**MYSIR's Abstracts 3**
Malaysian Society of Interventional Radiology

**DOI:** https://doi.org/10.32896/tij.v4n4.20-30
**Published:** 31/12/2024

# SELECTIVE OVARIAN AND ADRENAL VENOUS SAMPLING FOR ANDROGEN SECRETING TUMOUR

Manja Khalisah Z[1]; Melisa LSY[1]
Department of Radiology, Hospital Kuala Lumpur, Jalan Pahang, 50586, Kuala Lumpur, Malaysia

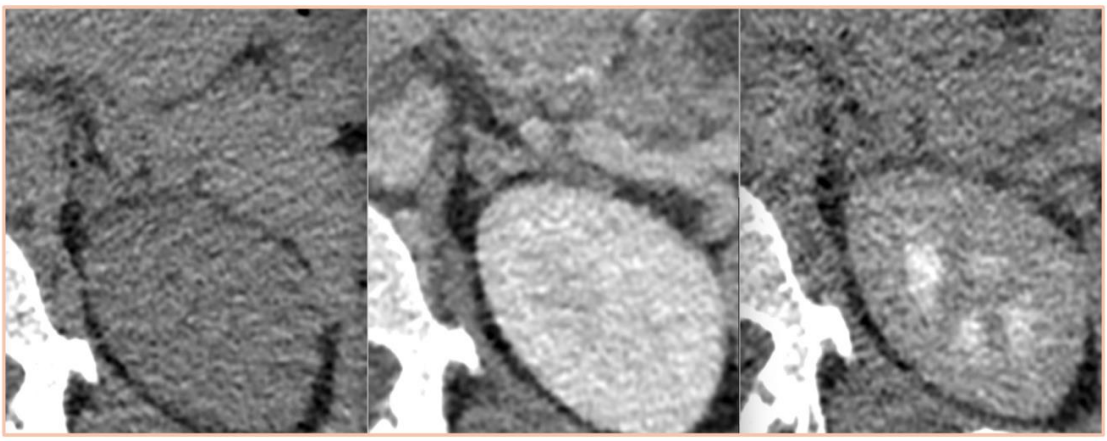
**Introduction:** Selective ovarian venous sampling (SOVS) and selective adrenal venous sampling (SAVS) are diagnostic procedures in hyperandrogenism cases with suspected androgen secreting tumour (AST) to help in the diagnosis and localization of AST which may arise from either the ovary or adrenal gland prior to surgical removal. It involves cannulating both ovarian veins and adrenal veins to obtain blood for testosterone and dehydroepiandrosterone sulfate (DHEAS) level. Peripheral venous sample is obtained for comparison. We present a case of hyperandrogenism in a young lady who had lesions in left ovary and left adrenal gland. She underwent SOVS and SAVS to confirm the origin of the androgen secreting tumour.

**Report:** Case of 27 years old lady presented with secondary amenorrhea, hoarseness of voice, virilization and hirsutism since 4 years. She had worsening hirsutism with increased in coarse hair at facial, lower abdomen, bilateral legs and thigh. Her body mass index is 24.6kg/m2 (normal). She went to see general practitioner and was referred to endocrinologist for further assessment. Her Modified Ferriman-Gallway score is 13 which is consistent with clinically significant hirsutism. With high testosterone level 21.7nmol/L (>4.51nmol/L) and Low Dose Dexamethasone Suppression Test (LDDST) showing non-suppression, this raises the suspicion of androgen-secreting tumour being the primary cause. CT imaging showed left adrenal lesion, measuring 0.6 x 0.8 x 0.6cm which demonstrates >60% absolute washout, likely to represent an adenoma and a left adnexal cystic lesion measuring 2.3 x 1.8cm. No other suspicious findings were found. Since CT imaging was inconclusive, accurate localization of the AST is crucial. SOVS and SAVS have emerged as important diagnostic tool in this context. In SOVS procedure, we catheterized the left ovarian vein via the right internal jugular vein approach and the left ovarian vein via the left femoral vein approach. In SAVS, we accessed the left adrenal vein via the right femoral vein and right adrenal vein via the left femoral vein. The right and left sided samples were taken simultaneously for both SOVS and SAVS. SOVS and SAVS was successful in distinguishing between ovarian and adrenal sources of androgen overproduction. Successful catheterization was indicated by selectivity index (SI) ovarian vein - estradiol ratio >2 for ovarian vein and selectivity index (SI) adrenal vein - cortisol ratio >2 for adrenal vein. In our case, the left ovarian vein and bilateral adrenal veins were successfully catheterized. However, the SI index for right ovarian vein was <2, indicating failed catheterization. The left ovarian testosterone level was very high (>52nmol/L). Testosterone Ovarian – Peripheral Gradient (OPG) of left ovarian vein was high (>2.25) and the right ovarian vein was normal. Testosterone Adrenal – Peripheral Gradient (APG) for both adrenal veins were normal. Testosterone APG and OPG >2 is taken

