

## Non-vascular intervention symptomatic simple renal cyst ablation using single session ultrasound guided percutaneous tetracycline sclerotherapy

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### ABSTRACT

**Background and Objectives:** Image guided tetracycline sclerotherapy for symptomatic renal cyst is simple, safe and minimally invasive procedure; however, there is no standardized control trial in this environment. In this study we report our experiences in treatment of symptomatic renal cyst by ultrasound guided drainage and tetracycline sclerotherapy. **Materials and Methods:** We retrospectively reviewed 8 consecutive patients (6 males and 2 females, mean age 46 year, SD 9.6) treated for symptomatic simple renal cyst with ultrasound guided drainage and tetracycline sclerotherapy. Patients are evaluated clinically and sonographically before the procedure, a month after and 3 months thereafter. The ablations were done in prone position, following administration of local anesthesia. Treatment is considered clinically successful if there is complete resolution of symptom, partial if more than 50% of the symptoms disappear and failure if less than 50% of the symptoms disappear. Treatment is considered sonographically successful if there is complete ablation of the cyst, partial when there was reoccurrence of less than 50% original cyst volume, and failure when there is reoccurrence more than 50% of the total cyst volume. **Results:** The clinical presentation includes loin pain, renal angle tenderness in all the patients and renal mass in 2 (25%) patients. The cysts are bilateral in 2 (25%) patients and there are multiple cysts in one kidney in 3 (37.5%) patients. Both clinically and sonographically successful treatment were achieved in 6 (75%) patients, 1 (12.5%) have clinically partial resolution and 1 (12.5%) sonographically treatment failure. **Conclusions:** Ultrasound guided simple renal cyst drainage and tetracycline sclerotherapy show a highly promising result, but there is need for further large scale control trial.

**Key words:** Tetracycline, sclerotherapy, ultrasound-guided, renal cyst

## Contending with needle tip visualization in ultrasound-guided prostate biopsy

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### ABSTRACT

**Background and Objectives:** Improved visualization of biopsy needle during ultrasound guided biopsy helps in precise placement of needles in area of interest, avoiding vital structures. Trans rectal prostate biopsy is one of the commonest ultrasound guided biopsy requests in our hospital and poor needle tip visualization has always been the most challenging limitations to a successful biopsy. The case presented below is reported to highlight the utility of maneuvers used to improve needle tip visualization. **Materials and Methods:** M.I is a 56-year-old male civil servant who was referred on account of urinary symptoms suggestive of an enlarged prostate, for abdominal ultrasound scan and subsequent prostate biopsy. A provisional diagnosis of benign prostatic hypertrophy to rule out prostatic carcinoma was made on transabdominal sonography. The ultrasound guided biopsy was done using a 7.5 MHz transrectal probe and a semiautomated side cutting Guillotine biopsy needle. The needle tip visualization was improved by rapid in and out motion of the stylet, thus introducing micro air bubbles. **Results:** The introduced micro air bubbles appeared at the needle tip as an echoreflective streak easily seen on the sonogram. Obtained samples were preserved in formalized saline. The histology reported benign nodular hyperplastic prostatic tissues and the patient subsequently underwent an uneventful prostatectomy. **Conclusion:** A simple technique of improving needle tip visualization during ultrasound guided biopsy combined with the benefits of real time imaging, easy availability, low cost and lack of ionizing radiation of ultrasound makes this technique a practically reproducible technique.

