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Case Report :

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YOGYAKARTA

RADIOLOGIC INSIGHTS AND THERAPEUTIC CHALLENGES IN MULTIPLE DURAL ARTERIOVENOUS FISTULAS WITH CAVERNOMA: A CASE REPORT

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ABSTRACT

BACKGROUND: Dural arteriovenous fistulas (DAVFs) represent complex vascular abnormalities characterized by abnormal connections between dural arteries and venous sinuses or cortical veins. When accompanied by a cavernoma, these lesions pose diagnostic and therapeutic challenges due to their variable presentation and potential for significant neurological morbidity. This case report aims to present the challenges of diagnosis and therapy in cases of m DAVFs with cavernoma.

CASE REPORT : A 20-year-old female presented to our hospital with complaints of red patches appearing in her left eye. The physical examination was inconclusive. MR Angiography revealed multiple dural arteriovenous fistulas (AVFs) with ectasia involving the superior sagittal sinus, bilateral transverse sinuses, sigmoid sinuses, and rectus sinus, accompanied by a cavernoma in the left thalamic peduncular region leading to ventriculomegaly. The patient underwent endovascular embolization, which did not provide improvement clinically. The left occipital artery was then ligated, but also, no improvement was observed. The patient is currently undergoing Fractionated stereotactic radiotherapy.

DISCUSSION: MR Angiography provided detailed imaging of the intricate vascular architecture, revealing the presence of AVFs involving multiple dural sinuses in this case. Additionally, the concurrent presence of a cavernoma in the left thalamic-peduncular region further complicated the clinical scenario, contributing to ventriculomegaly. Endovascular embolization is commonly employed to occlude abnormal arterial connections in AVFs, but the lack of improvement following endovascular embolization highlights the intricacies of treating such complex lesions. Occipital artery ligation is another approach used in the treatment of dural AVFs, particularly when they are refractory to embolization. Fractionated stereotactic radiotherapy may be considered as an adjunctive or salvage treatment option for dural AVFs and associated cavernomas.

CONCLUSION : Intricate imaging provided by radiology guide therapeutic interventions in managing the complexities of multiple dural arteriovenous fistulas with associated cavernoma, highlighting the pivotal role of radiologic assessment in optimizing patient care.

Keyword: Dural arteriovenous fistulas (DAVFs); Cavernoma; Neurovascular abnormalities; Magnetic Resonance Angiography; Endovascular embolization; Radiosurgery

BACKGROUND

Dural arteriovenous fistulas (DAVFs) represent complex vascular abnormalities characterized by abnormal connections between dural arteries and venous sinuses or cortical veins. When accompanied by a cavernoma, these lesions pose diagnostic and therapeutic challenges due to their variable presentation and potential for significant neurological morbidity.

CASE REPORT

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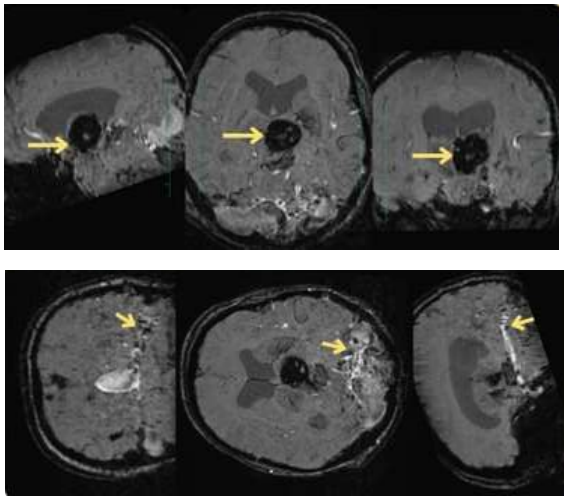

Fig 1. Multiple dural AVF shown in MRA and MRV which cause rectus, bilateral transversal, bilateral sigmoid and superior sagittal sinus ectasia

DISCUSSION

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CONCLUSION

Intricate imaging provided by radiology guide therapeutic interventions in managing the complexities of multiple dural arteriovenous fistulas with associated cavernoma, highlighting the pivotal role of radiologic assessment in optimizing patient care.

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INTRACRANIAL HEMORRHAGE AS A MANIFESTATION OF RUPTURED MYCOTIC ANEURYSM: A RARE CASE REPORT

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ABSTRACT

BACKGROUND : Structural lesions account for 9.6% of all intracranial hemorrhage (ICH) cases. Intracranial mycotic aneurysms are rare complications of infective endocarditis (IE), representing only 4% of all intracranial aneurysms. We present a case of ICH in a patient with IE, manifesting as a ruptured mycotic aneurysm.