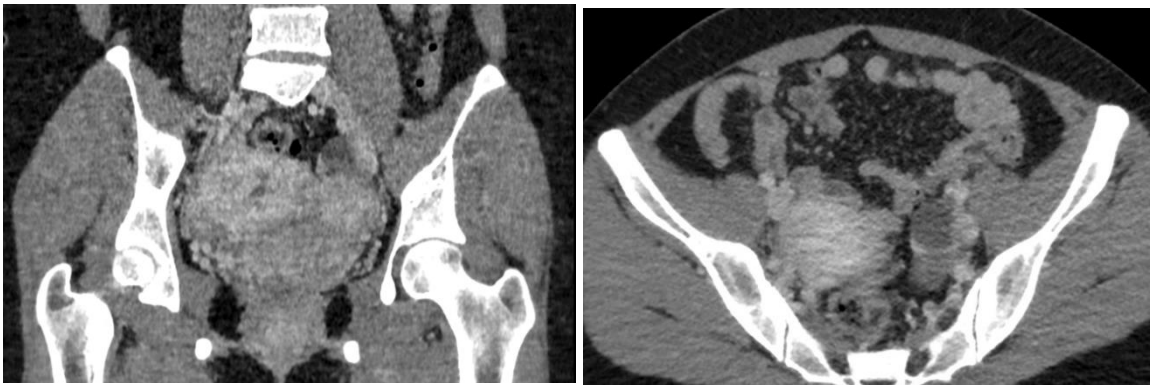
to imply as a source of androgen production. In our case, the left ovarian-peripheral gradient (OPG) ratio >2 significantly helped to localize the functional tumour in the left ovary despite failure to catheterize the right ovarian vein. In cases of negative radiological imaging findings, lateralization index is usually employed to lateralize the origin of androgen secreting ovarian tumour. Lateralization index (LI) of left ovary testosterone/right ovary testosterone was >2.7 and right ovary testosterone/left ovary testosterone was normal. Moltz et al reported that ovarian testosterone ratio >2.7 correctly identifies the location of tumour, in our case, the left ovary. In our case, high testosterone level in the left ovarian vein and the left ovarian-peripheral gradient (OPG) ratio >2 was very significant and helped to localize the functional tumour in the left ovary despite failure to catheterize the right ovarian vein. The patient was subsequently referred to the gynaecology team for surgical removal of the lesion.

**Conclusion:** Selective ovarian and adrenal venous sampling can be a useful tool in the diagnostic evaluation of androgen-secreting tumours as shown in our case above.