**Key words:** Ultrasound-guided prostate biopsy, needle tip visualization, micro air bubbles.

## BREAST IMAGING

### Cardiac complications in breast cancer patients treated with megavoltage irradiation: An initial report

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### ABSTRACT

**Purpose:** To determine the prevalence and clinical manifestation

of early radiation-induced reaction of the heart in left-sided breast cancer patients who received post-mastectomy radiotherapy. **Materials and Methods:** Between January 2007 and December 2010, consecutive left-sided breast cancer patients, who were referred to the Radiotherapy and Oncology Centre, ABUTH Zaria, for post-mastectomy radiotherapy and had undergone pre and post- irradiation echocardiography, were prospectively studied. The patients had all completed systemic chemotherapy. They were planned manually and received a uniform dose of 50 Gy given in conventional fractionation, on a Co-60 megavoltage machine, using a 3-field technique. The patients were followed up regularly with serial echocardiography and assessed for the occurrence of early radiation-induced pericardial effusion, post-treatment. **Results:** There were 21 females. The mean age was 43.9.years. (age-range: 30-62 years). Majority of the patients (19) had an Invasive Ductal Carcinoma. Pre-operative Stage II disease accounted for 38.1% of the patients, while Stages III was 61.9%. Two patients had a co-morbid condition of Hypertension and one had Diabetes Mellitus. 3 patients received CMF chemotherapy while the rest received Adriamycin-based combination. At a minimum follow up of 4 months post-treatment, pericardial effusion was observed in 8 patients, constituting 38.1% of the patients studied. One patient was symptomatic and was managed expectantly with a complete resolution of symptoms. Four patients had a persistent non-symptomatic pericardial effusion. All the patients are still being followed up. **Conclusion:** This study showed that radiation-induced pericardial effusion is not an uncommon occurrence in left-sided breast cancer patients treated with Co-60 machine. This subset of patients should be closely monitored for long-term cardiac complications of radiotherapy and prompt management. The use of modern radiation therapy equipment and techniques would reduce the risk of such complications.

**Key words:** Breast cancer, cardiac complications, post-mastectomy radiotherapy

## Audit of mammographic patterns of breast lesions in Aminu Kano Teaching Hospital, Kano

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### ABSTRACT

**Background and Aim:** Breast disease is a common devastating illness all over the world. The changing pattern of the epidemiology of breast disease especially cancer in the developing countries called for concern in recent years. This study documents the mammographic patterns in patients referred to the Mammography unit, AKTH, Kano, Nigeria. **Materials and Methods:** Mammograms

of patients screened on account of symptoms and signs of breast disease from June, 2007 to July, 2010 were retrospectively studied. Patient's demographic variables, clinical history and mammographic findings were documented. **Results:** There were 508 patients (3 Males and 505 Females) in the age range of 35-65 years with a mean age of 42.54 years. Majority 375 (73.8%) were for diagnostic mammography indicated by feeling of breast lump in 167 (32.9%) and routine screening in 133 (26.2%). 417 (82.1%) of them were married and 438 (86.2%) have no history of previous breast disease. Left breast was affected in 230 (45.3%) and lesions were in the upper outer quadrant in (169 (33.2%). The lesions ranged from 0.8 to 2.5 cm in sizes, rounded shaped in 210 (41.3%), smoothly marginated in 136 (26.8%) and majority 244 (48.0%) were iso dense. Breast tissue in 240 (47.2%) had undergone some fatty replacement with normal surrounding parenchyma seen in 307 (60.5%). Majority of the lesions had no calcification and 189 (37.2%) patients belong to the BIRADS category 1. **Conclusion:** Mammography is an invaluable imaging tool for the detection of symptomatic and asymptomatic breast diseases especially cancer with a changing pattern of age presentation in this part of the world.

**Key words:** Audit, breast lesions, mammographic patterns

## Cranial computed tomographic findings in Nigerian women with metastatic breast cancer

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### ABSTRACT

**Background:** Brain metastases (BM) occur in up to one-fifth of patients with metastatic breast cancer (MBC). Imaging plays a key role in diagnosis. The pattern and distribution of these changes are also crucial to their management. These patterns have not been fully studied in Nigerian women. **Materials and Methods:** Retrospective analysis of the findings on the cranial Computed Tomography (CT) scans performed in 59 breast cancer patients with suspected BM treated at the University Teaching Hospital in Ibadan, between 2005 and 2010. The imaging features were evaluated in relation to their clinical characteristics. **Results:** In the 59 patients studied (mean age 50.9 years  $\pm$  11.75 SD), headache (40.7%) and hemiparesis/hemiplegia (16.9%) were the commonest clinical presentation. Lytic skull lesions were seen in 15 patients (25.4%), most commonly in the parietal bones. Thirty-nine patients (66.1%), had parenchymal brain lesions, and only 8 (20.5%) of these were single lesions. Most of the lesions were isodense (19/39; 51.4%) the parietal lobe

was the most common site with 50.8% (30/59) occurrence and the leptomeninges the least with 13.6% (8/59). Orbital or sellar region involvement occurred in only two patients. The size of the lesions, was <2 cm in 17 (28.8%), 2-5 cm in 14 (23.7%) and >5 cm in 5 patients. Sixteen (27.1%) patients were free of any lesion either in the skull or brain. Patient presenting with multiple brain lesions were more likely to have skull lesions though this was not statistically significant ( $P=0.584$ ). **Conclusion:** CT imaging remains an invaluable tool in the clinical evaluation and therapeutic management of Nigerian women with BM from MBC. It also appears that the demographic and imaging findings in these patients are similar to other racial groups.

