on ultrasound, the presence of an appendicolith is associated with a higher risk of complications and necessitates a more cautious diagnostic and therapeutic approach.

Keywords: abdominal pain; appendicitis; ultrasound

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THE SILENT GIANT: A 25 MM ASYMPTOMATIC PACEMAKER LEAD THROMBUS

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Introduction

Lead-associated thrombi occur in 23% patients with pacemaker. They most are asymptomatic and only 1-3% of those patients experience tromboembolic incidents. This occurs more frequently in older males, that often have cardiovascular diseases such as hypertension. Herein we present a case of trombotic mass on on pacemaker electrode.

Case presentation

The patient is 69 year old male with past medical history significant for arterial hypertension and sick sinus syndrom that necessitated pacemaker implantation five years ago. He was completely asymptomatic and during routine check-up transthoracic echocardiography revealed floating mass on a pacemaker electrode in the right atrium. The mass measured 25 mm. To rule out embolic complications CTA was performed which shows no signs of pulmonary thromboembolism. The patient was afebrile, hemocultures were negative and CRP levels were low, therefore infective ednocarditis was ruled out. A decision was made to treat patent with unfractionated heparin and after he was switched to warfarine. Pacemaker lead replacement was not performed due to fibrotic adhesion of the lead tip to the cardiac wall. Thrombectomy was considered excessively demanding, as it would require cardiac surgery, which carries inherent operative risks.

Conclusion

In this case report, we emphasize that even asymptomatic patients should be regularly followed with cardiac ultrasound.. This allows for the timely identification of pacemaker lead thrombi and initiation of appropriate anticoagulant therapy to prevent possible pulmonary embolism.

Keywords: echocardiography; pacemakers; thrombosis

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HEPATIC ENCEPHALOPATHY AS AN ANESTHETIC CHALLENGE DURING LIVER TRANSPLANTATION

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Introduction

Hepatic encephalopathy (HE) is a serious, potentially fatal, reversible neuropsychiatric disorder that develops in the end stage of liver disease. Loss of hepatic function, including impaired ammonia detoxification, leads to the accumulation of neurotoxins in the brain and the clinical manifestations of encephalopathy.

Case presentation

A 52-year-old male presented with severe portal hypertension caused by extensive portal vein thrombosis due to thrombophilia (MTHFR mutation, low protein C/S, antithrombin III changes). His liver blood circulation was compromised, so he underwent liver transplantation. In the early postoperative course, the patient developed hepatic artery thrombosis, and an emergency thrombectomy was performed. Despite prompt vascular intervention, graft failure with severe metabolic deterioration, including elevated ammonia levels and HE, occurred, leading to urgent second liver transplantation. The severity of HE, as determined by the West Haven criteria, was grade III. The ammonia level was 155 µmol/L, and the brain scan showed no cerebral edema. Anesthesia was induced with short-acting, non-hepatically metabolized drugs propofol and fentanyl. Maintenance was achieved using total intravenous anesthesia (TIVA) with propofol and fentanyl. Muscle relaxation was accomplished with rocuronium. Intraoperative anesthetic goals were normoxia, normocapnia, stable invasively measured arterial pressure to maintain cerebral perfusion, normoglycemia, and normal sodium level. The perioperative course was uneventful. The patient was successfully weaned from the mechanical ventilator, adequate graft function was established, and HE resolved completely after 3-4 days.

Conclusion

This case report highlights the complexity of anesthetic management in patients with HE due to acute graft failure. Significant challenges which accompany stated condition are altered pharmacokinetics and the risk of neurological decline. Careful selection of drugs adjusted to preserve optimal cerebral perfusion is necessary to ensure patient safety and adequate perioperative outcomes.

Keywords: anesthesia; hepatic encephalopathy; hyperammonemia; liver transplantation; thrombosis

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NO TIME WASTED IN TREATMENT OF TEMPORAL HEADACHE – A CASE REPORT ON TEMPORAL ARTERITIS

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Introduction

Temporal arteritis (TA) is a form of vasculitis that affects the large blood vessels in the head and can lead to serious complications such as loss of vision, aneurysm and ischemic stroke. The usual clinical presentation includes headaches, tenderness in the scalp and temples, jaw pain, blurry vision, fatigue and fever. The disease is most often found in women over the age of 50.

Case presentation

70-year-old female patient reports to the emergency department with complaint of parietal and temporal headache along with tenderness in the temporal region that has been present for 3 weeks. She is also suffering from migratory pain in her jaw that subsides with movement. The patient's neurological assessment showed hardened temporal blood vessels and palpatory pain in the temporal regions. Her laboratory findings reveal elevated leukocytes, erythrocyte sedimentation rate and C-reactive protein of 120. Diagnosis of TA was confirmed with Colour-Doppler flow imaging (CDFI) ultrasound of the superficial temporal arteries that visualized a non-compressible hypoechogenic circle around the lumen of the vessel, also called halo-sign, that is a typical sonographic finding in TA. CDFI of the vertebral and carotid arteries and brain CT were unremarkable. Treatment was initiated with intravenous methylprednisolone and diclofenac with oral prednisone was prescribed. Adequate therapy led to the resolution of symptoms and the patient was discharged with recommendations to undergo neurological and immunological work-up.

Conclusion

The British society of Rheumatology recognizes CDFI ultrasound as an alternative to histological confirmation of TA. Although biopsy of the temporal artery is still considered as the gold standard in diagnosis of temporal arteritis, ultrasound has been slowly replacing it, as it is a non-invasive and quick tool in emergency medicine. The take-home message of this case report is that sonography, in the hands of experienced doctors, can replace invasive procedures and accelerate the diagnosis process.

Keywords: giant cell arteritis; headache; vasculitis

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COMPLETE CLINICAL REMISSION IN HYPERTROPHIC OBSTRUCTIVE CARDIOMYOPATHY FOLLOWING MORROW SEPTAL MYECTOMY – A CASE REPORT

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Introduction

Hypertrophic cardiomyopathy is the most common primary cardiomyopathy of genetic etiology with autosomal dominant inheritance. The obstructive form of hypertrophic cardiomyopathy (HOCM) is characterized by asymmetric hypertrophy of the interventricular septum, resulting in dynamic obstruction of the left ventricular outflow tract (LVOT) and secondary mitral regurgitation. Clinically, it presents with dyspnea, angina, syncope, and an increased risk of sudden cardiac death. Pharmacological treatment primarily includes beta-blockers, calcium channel blockers, disopyramide, and the myosin inhibitor mavacamten. In cases of severe obstruction, alcohol septal ablation or Morrow septal myectomy is indicated, as demonstrated in this case.