CASE REPORT : A-59-year-old male admitted with acute onset of unconsciousness, nuchal rigidity, and left hemiparesis. One month prior, the patient experienced progressive headaches and fever, with no history of cardiac disease. A systolic murmur was detected during cardiac auscultation and transesophageal echocardiography (TEE) revealed vegetations on the anterior and posterior mitral leaflets (AML and PML), indicative of infective endocarditis. Brain magnetic resonance imaging (MRI) demonstrated multiple chronic-subacute intracerebral and intracerebellar hemorrhage.

DISCUSSION : While most ICH cases are attributed to hypertension (33.5%) and medication (17.9%), intracranial mycotic aneurysms remain a critical complication of IE. ICH in IE patients strongly suggests the presence of a ruptured mycotic aneurysm, with a high sensitivity (80%) and specificity (93.6%). Computed tomography (CT) is the initial imaging modality for detecting hyperdense blood collections, while MRI excels in characterizing the age of hemorrhages and uncovering underlying etiologies.

CONCLUSION : The presence of ICH in patients with IE should heighten suspicion for a ruptured mycotic aneurysm. Digital subtraction angiography (DSA) remains the gold standard for the detection of mycotic aneurysms.

Keyword : Intracranial hemorrhage, mycotic aneurysm, infective endocarditis

BACKGROUND

Structural lesions account for 9.6% of all intracranial hemorrhage (ICH) cases. Intracranial mycotic aneurysms are rare complications of infective endocarditis (IE), representing only 4% of all intracranial aneurysms. We present a case of ICH in a patient with IE, manifesting as a ruptured mycotic aneurysm.

CASE REPORT

A-59-year-old male admitted with acute onset of unconsciousness, nuchal rigidity, and left hemiparesis. One month prior, the patient experienced progressive headaches and fever, with no history of cardiac disease. A systolic murmur was detected during cardiac auscultation and transesophageal echocardiography (TEE) revealed vegetations on the anterior and posterior mitral leaflets (AML and PML), indicative of infective endocarditis. Brain magnetic resonance imaging (MRI) demonstrated multiple chronic-subacute intracerebral and intracerebellar hemorrhage.

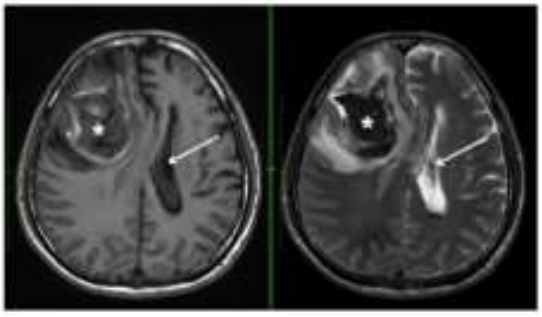

Fig 1. Brain MRI T1W and T2W showed chronic-subacute intracerebral (8) and intraventricular haemorrhage (arrow)

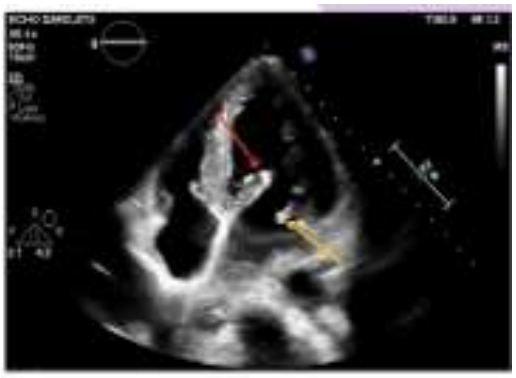

Fig 2. TEE found vegetation in AML (red arrow) and PML (yellow arrow)

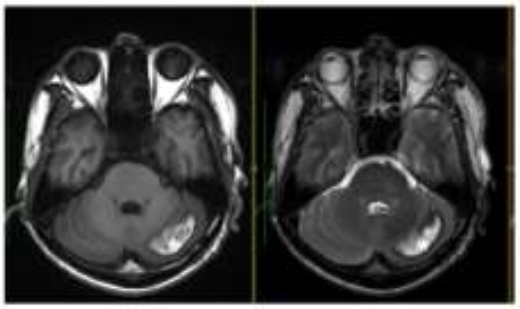

Fig 3. Brain MRI T1W and T2W showed subacute in intracerebellar haemorrhage (8)

DISCUSSION

While most ICH cases are attributed to hypertension (33.5%) and medication (17.9%), intracranial mycotic aneurysms remain a critical complication of IE. ICH in IE patients strongly suggests the presence of a ruptured mycotic aneurysm, with a high sensitivity (80%) and specificity (93.6%). Computed tomography (CT) is the initial imaging modality for detecting hyperdense blood collections, while MRI excels in characterizing the age of hemorrhages and uncovering underlying etiologies.