**Key words:** Breast cancer, brain metastases, computed tomography, Ibadan

## VASCULAR IMAGINGS

### Carotid artery stenosis: Vision loss, carotid bruits and transient ischemic attacks

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#### ABSTRACT

**Aim:** This paper will discuss the different levels of carotid artery stenosis and infarctions related to internal and external carotid arteries. Deep, subcortical, and cortical intracranial infarct diagnosis will also be reviewed along with other vascular emergencies encountered in our practice. **Background:** Vascular related vision loss: Temporary blindness, blurred and double vision are early warning signs of TIA, stroke and hypertension. While auscultation of carotid bruits indicates the presence of carotid stenosis of varying degrees (which physical examination cannot confirm); transient ischemic attacks can be assessed using ultrasonography. With carotid Doppler employed in extra cranial evaluation of the external carotid vasculature, MRI and CT scan imaging are employed in evaluating intra cranial vasculature lesions. **Materials and Methods:** Using a pictorial essay we will review the ultrasonographic, MRI and CT scan appearances of venous and arterial vascular emergencies. **Results:** The clinical features and management of each of these pathologies will be presented along with the pitfalls in interpretations of their respective appearances. **Conclusion:** Our paper will show the diagnostic criteria for making diagnoses of each of these conditions, its attendant consequences on conservative and surgical intervention to improve patient's quality of life.

**Key words:** CT Angiography, ESCT, MR angiography, NASCET, stenosis measurement

### Sturge weber syndrome co-existing with unusual infantile vein of Galen aneurysmal malformation: Role of multi-modality imaging in diagnosis

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#### ABSTRACT

**Background:** Sturge Weber Syndrome (SWS) also called encephalotrigeminal angiomatosis is a sporadically occurring neurocutaneous syndrome caused by the persistence of primordial intracranial arteriovenous connections. It is characterized by vascular malformation, capillary venous angiomas, involving the face, eye and leptomeninges with resultant neurologic manifestations. An extremely rare case of SWS having associated vein of Galen aneurysmal malformation is presented along with the clinical presentations and the complex angio-architecture on cranial computed angiography to highlight the role imaging in the diagnosis and management. **Clinical Presentation:** A 2-year-old girl presented with inability to achieve neck control, progressive head enlargement and convulsions since birth. There was history of polyhydramnios during the antenatal period but the delivery was uncomplicated. She was found to be chronically ill-looking with disproportionate head enlargement, general hypotonia and bilateral blindness. **Results:** Cranial computed tomographic angiography revealed extensive gyriform cerebral calcifications and vein of Galen aneurysmal dilatation having multiple feeding arteries from the left posterior cerebral and both pericallosal arteries. Findings were further corroborated with ultrasound scan. Diagnosis of Sturge-weber syndrome with vein of Galen aneurysmal malformation was made. **Conclusion:** This experience underscores the role of imaging in early diagnosis, definitive treatment and follows up. With the advent of endovascular neurointerventional techniques, there is prospect for successful treatment of these lesions, which was once considered dismal.