Case presentation

A 70-year-old female patient with known arterial hypertension was diagnosed in 2018 with HOCM by transthoracic echocardiography, demonstrating a dynamic LVOT gradient of 42-45 mmHg, an interventricular septal thickness of 2 cm, preserved systolic ejection fraction of 70%, and mild mitral regurgitation. Systolic anterior motion (SAM) of the mitral valve was absent then. In 2022, the patient began to experience dyspnea when climbing stairs, and in 2024 there was progression of symptoms with dyspnea on minimal exertion and angina despite beta-blocker therapy, without syncope. Transthoracic and transesophageal echocardiography confirmed disease progression with a dynamic systolic LVOT gradient of 55 mmHg and mitral valve SAM. Coronary angiography revealed significant right coronary artery (RCA) stenosis. In September 2025, the patient underwent Morrow septal myectomy and saphenous vein aortocoronary bypass grafting to the RCA. Postoperatively, dyspnea resolved. Follow-up transthoracic echocardiography showed LVOT gradient reduced to 20 mmHg and resolution of SAM. The patient's son has interventricular septal thickness of 1.2 cm. The daughter has basal septal thickness of 1.4 cm and mid-septum of 1.1 cm and known arterial hypertension. Both are asymptomatic.

Conclusion

Morrow septal myectomy resulted in significant reduction of the dynamic LVOT gradient and clinical improvement in a patient with HOCM.

Keywords: hypertrophic cardiomyopath; echocardiography; left ventricular outflow obstruction; septal myectomy

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EXTREME GALLBLADDER ATROPHY WITH LOSS OF IDENTIFIABLE ANATOMY – A CASE REPORT

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Introduction

Gallbladder atrophy is an uncommon end stage of chronic inflammatory disease, most often associated with chronic cholecystitis and long-standing cholelithiasis. Progressive fibrosis and adhesions may distort anatomy and, in rare cases, lead to loss of a clearly identifiable gallbladder, complicating surgical management.

Case presentation

A patient with biliary symptoms was treated in 2019 for acute calculous cholecystitis with antibiotic therapy, achieving clinical stabilization. Elective cholecystectomy was recommended. Ultrasound showed a distended gallbladder (~ 10 cm) with markedly thickened and stratified walls (up to 13 mm at the fundus), dense intraluminal content, and microlithiasis. MSCT confirmed a markedly enlarged gallbladder (approximately 100 × 50 mm) with wall thickening and multiple calculi. The patient's course was complicated by an acute coronary syndrome treated successfully with percutaneous coronary intervention. In 2023, the patient underwent elective surgical treatment. Laparoscopic exploration was attempted, but conversion to open surgery was required due to intraoperative findings. Extensive adhesions were present and carefully lysed. No clearly identifiable gallbladder was found in the gallbladder fossa. Only a small, fibrotic, severely atrophic remnant was present, with complete obliteration of the cystic duct and artery. The procedure was concluded with exploration, adhesiolysis, and drainage. Cholecystectomy was not performed. The postoperative course was uneventful, and the patient was discharged in good general condition.

Conclusion

This case illustrates an extreme form of end-stage gallbladder disease with near-complete atrophy and obliteration of cystic structures. Such presentations are rare and represent advanced chronic inflammatory changes. Awareness of this entity is important, as it requires a cautious and individualized surgical approach to ensure safe operative management.

Keywords: atrophy; cholecystitis; cholelithiasis; gallbladder

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WHEN IMAGING FAILS INITIALLY: ENZYME-GUIDED DETECTION OF HIDDEN LIVER TRAUMA

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Introduction

Blunt abdominal trauma frequently involves liver injury, though diagnosis may be challenging when initial imaging appears normal. Elevated liver enzymes such as AST and ALT are commonly associated with hepatic damage, but their correlation with injury severity remains unclear. Occult liver trauma, particularly contralateral to the site of impact, is rarely described and may be overlooked without thorough evaluation.

Case presentation

A 35-year-old male presented to the emergency department with chest pain after blunt trauma to the left thoracic wall sustained one hour prior. He had no comorbidities and was hemodynamically stable. Physical examination revealed superficial excoriations over the left chest and trochanteric region, with mild tenderness on palpation. Initial laboratory findings showed normal complete blood count but markedly elevated liver enzymes (ALT 4500 U/L, AST 3156 U/L, LDH 3787 U/L). Chest X-ray demonstrated fractures of the left 9th rib, while abdominal ultrasound showed no free fluid or parenchymal injury.

Given the significant enzyme elevation, multislice CT (MSCT) was performed, revealing non-displaced fractures of the left 9th-11th ribs and a contralateral liver contusion measuring 54x66 mm. The patient was managed conservatively with close clinical, laboratory, and imaging follow-up. His condition remained stable without progression of liver injury. He was discharged after three days and followed as an outpatient. A repeat MSCT two months later showed complete resolution of the liver lesion without complications.

Conclusion

This case highlights the importance of considering occult liver injury in patients with blunt trauma, even when initial imaging is negative. Elevated liver enzymes may serve as a critical diagnostic clue, prompting further imaging. Comprehensive clinical and radiological assessment is essential for appropriate management, particularly in stable patients, while urgent intervention remains necessary in unstable cases.

Keywords: abdominal injuries; alanine transaminase; aspartate aminotransferases; liver injuries

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ATYPICAL CLINICAL PRESENTATION OF TYPE A AORTIC DISSECTION ACCORDING TO THE STANFORD CLASSIFICATION – A CASE REPORT

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Introduction

Type A aortic dissection (TAAD), according to the Stanford classification, is an acute, life-threatening surgical emergency characterised by an intimal tear in the ascending aorta. While typically presenting with "tearing" chest pain, atypical clinical manifestations can lead to diagnostic delays, potentially resulting in cardiac tamponade, aortic regurgitation, or aortic rupture. Prompt diagnosis and urgent surgical management are essential to reduce the otherwise high mortality rate.

Case presentation

52-year-old man with a history of arterial hypertension presented to the emergency department with acute right hip pain, rated 8/10, accompanied by hypesthesia of the entire right leg. He reported that the pain initially began in the right gluteal region, where tenderness was elicited on palpation. Notably, the patient denied any chest or back pain. On examination, the right lower limb appeared slightly paler, and cooler compared to the left, with diminished femoral pulses. Urgent CT angiography revealed a TAAD originating at the aortic root and extending to the iliac arteries, with the primary entry tear between the ascending aorta and the aortic arch. Key findings included a 2.3 cm hemopericardium, true lumen collapse distal to the superior mesenteric artery, and right renal malperfusion. Despite iliac involvement, peripheral flow remained patent. Laboratory results showed leucocytosis with neutrophilia. The patient underwent emergency surgery involving resection and reconstruction of the ascending aorta and proximal arch using a supracoronary graft under deep hypothermic circulatory arrest. The postoperative course was favourable, and the patient achieved a full recovery.

Conclusion

This case underscores the importance of maintaining a high index of suspicion for aortic dissection even in the absence of classic symptoms. Recognizing malperfusion syndromes, such as acute limb ischemia, as a primary presentation of TAAD is critical for timely diagnosis and life-saving surgical intervention.