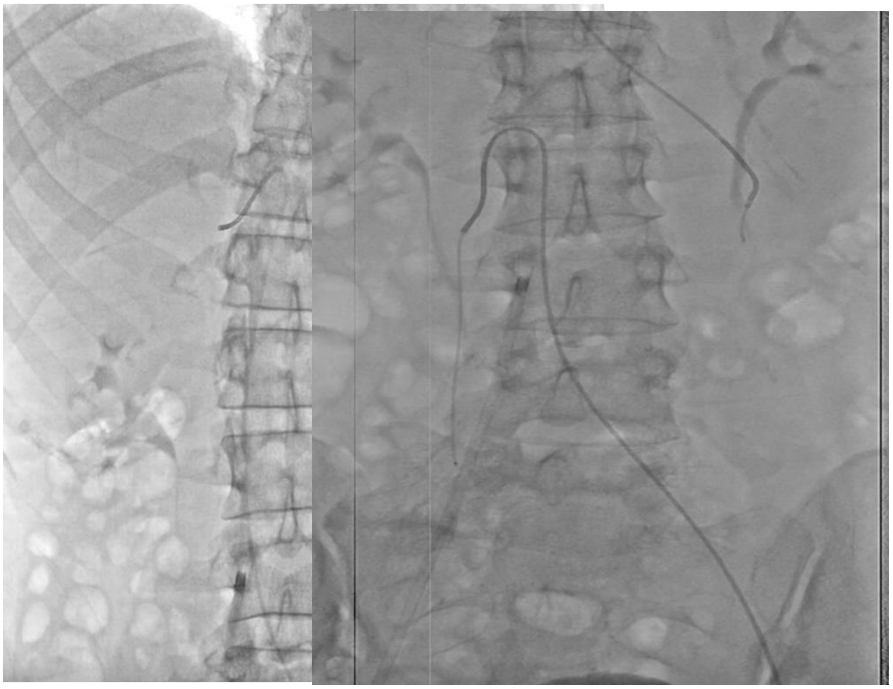
CT ADRENAL PROTOCOL



| PLAIN PHASE | PORTOVENOUS PHASE | DELAYED PHASE |
|---|---|---|
| +12 HU | +106 HU | +47 HU |
| Absolute wash out 62% | | |



Left adnexal lesion with uterine fibroid



Bilateral adrenal venous sampling

Bilateral ovarian venous sampling

# SCLEROTHERAY AS MINIMALLY INVASIVE TREATMENT OPTION FOR BAKER'S CYST: A RARE CASE REPORT

Azizan Azfar; Hamzaini Abdul Hamid.
Department of Radiology, Hospital Tunku Ampuan Besar Tuanku Aishah Rohani (HPKK), Universiti Kebangsaan Malaysia, Jalan Yaacob Latif, Bandar Tun Razak, 56000, Cheras, Kuala Lumpur, Malaysia

Baker's cyst, or popliteal cyst, is a fluid-filled swelling in the popliteal fossa, commonly associated with joint disorders in adults, leading to discomfort and restricted knee movement. In children, it is less common and typically linked to juvenile idiopathic arthritis, though it can also occur idiopathically. Traditional treatments include conservative management, surgery, and minimally invasive techniques such as aspiration and corticosteroid injections, which are often associated with significant recurrence rates.

Sclerotherapy has emerged as a promising minimally invasive treatment, involving the injection of a sclerosant into the cyst to induce inflammation, occlusion, and fibrosis. We present a rare case of a symptomatic Baker's cyst successfully treated with bleomycin sclerotherapy in a 5-year-old boy, diagnosed via ultrasound. Despite the limited studies in the literature, this case, along with others, demonstrates positive outcomes, suggesting that sclerotherapy is a safe and effective option. This case contributes to the growing evidence supporting sclerotherapy for the management of Baker's cysts, offering a viable alternative to more invasive procedures, particularly when other treatments have failed or are contraindicated.

# FATAL INTRA-ABDOOMINAL HEMORRHAGE FOLLOWING DIAGNOSTIC ULTRASONOGRAPHIC ASSISTANCE PERCUTANEOUS LIVER BIOPSY: CASE REPORT AND SCOPING REVIEW.

J.L. Chii Seng, D. Balakrishnan, Z. Zainol Abidin
[1]Radiology department, Sarawak General Hospital, Kuching, Sarawak, Malaysia

**Introduction:** Percutaneous liver biopsy, guided by ultrasound, is commonly used for diagnosing liver lesions but carries risks, including fatal complications. This paper discusses a fatal case of intra-abdominal hemorrhage following such a biopsy and reviews related literature.

**Report:** A 76-year-old woman underwent an ultrasound-guided liver biopsy. Despite stable pre-procedure blood tests, she experienced abdominal pain and cardiac arrest post-procedure. Imaging showed intra-abdominal bleeding from the right hepatic artery. Although successful angioembolization intervention and resuscitation, she expired. Fatal complications from liver biopsies are rare (0.01%) but significant. Literature review identified 12 fatal cases related to biopsies, 9 cases related to intrahepatic or peritoneal hemorrhages, despite coagulation profiles being acceptable parameters. This underscores the need for careful patient monitoring and prompt intervention.

**Conclusion:** While generally safe, ultrasound-guided liver biopsy can result in severe, life-threatening complications. Effective post-procedure monitoring and thorough patient counseling are essential.