**Key words:** Sturge weber, vein of galen

### Complications of vascular access for haemodialysis in native Africans

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## ABSTRACT

**Background and Objectives:** End stage renal disease (ESRD) is increasing worldwide and is becoming a serious health problem particularly in the sub-Saharan Africa. It is widely accepted that autogenous arteriovenous fistula (AVF) carries less morbidity and mortality comparable to all other forms of vascular accesses. We reviewed the performance of AVF in native Africans over a 2 year period and make recommendations in order to optimize vascular access for patients with ESRD. **Materials and Methods:** The study is a prospective non-randomized. Patients were referred for surgical insertion of AVF from hospitals in the North West and North Central regions of Nigeria, including patients from Haemodialysis Unit of Aminu Kano Teaching Hospital, Kano, Nigeria. **Results:** 174 patients were operated upon successfully between January, 2009 to December, 2010 with a mean age of 46.4 years (range 18-76 years) with a male to female ratio of 1.5:1. Brescia-Cimino fistula was performed in 110 (63.2%) patients, brachiocephalic (Kauffmann) fistula in 51 (29.3%) and synthetic graft in 1 (0.6%) patients respectively. Ten patients (5.7%) had brachio-brachial transposition arteriovenous fistula and 2 patients (1.1%) had transposition graft using harvested long saphenous vein. Excellent flow in the form of palpable thrills was detected in 120 (68.9%) AVFs immediately post-operatively and good flow recorded in 47 (27%) with one fistula (0.6%) scored as fair with high probability of failure. Six patients (3.4%) had attempted fistula creation but either abandoned on exposing the vein (4) due intra-operative endoluminal fibrosis or never worked (2) in the immediate post-operative period. **Conclusion:** The insertion of autogenous AVF is associated with high success rate in our native African ESRD patients. There is a need for a further study to determine the long term consequence of this favored procedure in our environment.

**Key words:** Autogenous AVF, ESRD, thrombosed peripheral veins

## Vascular and multimodality imaging of carotid body paraganglioma

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## ABSTRACT

**Aim:** Three cases of carotid body tumor, a rare paraganglioma of the head and neck, discovered in carotid Doppler assessment

of extra cranial vasculature will be reviewed. The evaluation, management and final outcomes of each case will be presented with the hope of exploring currently existing pathways for imaging these and other vascular pathologies locally. **Background:** Carotid body paragangliomas arise from neural crest cells. They commonly present as asymptomatic neck masses. Careful preoperative evaluation of their vascular and functional status is required before surgical intervention. Histopathologically similar to adrenal gland neoplasm (phaeochromocytoma), they are usually benign and non-functional. Although the tumor grows and expands slowly and rarely metastasize, local and distant metastases have been reported about them. **Materials and Methods:** Using a case series approach, we will review the ultrasound, MRI and CT appearances of these lesions. **Results:** The clinical features, histopathology findings and post operative follow up care of each case will be discussed along with their multimodality imaging appearances. **Conclusion:** Our paper will show the significance of vascular radiology in short and long term follow-up of carotid body tumors bearing in mind the differences in time interval for local recurrences and distant metastases. These can vary from months to years after initial diagnosis.

**Key words:** Carotid body tumor, carotid doppler, vascular ultrasound

## PEDIATRICS IMAGING

### Sonographic assessment of the normal infant hip joint in Kano, Nigeria

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## ABSTRACT

**Objective:** To provide an axial indices of alpha and beta angles of the infant hip joint in Kano, Nigeria using ultrasonography to establish a normogram as reference values for further studies. **Materials and Methods:** This descriptive prospective study was conducted at the Radiology Department of Aminu Kano Teaching Hospital, Kano. Successive 400 appropriately consented infants were recruited for this study. The axial angle relationship of both hip joints was measured using 7.5 MHz linear transducer of Mindray DP-8800 Digital plus ultrasound machine. The demographic variables of age, sex and hip side were documented and analyzed. **Results:** There were 217 (54%) males and 183 females (46%). The mean alpha angle for both hips in both sexes was 56.79° (range 29°-66°) while the mean for the beta angle was 49.46° (range 38°-78°). The mean alpha and beta angles for both hips in the females are 56.59° and 49.58° respectively while those for males are 56.73° and 50.53° respectively. The mean alpha and beta angles for all right hips were 56.88° and 49.69°, while those for the left hip are



56.78° and 50.38° respectively. There is a very weak correlation (of no statistical significance) with age between  $\alpha$  and  $\beta$  angles of the right and left sides in males using Spearman correlation analysis. In the females however, none of the angles have any significant correlation with age or hip side. **Conclusion:** The study showed that side (left/right hip), gender or age of measurement in infants did not affect the hip indices on ultrasonography. The lower limits of the measured alpha and beta angles in Kano are slightly lower than those documented in Caucasian and east African studies.