Keywords: dissecting aneurysm; hospital emergency service; hypertension; thoracic aorta

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INTRAVASCULAR ULTRASOUND AS A TOOL FOR OVERCOMING ANATOMICAL COMPLEXITY IN OSTIAL CIRCUMFLEX CORONARY ARTERY DISEASE – A CASE REPORT

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Introduction

Ostial circumflex coronary artery lesions are challenging to assess and treat due to their anatomical location, the risk of left main coronary artery injury during percutaneous coronary intervention (PCI) and the limitations of conventional coronary angiography, which may be insufficient for accurate assessment of lesion severity and morphology. This case report aims to highlight intravascular ultrasound (IVUS) precise evaluation of plaque morphology with lesion and vessel dimensions, improving diagnostic accuracy.

Case presentation

A 50-year-old male was referred for cardiologic evaluation due to ongoing dyspnea after 200-300 meters of exertion, without angina lasting around 4 months. Three months before initial cardiologic evaluation, he was hospitalized in collaborating hospital for bilateral pneumonia complicated by sepsis. At that time, markedly elevated troponin (peaking around 8000 ng/L) was recorded.

On admission, clinical examination was unremarkable, with regular cardiac rhythm, normal heart sounds and no murmurs. Electrocardiogram showed sinus rhythm without signs of ischemia. Transthoracic echocardiography showed a normal-sized left ventricle with preserved systolic function and no significant valve pathology. Coronary angiography found no significant stenosis of left and right coronary artery, but there was stenosis on ostial circumflex artery. To assess the lesion in more detail, IVUS was utilized. It found that the fibrofatty lesion with 3.3mm2 area which was considered significant, thus PCI with drug coated balloon was planned. Distal left main coronary artery was not diseased. After multiple semi-compliant balloon dilatations, good angiographic result was obtained and sirolimus coated balloon was applied. Final result was optimal.

Post-procedurally, the patient reported regression of the symptoms, with regulated blood pressure and glycemia.

Conclusion

In conclusion, this case shows the benefits of IVUS integration in specific coronary artery disease diagnostic and revascularization settings.

Keywords: coronary balloon angioplasty; coronary occlusion; interventional ultrasonography; percutaneous coronary intervention; sirolimus

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URGENT SURGICAL TREATMENT OF RECURRENT ANGIOMATOID FIBROUS HISTIOCYTOMA OF THE LOWER LEG

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Introduction

Soft tissue sarcomas are rare malignant tumors of mesenchymal origin with potential for local recurrence and metastasis. Angiomatoid fibrous histiocytoma is an uncommon subtype that most frequently affects the extremities. The standard treatment is surgical excision with clear margins. In cases of recurrence, this condition represents a surgical urgency requiring immediate intervention to prevent further progression

Case presentation

A 79-year-old patient presented to the emergency surgical department with a recurrence of a soft tissue sarcoma in the subcutaneous tissue of the anterior aspect of the right lower leg. The lesion was located along the medial border of a previous surgical scar and measured 3.5 × 2.5 cm. Two years earlier, the patient had undergone wide local excision of a subcutaneous tumor in the same region, with histopathological confirmation of angiomatoid fibrous histiocytoma and subsequent reconstruction of the defect. Given the confirmed recurrence, the patient's age, and the risk of further progression and metastatic spread, urgent surgical management was indicated. The procedure was performed under spinal anesthesia. Wide re-excision of the lesion was carried out, including full-thickness skin, subcutaneous tissue, and fascia, extending to the level of underlying muscle and bone, with approximately 2 cm safety margins. Reconstruction was achieved using an artificial dermal substitute (Matriderm) followed by a meshed split-thickness skin graft (Thiersch graft). A compressive tie-over dressing was applied. Following wide excision, histopathological analysis confirmed clear surgical margins, and to date, no recurrence has been observed.

Conclusion

This case emphasizes the importance of prompt surgical treatment of recurrent soft tissue sarcomas. Wide excision with appropriate reconstruction can achieve satisfactory local control and reduce the risk of further disease progression. Careful long-term follow-up remains essential due to the potential for recurrence and metastasis.

Keywords: emergency treatment; local neoplasm recurrence; plastic surgery procedures; soft tissue neoplasms

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POINT-OF-CARE ULTRASOUND IN THE RAPID DIFFERENTIATION OF DYSPNEA

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Introduction

Pericardial tamponade is a life-threatening condition resulting from the accumulation of fluid in the pericardial space, leading to impaired cardiac filling and hemodynamic compromise. Rapid recognition is essential in acute care settings. Point-of-care ultrasound has emerged as a crucial bedside tool, enabling timely diagnosis and guidance of urgent therapeutic interventions.

Case presentation

A 68-year-old man was referred to the emergency internal medicine department with chest pain and dyspnea. Prehospital assessment raised suspicion of acute cardiac decompensation. On admission, the patient was tachypneic and reported anterior chest pressure. Blood pressure was 100/80 mmHg, with oxygen saturation of 96%. Basal crackles were heard on lung auscultation. Electrocardiography demonstrated atrial fibrillation with a ventricular rate of 80–105/min and low-voltage QRS complexes. Point-of-care ultrasound performed on admission revealed bilateral pleural effusions and a significant pericardial effusion with signs of impending cardiac tamponade. An interventional cardiologist was urgently consulted, and the patient was transferred to the intensive care unit. Shortly thereafter, he developed hypotension (80/70 mmHg) and progressive somnolence. Following rapid ultrasound reassessment, emergent percutaneous pericardial drainage was performed, evacuating 1100 mL of pericardial fluid. This resulted in prompt hemodynamic recovery and marked clinical improvement.

Conclusion

Point-of-care ultrasound is indispensable in acute medicine for the rapid recognition, monitoring, and management of pericardial effusion and cardiac tamponade. This case highlights the importance of early bedside ultrasound assessment, particularly in postoperative cardiac patients, enabling timely diagnosis and intervention in life-threatening complications.

Keywords: cardiac tamponade; echocardiography; pericardial effusion

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ULTRASOUND AS A DIAGNOSTIC TOOL IN RESPIRATORY INSUFFICIENCY

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Introduction

Respiratory insufficiency occurs when the gas exchange system deranges, either due to alveolar or capillary disturbances. This condition can be categorized as hypoxemic Type 1 or hypercapnic Type 2 respiratory insufficiency, usually presenting with tachydispnea, increased work of breathing, and abnormal blood gas levels. This insufficiency is frequent in hospitalised and immunocompromised patients who are notably vulnerable to respiratory tract infections.