CONCLUSION

The presence of ICH in patients with IE should heighten suspicion for a ruptured mycotic aneurysm. Digital subtraction angiography (DSA) remains the gold standard for the detection of mycotic aneurysms.

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CT IMAGING IN ORBITAL BLOWOUT FRACTURE WITH CONCOMITANT OPTIC NERVE TETHERING: A RADIOLOGIST'S GUIDE TO EMERGENCY TRAUMA MANAGEMENT

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ABSTRACT

BACKGROUND : Orbitocranial trauma is common and needs urgent imaging assessment due to possible irreversible ocular damage. Orbital blowout fractures (BOF) result from blunt trauma to the orbit, leading to fractures of the thin orbital walls. Optic nerve tethering remains rare, necessitating urgent intervention to prevent long-term complications such as vision loss, diplopia, and enophthalmos. This case aims to emphasize the role of CT imaging in identifying orbital BOF with optic nerve tethering and its impact on emergency trauma management.

CASE REPORT : A 32-year-old woman was referred to the emergency department after a traffic accident, experiencing right facial pain, dizziness, periorbital edema, and reduced visual acuity (6/15). Brain CT imaging revealed a comminuted fracture of the right inferior orbital rim with displacement of the inferior oblique and inferior rectus muscles through the fracture defect, with concomitant tethering of the right optic nerve. Additional findings included the right nasal bone fracture and blood effusion into the right maxillary sinus. The patient was consulted with an otolaryngologist. She underwent surgical reconstruction of orbital floor fracture using an implanted mesh, nasal repositioning, and irrigation of the maxillary sinus hematoma.

DISCUSSION : CT imaging provides high sensitivity in identifying bone fractures and associated soft tissue injuries. In this case, CT imaging effectively identified the extraocular muscle entrapment, and optic nerve tethering–a rare complication carrying possible permanent vision loss, such as Traumatic Optic Neuropathy, leading to surgical urgency. The inferior orbital fracture involving more than 50% of the floor met surgical criteria. Concomitant nasal fracture and sinus hematoma reinforced the need for multidisciplinary care.

CONCLUSION : This case underscores the importance of CT imaging in early diagnosis and management of BOF and optic nerve involvement. Radiologists play a vital role in detecting subtle but critical signs of optic nerve tethering to guide timely surgical intervention.

Keyword: Orbital blowout fracture, Computed Tomography (CT) Imaging, Optic nerve tethering

BACKGROUND

Orbitocranial trauma is common and needs urgent imaging assessment due to possible irreversible ocular damage. Orbital blowout fractures (BOF) result from blunt trauma to the orbit, leading to fractures of the thin orbital walls. Optic nerve tethering remains rare, necessitating urgent intervention to prevent long-term complications such as vision loss, diplopia, and enophthalmos. This case aims to emphasize the role of CT imaging in identifying orbital BOF with optic nerve tethering and its impact on emergency trauma management.

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Figure 1. CT Scan confirmed (A) Blow-out fracture (B) herniation of the inferior oblique and rectus muscles (C) optic nerve tethering, (D) nasal bone fracture (orange arrow) and blood in the maxillary sinus (blue arrow).

DISCUSSION

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RETURN TO PLAY CONSIDERATION IN GRADE I HAMSTRING INJURY: A CASE REPORT AND LITERATURE REVIEW ON BICEPS FEMORIS STRAIN IN AN ELITE FOOTBALL PLAYER

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ABSTRACT

BACKGROUND : Hamstring injuries are among the most common injuries in football players, often causing missed matches and a high risk of re-injury. MRI is the gold standard for diagnosis, severity assessment, and return-to-play (RTP) decisions. This report presents a case of an elite football player with a grade 1 biceps femoris injury, highlighting MRI findings and RTP considerations based on imaging and clinical recovery. Additionally, a literature review explores RTP criteria and MRI's role in hamstring injury management.

CASE REPORT : A 29-year-old male professional footballer presented with pain in his left hamstring, which is his dominant leg, after kicking the ball during a competitive match. Physical examination revealed tenderness in the posterior part of the left thigh. An MRI examination performed 2.5 months after the injury showed a pathological lesion in the long head of the left biceps femoris muscle, measuring 3.55 cm in length. The patient was managed conservatively and closely monitored. Further radiological examinations were conducted as part of the assessment to determine a safe RTP.