**Key words:** Infant hip, normal axial indices, ultrasonography

## VASCULAR INTERVENTION

### First case of peripheral percutaneous transluminal angioplasty in Nigeria

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#### ABSTRACT

**Background and Objective:** The first percutaneous transluminal angioplasty (PTA) in the world was performed by Oregon and Dotter in 1964. We have started peripheral PTA in our centre which is the first one in Nigeria and indeed the whole of West Africa. We present the first case of peripheral PTA in Nigeria. **Case Report:** A 73-year-old retired civil servant, a diabetic and hypertensive. He presented with 5 years history of features of claudication of the right leg. Physical examination revealed an elderly man in pain with features of vascular insufficiency involving the right leg. The blood pressure was 160/110 mmHg and FBS was 8.9 mmol/l. The FBC, PT and PTTK were normal. Doppler ultrasound showed strictures involving the proximal anterior tibial artery and only the proximal part of the peroneal artery was visualized. Diagnostic angiography was performed on the right side and confirmed the ultrasound findings. Percutaneous Transluminal Balloon Angioplasty was performed successfully on the 02/02/10 using GE LCA Vascular Advantix periphery DSA at the Vascular and Interventional Division, Department of Radiology, University of Maiduguri Teaching Hospital, Nigeria. Vascular access was through a right femoral artery puncture and 4 cm  $\times$  5 mm balloon was used for the angioplasty. There was restoration of the luminal diameter at the stenosed segments with improvement of flow. Clinically, there was disappearance of the hyper-pigmentation and symptoms of claudication. Follow-up at 1, 3 and 6 months yielded satisfactory results. **Conclusion:** We have performed successfully the first case of Peripheral Percutaneous Transluminal Balloon Angioplasty in Nigeria.

**Key words:** Angioplasty, peripheral PTA

### First case of uterine fibroid embolization in Nigeria

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#### ABSTRACT

**Background and Objective:** Uterine fibroid is the commonest gynecological benign tumor. Uterine fibroid is commoner among the Blacks than the Caucasian race and Nigeria has the largest population of black people in the world. Symptomatic fibroid is the commonest indication for major gynecological surgery of hysterectomy and myomectomy. Recent studies show that uterine fibroid embolization (UFE) is an effective mode of treatment. We present the first case of uterine fibroid embolization in Nigeria and indeed the whole of West Africa. **Case Report:** A 42-year-old teacher presented with menorrhagia, urinary frequency, pelvic discomfort and abdominal pain. Physical examination revealed 18 weeks pelvic mass. She had ultrasound and MRI confirmed of multiple vascular uterine fibroids the largest measured 17 cm  $\times$  16 cm  $\times$  10 cm in dimension. She declined the operative treatment option offered. The FBC, PT and PTTK were normal. UFE was performed successfully on 20<sup>th</sup> June, 2010 using GE LCA Vascular Advantix periphery DSA at the Vascular and Interventional Division of the Department of Radiology, University of Maiduguri Teaching Hospital, Nigeria. Vascular access was through a right femoral artery puncture, Roberts catheter and Embospheres were used for embolization. Post procedural treatment includes antibiotics and NSAIDs. The size of the fibroid reduced to 17  $\times$  14  $\times$  10 cm at 1 month, 12  $\times$  10  $\times$  6 at 3 months and 8  $\times$  6  $\times$  5 cm at 6 months. There was symptomatic improvement. **Conclusion:** We have performed successfully the first case of UFE in Nigeria. UFE is an effective means of treating uterine fibroids in our environment.