Case presentation

We report a case of a 64-year-old patient with chronic myeloid leukemia (CML) that progressed to an aggressive form with 87% blasts in cytology myelogram. The patient had a fever (39°), chills, shivering, right-sided thoracic pain and a dry cough. Laboratory evaluation showed increased inflammatory parameters and pancytopenia. The patient later developed Type 1 respiratory insufficiency. A CT scan revealed bilateral infiltrations of the lung parenchyma, described either as inflammation or leukemic infiltration. Patient's condition deteriorated despite treatment with a tyrosine kinase inhibitor and empiric antibiotic therapy (piperacillin–tazobactam, linezolid, and meropenem). Point-of-care ultrasound (POCUS) showed extensive pulmonary consolidations of the right lung. Mild hyponatremia (130 mmol/L) was observed. Microbiological evaluation confirmed Legionella pneumophila pneumonia. The aforementioned pulmonary consolidation, typically described on ultrasound as "grey hepatization" of the lungs, as seen in Figure 1, was followed by an extensive pleural effusion. Pleural effusion and pulmonary consolidation can easily be identified and diagnosed using a POCUS examination. The pleural line and accompanying A-lines are absent in the affected area; however, thick consolidation of the lung parenchyma, along with an irregular pleural boundary and prominent B-lines, are clearly visible, as shown in Figure 2.

Conclusion

This highlights POCUS as an important diagnostic tool, alongside clinical examination and laboratory analysis, for precisely identifying life-threatening clinical complications, such as severe pulmonary infection in neutropenic patients. Even though mastering it takes time the most important advances are easy access and the cost-effective ratio.

Keywords: grey hepatization; pancytopenia; point-of-care ultrasound (POCUS); respiratory failure

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ATYPICAL PRESENTATION OF ACUTE CORONARY SYNDROME – A CASE REPORT

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Introduction

Acute coronary syndrome (ACS) is a major cause of morbidity and mortality worldwide. Although chest pain is its hallmark symptom, some patients present atypically, delaying diagnosis and treatment. Such presentations are more common in older adults, women, and individuals with diabetes mellitus. This report describes atypical ACS in an elderly woman without chest pain.

Case presentation

A 71-year-old woman presented to the emergency department with nausea, vomiting, fatigue, and mild epigastric discomfort lasting 10 hours. She denied chest pain, dyspnea, or syncope. Her medical history included type 2 diabetes mellitus, hypertension, hyperlipidemia, and obesity. On admission, blood pressure was 145/85 mmHg, heart rate 96 beats/min, and oxygen saturation 98% on room air. Physical examination showed mild upper abdominal tenderness. Initial laboratory tests revealed elevated blood glucose and slightly increased high-sensitivity cardiac troponin I. The first electrocardiogram demonstrated subtle ST-segment depression in leads V4–V6. Because of persistent symptoms and multiple cardiovascular risk factors, serial troponin measurements and repeat ECGs were obtained. Troponin levels rose over the next three hours, while repeat ECG showed T-wave inversions in the anterior and lateral leads. Echocardiography revealed mild hypokinesia of the anterior wall with preserved left ventricular systolic function. The patient was diagnosed with non-ST-elevation myocardial infarction and treated with aspirin, clopidogrel, low-molecular-weight heparin, statin therapy, and beta-blockers. Urgent coronary angiography demonstrated 90% proximal stenosis of the left anterior descending artery. Percutaneous coronary intervention with drug-eluting stent implantation was successfully performed. Her symptoms resolved, and she was discharged in stable condition with cardiology follow-up.

Conclusion

Atypical ACS may present with gastrointestinal or nonspecific systemic symptoms instead of chest pain. This case emphasizes the importance of clinical suspicion in high-risk patients, especially elderly women with diabetes. Early recognition and timely coronary intervention are essential for favorable outcomes.

Keywords: acute coronary syndrome; diabetes mellitus type 2; myocardial infarction

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PORTAL VEIN ANEURYSM: A RARE ULTRASOUND FINDING

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Introduction

Portal vein aneurysm is rare vascular abnormality with the prevalence of 0.43%, defined as dilatation of the portal vein exceeding 19 mm in diameter in cirrhotic patients and 15 mm in healthy individuals. The etiology can be congenital or acquired, with portal hypertension as the main risk factor. Additionally, acute or chronic pancreatitis and cholelithiasis are recognized as potential risk factors. Symptoms are usually nonspecific, such as abdominal pain, although around 1/3 of patients can be completely asymptomatic. Thrombosis and biliopathy are the most common complications.

Case presentation

An 81-year-old male patient was admitted for gastrointestinal work-up because of two prior episodes of acute pancreatitis. An ultrasound was performed, revealing an aneurysmal dilatation of the portal vein trunk 4.8 cm in diameter with preserved flow in the lumen and intrahepatic branches. Preserved portal vein flow indicates the absence of thrombosis and patient showed no additional symptoms. There were no signs of cirrhosis or portal hypertension, including the normal spleen size, and normal liver stiffness. Additionally, an ultrasound revealed an inhomogeneous cystic mass of the pancreatic head, and a gallbladder with a layer of small gallstones. Endoscopic ultrasound was also performed, during which fine needle aspiration of the pancreatic mass was carried out, with cytological result consistent with chronic pancreatitis.

Conclusion

This case represents a rare incidental ultrasound finding of portal vein aneurysm in a patient who is currently asymptomatic so surgical intervention is not indicated at this time, but regular follow-up is required. Regarding the etiology, a congenital weakness of the portal vein wall cannot be excluded. However, given the patient's advanced age and comorbidities, an acquired cause is more likely. We propose that prolonged inflammation caused by pancreatitis may have weakened the vessel wall over time, leading to aneurysm formation, even in the absence of elevated portal venous pressure.

Keywords: aneurysm; pancreatitis; portal vein; ultrasonography

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POINT-OF-CARE ULTRASOUND IN ACUTE DIAGNOSIS AND MANAGMENT OF AN EXTENSIVE SUBHEPATIC ABSCESS FOLLOWING GALLBLADDER PERFORATION MIMICKING MALIGNANCY – A CASE REPORT

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Introduction

A subhepatic abscess secondary to gallbladder perforation represents a diagnostic challenge, often mimicking malignancy on imaging. Rapid bedside assessment using point-of-care ultrasound (POCUS) can be decisive in acute clinical settings.

Case presentation

A 51-year-old male was admitted to the Department of Gastroenterology and Hepatology via emergency medical service due to a two-week history of progressively enlarging, painful mass in the right hemiabdomen , accompanied by systemic inflammatory signs. On admission , he reported severe abdominal and back pain with an inability to lie supine. Clinical examination revealed a tender, palpable mass in the right upper abdomen with overlying skin erythema. Initial POCUS demonstrated a large, heterogenous fluid collection extending from the gallbladder region toward the anterior abdominal wall, raising suspicion of gallbladder perforation or underlying malignancy. Subsequent imaging confirmed multiloculated subhepatic abscess with extension in the abdominal wall. POCUS-guided percutaneous drainage was performed, evacuating approximately 1000 mL of purulent material. Microbiological analysis identified Escherichia coli and Streptococcus intermedius, while cytological and histopathological analysis demonstrated inflammatory changes without evidence of malignancy.