DISCUSSION : The diagnosis of hamstring injury can be based on clinical evaluation, but MRI plays a crucial role in assessing injury severity. Several studies have shown that certain radiological findings on MRI correlate with the return-to-play (RTP) time of elite-level athletes. The absence of abnormal findings on MRI is associated with a shorter RTP time. The use of the British Athletics Muscle Injury Classification (BAMIC) has been linked to RTP time. In this athlete, MRI revealed a grade 1 injury. The patient's RTP time was approximately three months after the injury, or around 18 days after the MRI.

CONCLUSION : MRI is essential for diagnosing, managing, and assessing hamstring injuries in elite athletes. Literature supports MRI grading systems in predicting RTP. Combining MRI grading with functional criteria enhances RTP assessment accuracy.

Keyword: Hamstring injury, biceps femris tear, MRI grading system, return to play, elite athlete rehabilitation

BACKGROUND

Hamstring injuries are among the most common injuries in football players, often causing missed matches and a high risk of re-injury. MRI is the gold standard for diagnosis, severity assessment, and return-to-play (RTP) decisions. This report presents a case of an elite football player with a grade 1 biceps femoris injury, highlighting MRI findings and RTP considerations based on imaging and clinical recovery. Additionally, a literature review explores RTP criteria and MRI's role in hamstring injury management.

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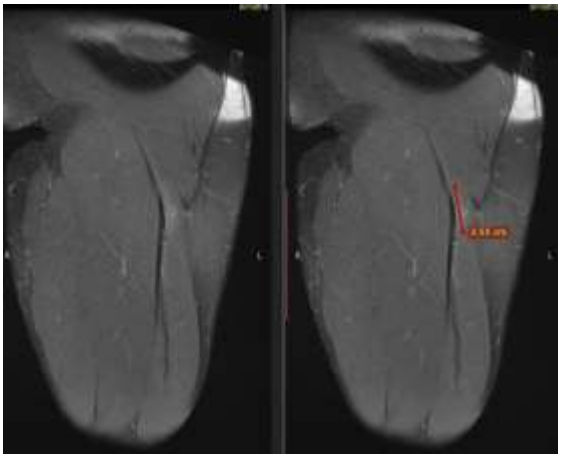

Figure 1. MRI examination.

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RACING AGAINST RUPTURE: PRECISION EMBOLIZATION OF A RENAL PSEUDOANEURYSM AFTER NEPHROLITHOTOMY

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ABSTRACT

BACKGROUND : Renal artery pseudoaneurysms are rare but serious complications following renal surgeries, with incidences ranging from 0.43% to 2.6%. They can present asymptomatically or with acute hemorrhagic shock, often manifesting 2-3 weeks post-surgery as hematuria or flank pain. Selective renal artery embolization is an effective interventional radiology technique for managing these complications. This minimally invasive approach allows for targeted treatment of the pseudoaneurysm, controlling hemorrhage and reducing the need for more invasive surgical interventions.

OBJECTIVE : To demonstrate the efficacy of interventional radiology procedures, specifically arteriography and embolization, in the management of renal pseudoaneurysms following nephrolithotomy.

CASE REPORT : A 55-year-old man presented with gross hematuria, nausea, vomiting, and flank pain two weeks following nephrolithotomy, raising concerns of renal trauma. The urology team consulted interventional radiology for further investigation. An arteriography was performed, which identified a pseudoaneurysm originating from the interlobar artery in the inferior pole of the left kidney. To address this complication, the patient underwent coiling embolization using two VortX™ Diamond-18 pushable fibered platinum coils. However, several days post-embolization, hematuria persisted, prompting another arteriography, which showed no evidence of the pseudoaneurysm. A subsequent urology MSCT scan identified residual stones. Consequently, a laser lithotripsy was conducted using a ureteroscope to remove the stones, and subsequent ultrasound confirmed that no residual stones remained, resolving the patient's symptoms.

DISCUSSION : Renal pseudoaneurysms result from arterial wall injury due to surgery, trauma, or inflammation and can lead to serious morbidity and mortality, particularly if they rupture. Diagnosis typically involves arteriography to confirm the pseudoaneurysm. Angiographic arterial embolization is the preferred treatment, as it is minimally invasive, reduces morbidity, shortens recovery times, and is more cost-effective than traditional surgical approaches.

CONCLUSION : This case highlights the importance of timely intervention and the role of radiologic procedures in preventing complications associated with vascular injuries in renal surgeries.

Keyword: Renal pseudoaneurysm; Embolization; Arteriography; Nephrolithotomy

BACKGROUND

Renal artery pseudoaneurysms are rare but serious complications that can arise following renal surgical procedures, such as open, laparoscopic, or robotic-assisted nephrectomies. The reported incidence of these pseudoaneurysms ranges from 0.43% to 2.6%, depending on the type of surgery performed. For instance, open renal surgery has a reported occurrence of approximately 0.6%, while laparoscopic partial nephrectomies demonstrate higher rates, ranging from 1.7% to 2.6%1. These figures may not fully capture the true prevalence of renal artery pseudoaneurysms, as they often reflect only symptomatic cases, suggesting that the actual incidence could be higher.