# Atypical Presentation of Hemoptysis from Bronchial Artery Aneurysm in otherwise Healthy Patient

Hifni Nurasyraf MS[1]; Nur Yazmin Y[2]; Mohd Zahid Y[3]
Department of Radiology, Hospital Canselor Tuanku Muhriz, Universiti Kebangsaan Malaysia, Jalan Yaacob Latif, Bandar Tun Razak, 56000, Cheras, Kuala Lumpur, Malaysia

A bronchial artery aneurysm (BAA) is a rare vascular anomaly characterized by the abnormal dilatation of the bronchial artery. It differs from a pseudoaneurysm in that all three layers of the arterial wall (intima, media, and adventitia) are intact and involved in the dilation, whereas a pseudoaneurysm involves a breach in the arterial wall. Bronchial artery aneurysms are most commonly associated with conditions that cause chronic inflammation or increased pressure within the bronchial arteries, which it did not have in our patient. We present a case of right bronchial artery aneurysm presented with right sided chest pain, with no prior medical illness and successful endovascular embolization treatment. A 52-year-old Malay gentleman presented with right sided chest pain, associated cough and fever at presentation. Initially the patient was referred to cardiology TRO myocardial infarction. CTA thorax done in view of patient developed hemoptysis and noted there was focal pseudoaneurysm in the right lower lobe. This patient was referred to our Interventional Radiology Department for endovascular procedure. Super-selective embolization right inferior bronchial artery supplying medial lobe of right lower lobe (dilated and tortuous with small outpouching at its distal branch). PVA delivered and subsequently embolized with coil. Post-procedural examination reveals reduced vascular and parenchymal opacification with stasis. In this case, bronchial artery aneurysm needs to be considered as one of the cause for chest pain and can occur in healthy patients.

# HEPATOCELLULAR CARCINOMA WITH PELVIC BONE METASTASIS: A CASE REPORT.

Y.R. Yew, D. Balakrishnan
Radiology Department, Sarawak General Hospital, Jalan Hospital, 93586 Kuching Sarawak.

Hepatocellular carcinoma (HCC) is one of the most prevalent cancers globally, with high rates of incidence observed among individuals with chronic viral hepatitis and cirrhosis. Although extrahepatic metastasis from primary HCC is common and can affect various sites such as the lungs, lymph nodes, peritoneum, intraperitoneal organs, adrenal glands and bones, bone metastasis is less frequent compared to other common cancers. When bone metastases do occur, they are more commonly found in the spine, ribs, and long bones, while pelvic involvement is relatively rare. The presence of pelvic bone metastasis may indicate more advanced disease, a poorer prognosis, or an atypical pattern of spread - and is unusual to be found during initial presentation.

For the purpose of this review, literature research was done in PubMed, RSNA, National Library of Medicine, Clinical Oncology, Elsevier, Cancer Network, Biomedcentral, SpringerOpen, ASCO Publications.

We describe two cases from a single center: one with biopsy-confirmed HCC with metastasis to the sacral bone, and another case where the patient initially presented with bleeding from liver and pelvic bone tumors, with imaging features suspicious of HCC metastasizing to the pelvic bone.

These cases highlight the need to be aware of atypical presentations even in common conditions, as these impact management plans and treatment expectations.

# THE UNCOMMON CORONARY ARTERIOVENOUS FISTULAS (CAVFS): A CASE SERIES

Nurhamin S. MM[1], Nik A. NI [1]
1Department of Radiology,Hospital Canselor Tuanku Muhriz UKM, Jalan Yaacob Latif, Bandar Tun Razak, 56000 Cheras, Wilayah Persekutuan Kuala Lumpur

Coronary arteriovenous fistulas (CAVFs) are rare vascular anomalies where coronary arteries connect abnormally to a heart chamber or nearby vessels. Their impact can range from asymptomatic to serious issues like heart failure or ischemic events. CAVFs are especially uncommon in older adults and are often found incidentally when investigating symptoms like shortness of breath or chest pain. Diagnosing CAVFs typically requires coronary angiography to decide on the best treatment. We present a retrospective review of two patients diagnosed with coronary arteriovenous fistulas (CAVFs) at our institution. Both patients initially presented with typical chest pain, and CAVFs were incidentally discovered during diagnostic angiography. One of these patients received a percutaneous intervention, which led to resolution of symptoms. In conclusion, coronary arteriovenous fistulas (CAVFs) are rare and challenging to diagnose due to their low prevalence. High clinical suspicion is essential, particularly in symptomatic patients or those with a cardiac murmur. Early and accurate diagnosis is crucial for initiating appropriate treatment and improving patient outcomes.

# LESSON FROM THE EDGE: CASE SERIES OF RADIOLOGICAL NEAR MISSES REQUIRING MULTIMODALITY IMAGING

E.G., Tan[1]
[1]Radiology, Hospital Sarikei, Jalan Rentap, Sarikei, Malaysia

This case series highlights three distinct clinical scenarios demonstrating the need for multimodality imaging in correct diagnosis before correct intervention.