Conclusion

This case highlights the pivotal role of POCUS as a first-line modality in the acute setting, enabling rapid bedside diagnosis and guiding timely therapeutic intervention. POCUS was essential in indentifing the extent of the pathological process and differentiating an inflammatory condition from suspected malignancy. In patients presenting with atypical abdominal masses, early use of ultrasound can significantly improve diagnostic accuracy, expedite management, and reduce unnecessary oncologic evaluation.

Keywords: abdominal abscess; drainage; gallbladder disease; point-of-care systems; ultrasonography

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RAPIDLY PROGRESSIVE PLEUROPULMONARY INFECTION IN AN ASPLENIC PATIENT – A CASE REPORT

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Introduction

Pneumococcal pleuropneumonia is a severe infection of the lungs and surrounding pleural membrane caused by the encapsulated bacterium *Streptococcus pneumoniae*. It typically presents with fever, chest pain, dyspnea, cough and may be complicated by pleural empyema particularly in immunocompromised patients such as unvaccinated asplenic individuals.

Case report

A 61-year-old asplenic female was admitted with a seven-day history of right subcostal pain, low-grade fever, severe cough and chills. The patient was not vaccinated against pneumococcus. Initial examination revealed mild dyspnea at rest, diminished breath sounds at the right lung base and elevated inflammatory markers. Chest X-ray showed bilateral pleural effusion, more pronounced on the right side. Thoracic ultrasonography confirmed a small pleural effusion associated with right lower lobe consolidation. A large volume of fluid was collected by ultrasound-guided thoracocentesis and microbiological analysis confirmed *Streptococcus pneumoniae*. Despite antibiotic therapy, the patient deteriorated. Follow-up imaging showed rapid progression of the right-sided pleural effusion, while repeated thoracic ultrasounds demonstrated increasing fluid volume and lung compression. Due to progression, a thoracic surgeon was consulted and pleural drainage was performed, evacuating approximately 1000 mL of purulent fluid. Computed tomography confirmed right-sided pleural empyema with lung consolidation and multiloculated fluid collections suggestive of abscess formation. During hospitalization, serial thoracic ultrasound examinations were used to monitor pleural fluid dynamics, guide repeated drainage of persistent empyema and assess treatment response, ultimately leading to stabilization of the patient's respiratory status.

Conclusion

Asplenic, unvaccinated patients are at high risk for rapidly progressive pneumococcal infections and life-threatening complications. This case highlights the importance of early recognition and prompt management in acute settings. Furthermore, it emphasizes the dual role of thoracic ultrasound in acute medicine, as a bedside tool for diagnosis, guidance of therapeutic interventions and dynamic monitoring.

Keywords: pleural empyema; pleuropneumonia; pneumococcal infections; ultrasonography

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SPONTANEOUS ADRENAL HEMORRHAGE IN AN ADULT PATIENT

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Introduction

Spontaneous atraumatic adrenal hemorrhage is a rare, but potentially fatal condition (occurred in 1% of autopsies). It is more common in children but also seen in adults with risk factors like coagulopathy, pregnancy, burns, recent surgery and adrenal tumors. Its symptoms are often nonspecific and include abdominal pain, which can delay diagnosis. Therefore, it is usually detected in seriously ill patients during abdominal imaging.

Case presentation

An 81-year-old male with a history of abdominal surgery presented to the emergency department, with acute right abdominal and flank pain. Initial laboratory findings and an urgent ultrasound examination showed no abnormalities, and the patient was discharged with conservative treatment due to suspected cholecystolithiasis.

Two days later, he returned with persistent, severe abdominal pain localized to the same region. Laboratory findings showed leukocytosis and elevated CRP. Urgent abdominal ultrasound showed no pathology.

CT imaging revealed enlargement of the right adrenal gland measuring 48 × 24 mm, with signs of hemorrhage and suspected pre-existing adrenal adenoma. He was transferred to the urology department, where surgical intervention was deferred in favor of supportive treatment.

Conclusion

Adrenal hemorrhage is often underrecognized in acutely unwell patients and may lead to a fatal adrenal crisis. Therefore, unexplained abdominal pain in patients with predisposing conditions should raise clinical suspicion of this diagnosis. In this case, timely CT imaging enabled early recognition and prevented patient destabilization

Keywords: abdominal pain; adrenal glands; hemorrhage

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IATROGENIC HAEMOTHORAX AFTER THORACOCENTESIS: A MULTIMODALITY IMAGING CASE

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Introduction

Haemothorax is the accumulation of blood within the pleural space, commonly caused by trauma, malignancy or iatrogenic injury. This case report presents a patient with a rare complication of thoracocentesis, highlighting multiple imaging techniques as key to timely diagnosis.

Case presentation

A 55-year-old male was admitted to the Intensive Care Unit following emergency surgery for an acute abdomen. Upon admission, the patient was analgised and sedated, hemodynamically unstable, intubated, and mechanically ventilated. Past medical history included hypertension, type 2 diabetes, acute pancreatitis and a gastric ulcer. The patient's hemodynamic state kept declining regardless of vasopressors. On the first postoperative day, the patient was extubated but still had insufficient respiratory function, therefore, a chest X-ray and ultrasonography were performed, revealing bilateral pleural effusion. This was an indication for thoracocentesis. In the evening, bleeding from the drainage site was observed. A computed tomography confirmed a haemothorax and he was sent for emergency thoracotomy. Following the surgery, the patient was still clinically unstable. On the fourth postoperative day, he was extubated with adequate respiratory function. However, the next day, his respiratory status deteriorated secondary to newly developed pulmonary infiltrates, necessitating reintubation. Multiple drug-resistant microorganisms were revealed from the tracheal aspirate, so he was given antibiotics according to the antibiogram. Control lung imaging and bedside ultrasonography were performed. During his stay, the patient received all corrective measures for his electrolyte imbalance, glycemia, hypoalbuminemia, diuresis and blood transfusions for anaemia and coagulopathy. Despite vasopressors, the patient's state deteriorated and he passed away.

Conclusion

Thoracocentesis is an effective way of resolving fluid accumulation within the thoracic cavity, but as simple as it is, it carries many risks. Haemothorax represents a recognized complication of thoracocentesis and, as such, requires prompt diagnosis and treatment. A multimodality imaging approach enables timely diagnosis and optimizes patient outcomes.

Keywords: computed tomography; hemothorax; pleural effusion; thoracentesis; ultrasonography

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CHOCOLATE SURPRISE: ULTRASOUND IN THE DIAGNOSIS OF RUPTURED OVARIAN HEMORRHAGIC CYST – A CASE REPORT

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Introduction

An ovarian endometrioma, also known as a hemorrhagic or "chocolate" cyst, is a benign cystic lesion filled with thick, dark blood, arising from ovarian involvement in endometriosis. It typically presents with chronic pelvic pain, dyspareunia and infertility. Rupture of a hemorrhagic cyst is a gynecological emergency manifesting as sudden-onset abdominal and pelvic pain with free fluid in the abdomen.