Clinically, renal artery pseudoaneurysms present a wide spectrum of symptoms, from asymptomatic forms to severe manifestations such as acute hemorrhagic shock. The variation in presentation can lead to challenges in early diagnosis, with some cases exhibiting delayed symptoms, such as hematuria and flank pain, typically occurring 2-3 weeks postoperatively. In certain situations, acute bleeding may arise from drains or surgical wounds immediately following surgery.

Selective renal artery embolization has emerged as a safe and effective interventional radiologic technique

for managing these postoperative complications. This procedure allows for targeted treatment, reducing the need for more invasive surgical interventions while effectively controlling hemorrhage and promoting favorable outcomes. Given the significance of timely diagnosis and intervention, understanding the implications of renal artery pseudoaneurysms is essential for improving patient management in the postoperative setting.

OBJECTIVE

To demonstrate the efficacy of interventional radiology techniques, specifically arteriography and embolization, in the management of renal pseudoaneurysms following nephrolithotomy and to highlight the advantages of minimally invasive embolization over traditional surgical methods in reducing morbidity, ensuring faster recovery, and preventing life-threatening complications such as pseudoaneurysm rupture.

CASE REPORT

A 55-year-old man presented with gross hematuria, nausea, vomiting, and left flank pain two weeks after undergoing nephrolithotomy. Given the timing and nature of his symptoms, the urology team suspected renal trauma, particularly vascular injury, and promptly consulted interventional radiology for further evaluation. A diagnostic transfemoral renal arteriography was performed, which revealed a pseudoaneurysm originating from the interlobar artery in the inferior pole of the left kidney, a known but rare complication following nephrolithotomy.
An angiogram of the left renal artery conducted with a 5F Cobra catheter showed a 23 mm pseudoaneurysm that originated from the interlobar artery in the inferior pole of the left kidney (Fig 1).

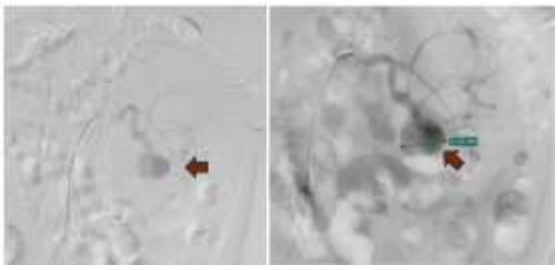

Figure 1. Angiographic images demonstrate a large pseudoaneurysm of the left kidney (brown arrows). Selective coil embolization of the supplying vessels was performed using 3-, and 6-mm coils.

To prevent further hemorrhage and the risk of rupture, the patient underwent urgent coiling embolization. The feeding artery was measured at 3 mm in diameter, and a 6 mm VortX™ Diamond-18 pushable fibered platinum coil was inserted. A repeat angiogram revealed persistent pouch formation in the contrast images. Subsequently, a 3 mm coil was introduced into the feeding artery. After approximately 10 minutes, a follow-up angiogram was conducted, showing that the contrast image of the pseudoaneurysm had disappeared. The patient's creatinine level after the procedure was 1.88 mg/dL, which was comparable to the preembolization level of 1.96 mg/dL.

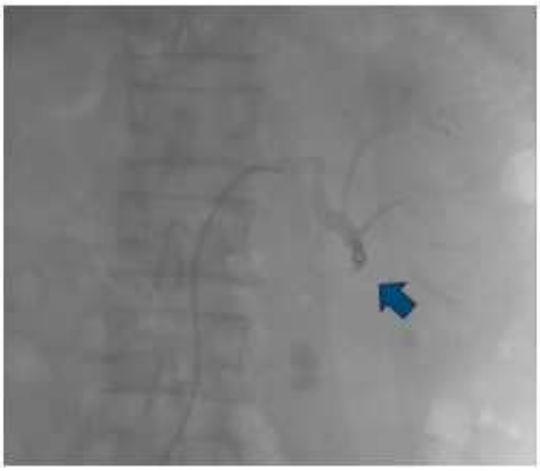

Figure 2. Post-embolization angiographic image demonstrates the complete exclusion of the pseudoaneurysm following the placement of coils (blue arrow).

Despite the successful embolization, the patient continued to experience persistent hematuria several days later. This prompted a repeat arteriography with a 5F Cobra catheter, which confirmed that the pseudoaneurysm had been successfully embolized and was no longer present. During the arteriography, residual stones in the left kidney were suspected.