Case 1: A 77-year-old male patient whom was admitted for left pleuritic chest pain with constitutional symptoms whom was referred for drainage of left pleural effusion. Reviewing previous chest radiographs and contrast CT was done shown ruptured thoracic aneurysm. The decision was made to forego this intervention due to the high risk of exacerbating the patient's condition.

Case 2: A 62-year-old male patient admitted for sepsis was referred for drainage of right psoas collection. The right psoas collection was detected during routine ultrasound abdomen. However, contrasted CT was done prior to procedure reveal ruptured mycotic aneurysm of the right iliac artery. This highlight the importance of contrast CT prior to intervention

Case 3: 52-year-old man whom have underlying bladder carcinoma on poor functioning right nephrostomy tube. Initial ultrasound and plain CT urography show pigtail catheter was within the renal pelvis with residual hydronephrosis. However, on fluoroscopy showed that the nephrostomy tube was in a false tract and promptly corrected.

These cases underscore the need for meticulous evaluation of multimodality imaging to arrive at the correct diagnosis. It plays critical role in guiding appropriate treatment strategies and avoiding potential complications.

# UTILIZING PERCUTANEOUS TRANSHEPATIC BILIARY DRAINAGE (PTBD) AS A PROMPT INTERVENTION FOR ACUTE MANAGEMENT OF HEPATOLITHIASIS IN DISTRICT HOSPITAL SETTINGS

L.H.I. Bing, C.E. Wei
[1]Radiology Department, Hospital Sibu, Batu 5 1/2, Jalan Ulu Oya, Pekan Sibu, 96000 Sibu, Sarawak.

Hepatolithiasis, or intrahepatic calculi, is prevalent in Southeast Asia, with recurrent pyogenic cholangitis being a common complication. The main treatment goals are to address infections and prevent complications. Although Endoscopic Retrograde Cholangiopancreatography (ERCP) is generally preferred, its feasibility can be limited by factors such as stricture location, ductal angulation, stone impaction, logistical constraints and the availability of skilled personnel. This case study details the management of a critically ill patient with hepatolithiasis who presented with severe biliary obstruction and septic shock. As immediate ERCP access was not available at Hospital Sibu, Percutaneous Transhepatic Biliary Drainage (PTBD) was rapidly employed to alleviate the obstruction, facilitate drainage and decompression, and address the infection alongside antibiotic therapy. Following this intervention, the patient demonstrated substantial recovery and was discharged in good condition. In essence, when ERCP is not achievable in resource-constrained environments, PTBD stands out as a reliable, safe and effective alternative. It serves as a valuable interim solution for managing and stabilizing acute issues until a more definitive treatment can be pursued.

# MECHANICAL THROMBECTOMY IN PEDIATRIC STROKE: A CASE REPORT

A.F.F. Abdull Manaf[1], I.A. Zainal[1]
[1]Department of Radiology, UKM Specialist Children's Hospital, Jalan Yaacob Latif, Bandar Tun Razak, 56000 Cheras, Kuala Lumpur, Malaysia

Paediatric stroke, though rare, can lead to significant long-term morbidity and mortality. We report a case of successful acute stroke mechanical thrombectomy in a 10-year-old Malay girl with stage 4 alveolar soft part sarcoma of the left foot, complicated by lung and bone marrow metastasis. She presented with right-sided hemiplegia and a drop in Glasgow Coma Scale (GCS) to E2V3M4, with stable vital signs. MRI revealed an acute infarction in the left middle cerebral artery (MCA) territory with occlusion at the terminus of the left internal carotid artery (ICA). Pre-thrombectomy angiography confirmed occlusion at the mid left ICA with no distal opacification. The procedure was challenging due to limited paediatric-specific equipment and lack of extensive experience in paediatric thrombectomy. Despite these challenges, thrombectomy was performed using the A Direct Aspiration First Pass Technique (ADAPT), restoring flow in the ICA. A subsequent pass fully restored flow in the left MCA and its branches, achieving a modified Thrombolysis in Cerebral Infarction (mTICI) grade 3. The patient later required decompression craniotomy due to haemorrhagic transformation but is now recovering well and has nearly regained full function. This case highlights the effectiveness of mechanical thrombectomy in paediatric stroke and the importance of timely intervention for favourable outcomes despite technical challenges.