Case presentation

A 31-year-old woman presented to the emergency department with acute, severe abdominal pain most pronounced in the right lower quadrant. Her history was notable for a right ovarian endometrioma under regular gynecological surveillance, diagnosed five years prior, with documented growth in recent months. She was undergoing folliculometry as part of fertility planning. On admission, she was hypotensive (73/50 mmHg), eupneic, normocardic and afebrile. The abdomen was diffusely tender on palpation without peritoneal signs. Abdominal ultrasound showed no parenchymal pathology and the appendix was not visualized. However, large amounts of free fluid were identified in the pelvis, including the pouch of Douglas, Morrison's pouch and the perivesical space. Given her history, she was referred for emergency gynecological evaluation with suspected hemorrhagic cyst rupture. Transvaginal ultrasound confirmed free fluid around the right adnexa and in the retrouterine space. Urgent laparoscopy was performed, with evacuation of more than 800 mL of blood and clots. The right ovarian endometriotic cyst wall, approximately 10 cm in diameter, was completely excised. The postoperative course was uneventful, and the patient made a full recovery with regular gynecological follow-up.

Conclusion

Rupture of an ovarian hemorrhagic cyst is an important cause of acute abdominal and pelvic pain in women of reproductive age. This case highlights the central role of ultrasound in the initial assessment of gynecological patients presenting with acute pain and a broad differential diagnosis, given its wide availability, bedside applicability, rapid execution, and absence of radiation exposure.

Keywords: emergency medicine; endometriosis; ovarian cysts; ultrasonography

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A CASE REPORT OF A RETAINED FISHBONE HAND INJURY

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Introduction

Foreign bodies account for approximately 10% of hand injuries and may consist of glass, metal, or organic materials. Retained foreign material can lead to complications such as infection, pain, hematoma formation, and migration. Diagnosis may be challenging, particularly in cases involving radiolucent materials, which are not easily detected on standard radiographs. In such cases, ultrasound imaging plays a crucial role. Surgical removal is often technically demanding and time-consuming.

Case presentation

We report a case of a 40-year-old woman who presented to a plastic surgery clinic with deterioration of chronic pain in her right hand. Her symptoms originated from an injury sustained 4 months ago while cleaning fish, during which she injured the index finger but did not seek medical attention at the time due to the mild nature of her complaints. Over the following months, she developed progressive pain and swelling at the injury site. Clinical examination raised suspicion of a retained foreign body in the dorsal site of the distal phalanx. Ultrasound imaging confirmed the presence of a linear foreign structure measuring 17 mm in length. Surgical removal was indicated. The procedure was performed under regional anesthesia using a peripheral nerve block of the hand. A tourniquet was applied to establish a bloodless operative field, facilitating visualization and reducing technical difficulties. Intraoperatively, granulomatous tissue surrounding the foreign body was identified. Careful dissection exposed the lesion, and after incising the granuloma, a 2 cm fishbone was successfully extirpated. The procedure lasted approximately 30 minutes and was completed without complications.

Conclusion

This case highlights the importance of considering retained organic foreign bodies in patients with persistent hand pain following minor trauma. Ultrasound is a valuable diagnostic tool in detecting radiolucent materials. Timely surgical intervention, combined with appropriate operative techniques such as tourniquet use and regional anesthesia, ensures safe and effective removal with minimal morbidity.

Keywords: foreign bodies; hand injuries; tourniquets

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LOOKING BEYOND THE SKULL: HOW POINT-OF-CARE ECHOCARDIOGRAPHY SOLVED A CRYPTOGENIC CEREBRAL VENOUS SINUS THROMBOSIS

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Introduction

In acute neurological deficits in young adults, the diagnostic focus often remains neurally confined. However, the heart and brain are hemodynamically inseparable. Cardiac tumors, though rare, are a significant cause of embolic events and can mimic primary neurological disease. This report highlights how immediate integration of ultrasound fundamentally altered the diagnosis and management of a seemingly isolated neurovascular emergency.

Case presentation

A previously healthy young man presented with an acute ischemic cerebral attack and sudden-onset neurological deficits. Urgent brain CT revealed cerebral venous sinus thrombosis—a finding typically associated with hypercoagulable states or local infection. At this juncture, the clinical picture pointed purely to a neurovascular catastrophe. However, given his young age and absence of conventional risk factors, a cryptic underlying etiology was strongly suspected. A transthoracic echocardiogram was performed emergently at the bedside. The images revealed a large, pedunculated, mobile mass measuring 22x55 mm within the left atrium, prolapsing across the mitral valve during diastole. Its heterogeneous echotexture, irregular surface, and attachment to the interatrial septum via a narrow stalk were highly suggestive of cardiac myxoma. This sonographic window instantly transformed the diagnostic narrative: the thrombosis was no longer cryptogenic but a direct consequence of a tumor-induced embolic source. Acting on this critical information, the patient was transferred to the Department of Cardiovascular Diseases and underwent urgent surgery eight days post-hospitalization. The mass was resected, and pathology confirmed atrial myxoma. He was discharged seven days after surgery with an uneventful recovery.

Conclusion

For the emergency physician, ultrasound is not a supplementary tool but a central pillar of acute diagnostics. The echocardiogram prevented a misdiagnosis that would have led to ineffective treatment and fatal recurrent embolization. This case strongly advocates for routine focused cardiac ultrasound in young patients with unexplained thromboembolic events—because looking beyond the obvious window, toward the heart, saves lives.

Keywords: embolic stroke; myxoma; transthoracic echocardiography

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THROMBOEMBOLISM OR BLEEDING? CLINICAL DECISION-MAKING IN MULTIMORBIDITY – ATRIAL FIBRILLATION AND SURGICALLY TREATED COLORECTAL CANCER – A CASE REPORT

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Introduction

Microcytic anemia from gastrointestinal bleeding is common, especially in patients with complex surgical and oncological histories who need long-term anticoagulation. Managing the risks of bleeding and thromboembolic complications poses specific challenges in those with atrial fibrillation, especially when the bleeding risk is high. We present a case of recurrent anemia due to bleeding from the anastomosis after colorectal surgery in a patient with atrial fibrillation, emphasizing the need for a multidisciplinary approach.

Case presentation

We present a case of a 77-year-old man with colon adenocarcinoma who underwent multiple abdominal surgeries, including right hemicolectomy and resection of the ileocolotransverse anastomosis with creation of a neoanastomosis. Over the nine months following the initial surgery, he was repeatedly hospitalized for melena, abdominal pain, and severe microcytic anemia (lowest hemoglobin 42 g/L). During the last hospitalization, he received a red blood cell transfusion. Diagnostics included CT angiography of the abdominal aorta and pelvic arteries, chest radiography, thoracic CT, and colonoscopy. Colonoscopy showed hyperemic mucosa with shallow ulcerations and erosions at the ileotransverse anastomosis, with marginal bleeding but no stenosis or tumor progression.