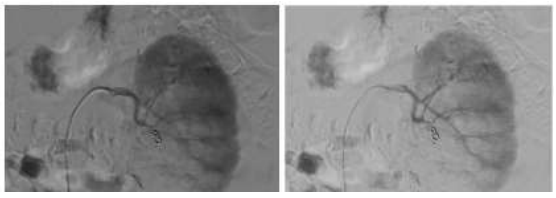

Figure 3. Repeat angiographic images demonstrate the occlusion of supplying vessels without evidence of active bleeding.

Given the persistence of symptoms, the radiology team ordered an MSCT urology scan, which demonstrated the presence of residual stones, likely contributing to the ongoing hematuria. A hyperdense lesion in the left renal pelvis, approximately 0.8 cm in diameter (density: 1005 HU), and a hyperdense lesion in the proximal ureter, approximately 1.3 cm (density: 946 HU), both with well-defined borders and irregular edges, were found, along with proximal ureteral dilation.

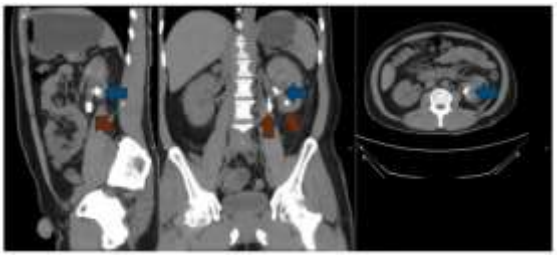

Figure 4. MSCT urology on sagittal, coronal, and axial images demonstrate coils in left interlobar artery (blue arrows) and residual stones (brown arrows).

Consequently, the patient underwent laser lithotripsy via flexible ureteroscope performed by the urology team. Residual stones were found in the proximal ureter and the inferior calyx of the left kidney, which were then fragmented and removed. Following this intervention, a post-procedure ultrasound was conducted, confirming complete stone clearance and resolving the patient's symptoms.

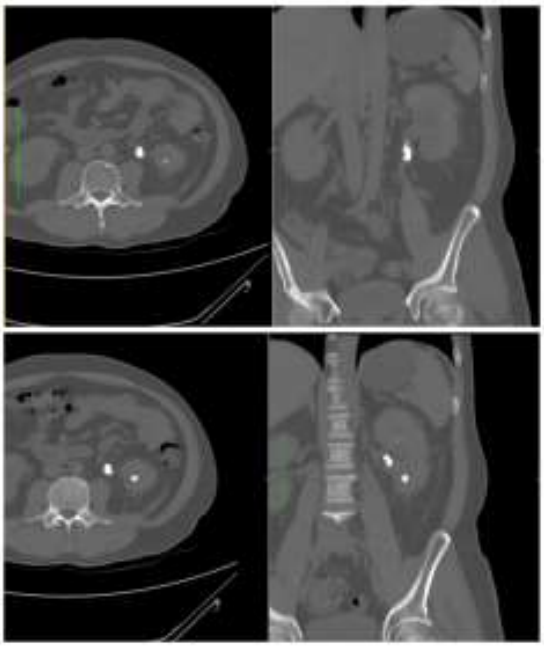

Figure 5. MSCT urology on axial and coronal images shows residual stones in the proximal ureter and left renal pelvis.

Figure 6. Left renal ultrasound confirmed the complete clearance of residual stones; however, left renal pelvis dilation is observed.

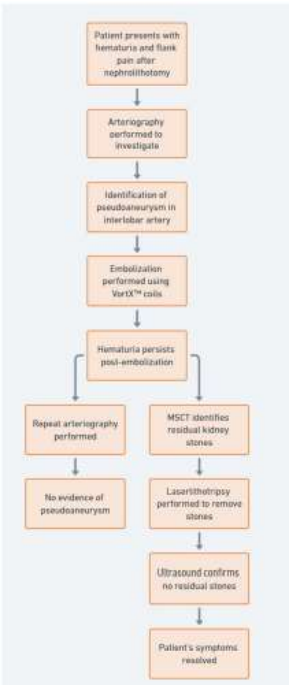

Figure 7. Flowchart illustrating the case presentation from start to finish.

DISCUSSION

Renal pseudoaneurysms, particularly those occurring after nephrolithotomy, present a significant clinical challenge. In this case, the patient developed a renal pseudoaneurysm as a complication of the surgery, highlighting the importance of awareness among surgical teams regarding this potential adverse outcome.

Renal artery pseudoaneurysms often occur after abdominal trauma, biopsy, or interventional procedures. The formation of a pseudoaneurysm is primarily due to injury to the arterial wall, leading to a perfused hematoma that communicates with the arterial lumen. This condition can manifest symptomatically as flank pain, hematuria, and perinephric hematoma, necessitating prompt diagnosis and intervention to

prevent complications such as rupture, which can lead to life-threatening hypovolemic shock.