He was on oral anticoagulant therapy (apixaban, then dabigatran) for persistent atrial fibrillation, with a CHA_2DS_2 VASc score of 3, indicating a significant thromboembolic risk and apparent need for anticoagulation. Due to recurrent bleeding and no surgical option for definitive hemostasis, left atrial appendage (LAA) occluder implantation was planned to eliminate the primary site of thrombus formation and allow discontinuation of long-term anticoagulation. During hospitalization, cardiac CT was performed. He received iron supplementation and was advised to continue low-molecular-weight heparin until the procedure.

Conclusion

This case shows the complexity of managing patients with both bleeding and thromboembolic risk due to colorectal cancer and atrial fibrillation. Optimal management requires a multidisciplinary approach. LAA occlusion is a suitable alternative to lifelong anticoagulation in selected high-risk patients.

Keywords: anticoagulants; atrial fibrillation; colorectal neoplasms

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TRIPLE-NEGATIVE BREAST CANCER MIMICKING MASTITIS DURING LACTATION IN A 34-YEAR-OLD WOMAN

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Introduction

Mastitis or breast inflammation is not so uncommon in women during lactation. Signs such as redness, swelling and pain are usually attributed to this benign condition. However, persistent symptoms should raise suspicion for underlying malignancy. Breast cancer in young women without identifiable genetic mutations is relatively rare, particularly aggressive subtypes such as triple-negative breast cancer (TNBC), which are associated with poorer prognosis and limited targeted treatment options.

Case presentation

We present a case of a 34-year-old lactating woman presented with breast pain, erythema, and swelling, initially managed as mastitis with antibiotic therapy. Due to incomplete clinical resolution and persistence of a palpable lesion, further diagnostic workup was undertaken. Imaging demonstrated a localized inflammatory lesion measuring 5 × 5 cm. A tumorectomy was performed, and a 1.5 cm mass was excised. Patohistological evaluation confirmed invasive ductal carcinoma, triple-negative subtype, grade 3.

Her family history revealed two older sisters. Notably, one sister had been diagnosed with hormone receptor-positive breast cancer at the age of 32, with a more favorable prognosis. At that time, genetic testing for hereditary breast cancer syndromes, including BRCA mutations, was negative.

The patient started her treatment with neoadjuvant chemotherapy. Given her young age and the aggressive tumor biology, a multidisciplinary team recommended bilateral skin and nipple sparing mastectomy (SNSM) with immediate breast reconstruction.

An incision was made from the areola extending laterally, followed by excision of the breast tissue. An implant was placed above the pectoral muscle and two enlarged lymph nodes were excised from the axilla. The postoperative course progressed uneventfully.

Conclusion

This case highlights the diagnostic challenge of distinguishing mastitis from malignancy during lactation. Persistent symptoms despite appropriate therapy should prompt timely imaging and biopsy. Although rare, aggressive breast cancer can occur in young, BRCA-negative patients, emphasizing the importance of clinical vigilance and individualized multidisciplinary management.

Keywords: genetic testing; mastectomy; mastitis

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MINIMALLY INVASIVE THORACOSCOPIC EPICARDIAL LEFT ATRIAL APPENDAGE OCCLUSION IN A PATIENT WITH PERSISTENT THROMBUS DESPITE ANTICOAGULATION THERAPY

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Introduction

Atrial fibrillation (AF) is one of the leading causes of ischemic stroke, with more than 90% of thrombi in patients with AF originating from the left atrial appendage (LAA). The standard therapy is oral anticoagulant therapy (OAC). However, some patients have persistent or progressive thrombus despite adequate anticoagulation, posing a significant challenge. In such cases, percutaneous LAA closure is contraindicated due to the risk of intraprocedural embolization. Therefore, a multidisciplinary approach is required, with consideration of surgical options—primarily thoracoscopic epicardial LAA closure and MAZE procedures for treating atrial fibrillation.

Case presentation

We present a 69-year-old patient with arterial hypertension, dyslipidemia, type II diabetes mellitus, and persistent atrial fibrillation. The patient previously underwent hybrid atrial fibrillation ablation (pulmonary vein cryoablation). However, due to arrhythmia recurrence and a documented thrombus in the left atrial appendage, further intervention was planned. Strict anticoagulant therapy was maintained: initially warfarin with a target INR of 3.0–3.5, then dabigatran. Despite this, serial transesophageal echocardiography (TEE) and multislice computed tomography (MSCT) showed persistence and progression of an apical LAA thrombus.

Given that a percutaneous approach would carry an unacceptably high risk of thrombus mobilization and consequent cerebrovascular events, the patient was referred for cardiothoracic surgical consultation. Treatment via minimally invasive thoracoscopy with a MAZE procedure—creating scar lines to block abnormal conduction—and epicardial exclusion of the LAA using a clip was proposed. This approach enables external LAA closure, avoiding intracardiac manipulation and directly preventing thromboembolism.

Conclusion

This case highlights the importance of an individualized approach in patients with high thromboembolic risk. When pharmacological therapy fails, and percutaneous intervention is too risky, minimally invasive thoracoscopic surgery is a safe and effective option. Integration of advanced imaging modalities (TEE, MSCT) and early collaboration between cardiologists and cardiac surgeons are crucial for managing complex cardiac pathology.

Keywords: atrial fibrillation; left atrial appendage closure; maze procedure

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KNIFE IN THE CHEST: A MULTIDISCIPLINARY APPROACH TO MANAGING CARDIAC LACERATION AND MASSIVE HEMOTHORAX

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Introduction

Penetrating chest injuries represent high-risk conditions with significant mortality. Treatment outcomes depend on rapid recognition of the mechanism of injury, adequate prehospital stabilization, and timely surgical intervention. A particular challenge is the operative management of cardiac injuries without the use of cardiopulmonary bypass, while maintaining stable hemodynamics and effective ventilation.

Case presentation

A 17-year-old male sustained a penetrating chest injury during play after school. The mechanism of injury was unusual: a friend was spinning a plastic bag containing a knife and the blade pierced through the bag and penetrated the right parasternal region. The knife was removed before the arrival of emergency medical services. He was transported by helicopter to a tertiary care center.

On initial assessment, the patient was hypotensive and hypoxemic. Resuscitation was initiated with crystalloids, oxygen, tranexamic acid, calcium gluconate, blood products, and fibrinogen, along with placement of an Asherman chest seal. Following chest tube insertion, 2000 mL of blood was evacuated, indicating a massive hemothorax.

Emergency right anterolateral thoracotomy via the 5th intercostal space revealed lacerations of the internal mammary artery and right atrium (1.5 cm in length). Hemostasis was achieved by arterial clipping and primary suturing of the atrial injury without cardiopulmonary bypass. The procedure was performed under general balanced anesthesia using a double-lumen endotracheal tube. Postoperatively, chest X-ray showed fully expanded lungs and echocardiography revealed normal findings.

The postoperative course was uneventful. The patient was extubated on the first postoperative day and discharged on day eight. He later developed mild pneumonia, which was successfully treated.

Conclusion

This case demonstrates that seemingly unusual mechanisms can result in life-threatening injuries. Rapid escalation of care, early thoracotomy, and decisive surgical management without delay are crucial for survival. Furthermore, close coordination between surgical and anesthesiology teams enables optimal working conditions and safe management of complex intrathoracic injuries in emergency settings.

Keywords: echocardiography; heart injuries; hemothorax; thoracic injuries, penetrating; thoracotomy

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TIMELY RECOGNITION OF DRESSLER SYNDROME: THE VALUE OF ULTRASOUND IN CLINICAL PRACTICE

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Introduction

Dressler syndrome represents a late complication of myocardial injury that manifests as autoimmune pericarditis, often linked with pericardial and pleural effusion. Ultrasound, especially echocardiography and ultrasound of the thorax, plays a key role in diagnostics and management of therapeutic options.

Case presentation

A 57-year-old male patient diagnosed with arterial hypertension and dyslipidemia was hospitalized due to an acute ST-elevation myocardial infarction of the anteroseptal wall. Subsequently, three months after he presented to his family medicine doctor with a respiratory infection, which was followed by a pleural effusion. Also, his condition was monitored by a pulmonologist. Due to the progression of symptoms, computerized tomography was performed, confirming a large right-sided pleural effusion. Because of chest pain, fever, and dyspnea, antibiotic therapy was initiated; however, due to persistence of symptoms, the patient was readmitted for hospital treatment. Laboratory findings showed leukocytosis and elevated inflammatory markers with gradual regression following therapy and drainage of the effusion. A decline in hemoglobin with microcytosis was noted. Radiological imaging confirmed pleural effusion, while transthoracic echocardiography revealed a circumferential pericardial effusion with fibrin deposits, without hemodynamic compromise. During hospitalization, a paroxysm of supraventricular tachycardia occurred. A transesophageal ultrasound was performed to exclude thrombus in the heart. After confirming that there is no thrombus, cardioversion was performed. Also, a thoracic ultrasound was used to guide thoracentesis. Fluid analysis was indicative of an exudate. Elevated CA-125 levels were also recorded as a nonspecific marker of serositis. After thoracentesis, clinical stabilization was achieved, and the patient was discharged with planned echocardiographic follow-up.

Conclusion

This case highlights the importance of early recognition of Dressler syndrome, as delayed diagnosis may lead to complications such as pericardial effusion or cardiac tamponade. It also emphasizes the key role of ultrasound in diagnosis, monitoring, and guiding treatment.

Keywords: pericarditis; pleural effusion; st elevation myocardial infarction; ultrasonography

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DESCENDING NECROTIZING MEDIASTINITIS IN A 42-YEAR-OLD FEMALE MIMICKING ACUTE CORONARY SYNDROME: DIAGNOSTIC CHALLENGES

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Introduction

Complications of infectious processes in the cervical region can be life threatening. Deep neck infections, such as pharyngeal abscesses, can rapidly progress to descending necrotizing mediastinitis. These infections can be misdiagnosed because clinical symptoms often overlap with cardiopulmonary distress, leading to fatal delays in surgical intervention.

Case presentation

A 42-year-old female with no significant comorbidities was admitted for suspected acute coronary syndrome (ACS) due to dyspnea, tachycardia, and non-specific ST-segment changes on ECG. On arrival, the patient was nonverbal, disoriented and tachypneic. Initial heteroanamnesis revealed a pharyngeal infection treated with antibiotics (penicillin and amoxicillin/clavulanate) ten days prior. A chest CT initially showed a massive bilateral pleural effusion and pneumomediastinum. Due to gas bubbles near the esophagus, an esophageal rupture was suspected. Subsequent gastroscopy was unremarkable.

A CT of the neck revealed multiple abscesses in the para- and retropharyngeal spaces migrating caudally into the mediastinum. The patient underwent emergency tracheotomy, cervical incision for abscess evacuation, and bilateral thoracotomy for mediastinal drainage. Cultures isolated *Streptococcus mitis* and *Streptococcus constellatus*. Following a prolonged ICU stay and multi-modal antibiotic therapy, the patient successfully recovered.

Conclusion

This case highlights the importance of detailed history taking. Pharyngeal potential spaces, specifically the retropharyngeal and "danger" spaces, provide a low-resistance pathway for infection to descend to the thorax. Clinicians must maintain a high index of suspicion for pharyngeal abscesses when respiratory distress follows a sore throat; the absence of fever on presentation, potentially due to prior antibiotic use, can create a deceptive clinical picture mimicking cardiac emergencies.

Keywords: abscess; acute coronary syndrome; mediastinitis; retropharyngeal abscess

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LONG-TERM ANTICOAGULATION IN A YOUNG PATIENT WITH MASSIVE PULMONARY EMBOLISM, EXTENSIVE DEEP VENOUS THROMBOSIS AND INHERITED THROMBOPHILIA

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Introduction

Pulmonary embolism (PE) is a serious, potentially lethal consequence of a prothrombotic state, and deep venous thrombosis (DVT) is another presentation of venous thromboembolism (VTE). Determining the optimal duration of anticoagulation after a massive VTE continues to be a significant clinical challenge. The central concern remains in a delicate balance between preventing a recurrence of a potentially fatal incident and minimizing the risk of hemorrhagic complications.

Case presentation

This report presents a 17-year-old female diagnosed with a massive PE and a right common iliac DVT. The patient was referred to the clinic for diagnostic workup to evaluate a suspected hypercoagulable state. Her medical history was notable for the use of combined oral contraceptives six months prior to the event, which was considered a contributing factor to the prothrombotic state. Extensive laboratory investigations showed decreased levels of protein C, supporting the initial clinical suspicion of underlying hereditary thrombophilia. The patient's clinical status was re-evaluated annualy, during which her therapy was periodically adjusted, with gradually improvement in lung function, without development of pulmonary hypertension and with resolution of DVT. Anticoagulation was initially established with warfarin. After 6 years, the patient was switched to dabigatran for an 18-month period, after which the therapeutic regimen was de-escalated to acetylsalicylic acid for long-term management, with strong recommendation of avoiding prothrombotic drugs and introducing anticuagulation prophylaxis in a high-risk prothrombotic conditions.

Conclusion

This case highlights the importance of a personalized approach to long-term anticoagulation after a massive VTE in young patients with inherited thrombophilia. While the current clinical guidelines recommend a minimum of 3 to 6 months of anticoagulation, the severity of the initial presentation combined with a hereditary thrombophilic condition warranted an extended duration of anticoagulation.

Keywords: anticoagulation; deep venous thrombosis; pulmonary embolism; thrombophilia; venous thromboembolism

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Journal of the Croatian Society of Emergency medicine
April 2026, Supplement 4, PP 1-62