Diagnosis typically involves arteriography to confirm the pseudoaneurysm. Early diagnosis is essential to ensure timely treatment and prevent life-threatening complications. The use of angiographic arterial embolization for treatment offers several advantages over surgical intervention. The percutaneous nature of embolization is minimally invasive, reduces morbidity, shortens recovery times and is often more cost-effective than surgical exploration. Furthermore, literature supports the efficacy of embolization, particularly for traumatic renal pseudoaneurysms, with favorable outcomes in terms of reduced morbidity and mortality compared to traditional open surgical repair.

Advancements in embolization techniques and materials since the 1970s have expanded the indications for renal artery embolization beyond iatrogenic injuries. This intervention is now recognized for its role in managing hemorrhagic renal injuries resulting from blunt and penetrating trauma, as well as for preoperative embolization of renal masses and palliative treatments for patients with chronic renal conditions. This case underscores the critical nature of early identification and intervention in renal pseudoaneurysms. It also illustrates the efficacy of endovascular techniques, such as coil embolization, as a primary treatment modality. Renal pseudoaneurysm embolization is important for radiologists as it enables them to utilize their expertise in imaging for accurate diagnoses and facilitate rapid intervention to prevent lifethreatening complications.

CONCLUSION

This case highlights the importance of timely intervention and the role of radiologic procedures in preventing complications associated with vascular injuries in renal surgeries. Additionally, it emphasizes the critical role of early diagnosis and the use of advanced imaging techniques in guiding effective, targeted treatments to prevent life-threatening complications such as pseudoaneurysm rupture.

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WHEN SPEED MEETS DIRECTION CHANGE: ANTERIOR CRUCIATE LIGAMENT RUPTURE DURING A WARM-UP SESSION

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ABSTRACT

BACKGROUND : Knee injuries, especially anterior cruciate ligament (ACL) tears, are common in sports like soccer that involve knee rotation. Shuttle runs, often used as a warm- up, can also cause ACL injuries, frequently leading to meniscus tears. Magnetic resonance (MR) imaging is a key tool for accurately diagnosing these injuries. We present a case of ACL injuries and meniscus tears from shuttle runs in soccer. We highlight the importance of MR imaging in guiding surgical reconstruction and rehabilitation planning for optimal recovery.

CASE REPORT : We present a case of a 19-year-old male with left knee discomfort, difficulty standing, and walking, which occurred while performing a shuttle run before a soccer match. Physical examination revealed limited range of motion and an antalgic gait. An MR imaging of the left knee showed a total rupture of the ACL and a tear of the posterior and anterior lateral meniscus. The patient underwent ACL reconstruction surgery along with a partial meniscectomy.

DISCUSSION : ACL ruptures in shuttle runners often occur due to sudden deceleration or rapid changes in direction, causing the tibia to shift forward while the knee is slightly flexed and in valgus. This instability can lead to meniscus tears, as excessive strain is placed on the knee joint after an ACL injury. MR imaging is essential for diagnosing ACL ruptures, identifying both primary signs and secondary signs. In the acute to subacute phase, the torn ACL may appear swollen with a hyperintense T2 signal. MR imaging also helps assess the extent of meniscal damage, which commonly accompanies ACL injuries and affects long-term knee stability.

CONCLUSION : ACL ruptures in shuttle runners result from sudden stops and quick turns, often causing meniscus tears. MR imaging helps diagnose the injury, assess instability, and guide treatment for a safe recovery.

Keyword: Anterior Cruciate Ligament Rupture, Meniscus Tear, Magnetic Resonance Imaging (MRI), Shuttle Run, Soccer

BACKGROUND

Knee injuries, especially anterior cruciate ligament (ACL) tears, are common in sports like soccer that involve knee rotation. Shuttle runs, often used as a warm- up, can also cause ACL injuries, frequently leading to meniscus tears. Magnetic resonance (MR) imaging is a key tool for accurately diagnosing these injuries. We present a case of ACL injuries and meniscus tears from shuttle runs in soccer. We highlight the importance of MR imaging in guiding surgical reconstruction and rehabilitation planning for optimal recovery.

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THE ROLE OF ULTRASOUND IN DIAGNOSING LATERAL GASTROCNEMIUS TENDINITIS IN A 22-YEAR OLD MALE FOOTBALL PLAYER

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ABSTRACT

BACKGROUND : Lateral gastrocnemius tendinitis is a significant concern among athletes, particularly in high-intensity sports that require rapid movements like acceleration and jumping. A study from National Football League (NFL), showed an average of 2.3 acute calf injuries occur annually, with 74% involving the gastrocnemius muscle. Ultrasound (US) is a safe, non-invasive, and cost-effective imaging modality for diagnosing musculoskeletal injuries. It provides real-time, high-resolution assessment of tendon integrity, making it a preferred choice in many cases

CASE REPORT : A 22-year-old male football player presented with a one-day history of intermittent left calf pain following training. Pain intensified with movement, passive manipulation, and resistance testing. Examination revealed tenderness over the lateral gastrocnemius, limited range of motion, and intact motor-sensory function. Ultrasound showed a hypoechoic, ill-defined lesion (1.1 mm x 8.2 mm) within the lateral gastrocnemius tendon and thickened of lateral gastrocnemius tendon (16.3 mm) without fiber disruption, consistent with tendinitis. Doppler imaging demonstrated increased vascularity, indicating active inflammation. No evidence of a complete or high-grade partial tear was observed.

DISCUSSION : Ultrasound provides real-time, high-resolution imaging for diagnosing lateral gastrocnemius tendinitis and differentiating it from tendon tears, offering a dynamic, cost-effective, and accessible alternative to MRI. Tendinitis appears as tendon thickening and hypoechogenicity (normal lateral gastrocnemius tendon thicknes is around 12.8 to 13.2 mm), while partial tears show fiber discontinuity. Doppler ultrasound aids differentiation by detecting increased vascularity. In this patient the ultrasound showed the abnormal thickening with hypogencity with increased vascularity that leads to tendinitis. Studies, including those by Bianchi et al., confirm its accuracy in diagnosing gastrocnemius injuries, reinforcing its role in effective management and rehabilitation for athletes

CONCLUSION : Ultrasound plays a vital role in detecting lateral gastrocnemius tendinitis and distinguishing it from tendon tears, offering high-resolution, also real-time imaging that enhances early diagnosis and treatment.

Keyword: Ultrasound, Lateral Gastrocnemius, Tendinitis.

BACKGROUND

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evidence of a complete or high-grade partial tear was observed.

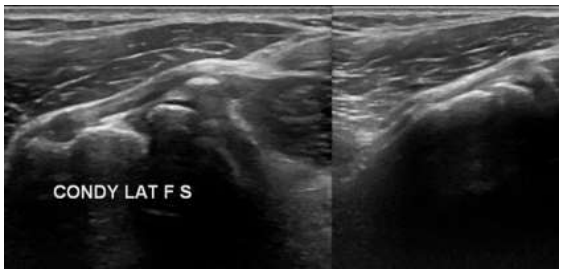

Figure 1. Ultrasound of the proximal lateral gastrocnemius tendon showed a hypoechoic, ill-defined lesion

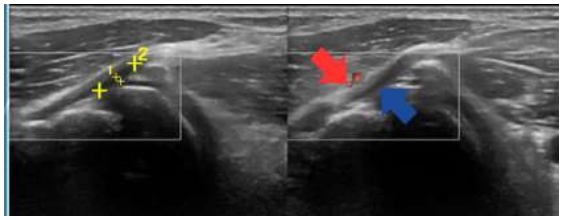

Figure 2. Ultrasound of the proximal lateral gastrocnemius tendon showed a increased vascularity

DISCUSSION

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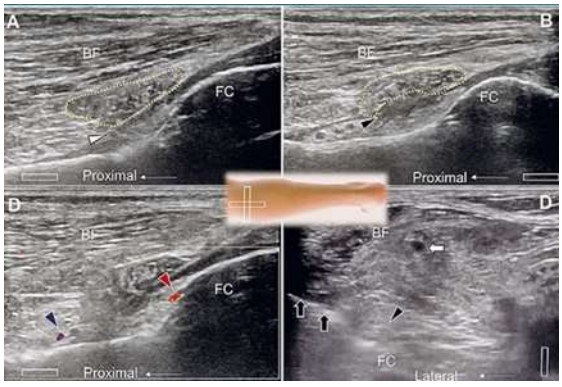

Figure 3. Ultrasound of the proximal lateral gastrocnemius tendon on the asymptomatic (A) and symptomatic (B) sides. Power Doppler (C) shows intra-tendinous vascularity (red arrowhead), and image (D) depicts ultrasound-guided injection (black arrows: needle). Blue arrowhead indicates the superior lateral genicular artery; white arrow: common peroneal nerve; dashed line: fat pad. BF: biceps femoris; FC: femoral condyle.

CONCLUSION

Ultrasound plays a vital role in detecting lateral gastrocnemius tendinitis and distinguishing it from tendon tears, offering high-resolution, also real-time imaging that enhances early diagnosis and treatment.

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