**Key words:** Uterine fibroid, embolization

### Neuro imaging of young adults with clinical diagnosis of stroke in Ilorin Nigeria

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#### ABSTRACT

**Background and Purpose:** Strokes in young adults are

uncommon and often a diagnostic challenge. It is particularly tragic because of the potential for a lifetime of disablement. Neuroimaging is almost mandatory in this age, to ascertain the type and possible etiology. Our aim was to evaluate the pattern of imaging findings in the brain young adults in Ilorin Nigeria on Magnetic Resonance Imaging (MRI) and Computed Tomography (CT) and relate it to the clinical diagnosis. **Materials and Methods:** We reviewed the CT and or MRI findings of 36 consecutive patient's ages 15 to 35 years with clinical diagnosis of stroke or stroke like syndrome from May 2008 till May 2011. We analyzed the locations, type and pattern of lesions. **Results:** Non traumatic intracerebral hemorrhage was diagnosed in 6 young patients (16.7%); Subarachnoid hemorrhage was found in 7 young patients (19.4%); 16 young patients (44.4%) had cerebral infarction. Five (13.9%) cases were misdiagnosed including 3 brain tumors, 1 cerebral abscess and 1 subdural effusion, and 2 (6.5%) patients had normal findings. **Conclusions:** Cerebral infarction was the commonest finding; however, the incidence of hemorrhagic pattern of stroke is relatively high compared to overall documented incidence in the general population. Incidence of misdiagnosis is also significant, buttressing the necessity for neuroimaging in young adults with suspected stroke.

**Key words:** Magnetic resonance imaging, computed tomography, stroke

## Challenges of stroke imaging in northern Nigeria

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### ABSTRACT

**Background:** Computed Tomography (CT) is an invaluable imaging technique of choice in stroke evaluation and screening for other structural lesions that can mimic stroke. **Objectives:** The time lags between ictus to CT imaging of stroke was determined to assess how prompt are stroke patients imaged for quality management in our region where there is scarcity of CT scanners and continuing lack of quality epidemiological data. **Materials and Methods:** Brain CT scans of patients with stroke and stroke-like illnesses over four years period were retrospectively reviewed for patients' age and sex, symptoms (ictus) to hospital presentation and to CT scans. Observed brain changes such as infarcts, oedema, mass effect, hemorrhage and atrophy were noted. Data was analyzed using SPSS 11.0 for windows. **Results:** 120 patients between the ages of 7-90 years were analyzed. There were 58.3% males. Stroke followed cerebrovascular disease and hypertension in 49.2%. No single patient had brain CT scans within 72 hours of symptoms onset. About 87% had CT scans 3 weeks after stroke ictus. Hence, lesions were generally of hypodensity. Scanogram and axial brain scans showed no abnormality in 94.1% and 4.2% of patients respectively. **Conclusions:** CT

imaging of stroke for prompt management intervention is a serious challenge in our environment due to inadequate patient information, poverty and relative non-availability of facilities.

**Key words:** Computer tomography, imaging challenges, Nigeria, stroke, stroke-like illnesses

## A preliminary report on spinal MRI findings in patients with signs and symptoms of radiculopathy in Sokoto and its environs

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### ABSTRACT

**Background and Aim:** The aim of this study is to retrospectively assess spinal Magnetic Resonance Imaging (MRI) findings in Sokoto and its environs. Patients presenting with spinal symptoms often have imaging studies performed to determine if there is a significant structural abnormality in the spine. Plain film examination of the spine is the usual initial imaging technique but provides only limited or no diagnostic information. MRI is generally more sensitive for depicting intrathecal pathology and soft tissue changes than the other modalities, either separately or in combination. MRI often has the capacity to differentiate which soft tissue changes are causing symptoms. **Materials and Methods:** We retrospectively traced the biodata, clinical information, MRI images and the radiologists' reports of 133 (one hundred and thirty three patients) from June, 2010 to May, 2011. The patients' age ranged from 8-70 years (mean age 42.4±SD12.7). The sex distribution of the patients under the study was 76% (57.1%) males and 57 (42.9%) females. All the patients were referred from Neurosurgical, Neurology and Orthopedic units of Usmanu Danfodiyo University Teaching Hospital Sokoto and other Tertiary institutions. They presented with signs and symptoms of spinal pathologies. The patients had cervical, thoracic, thoracolumbar or lumbosacral MRI using 0.2 Tesla MRI machine by General Electric (GE). The data generated was analyzed using SPSS version 17. **Results:** The commonest spinal MRI finding in this study was disc prolapse seen in 87 (63%) patients. About 19 (14.3%) of the patients showed normal appearances. Pott's disease and spinal cord involvement following trauma were seen in 7 (5.3%) each. Spinal meningioma was also documented in 1 (0.8%) patient in this study. Spinal fracture from trauma and cases of spondylosis were noted in 6 (4.5%) patients each. **Conclusion:** Magnetic Resonance Imaging of patients with signs and symptoms of spinal disease revealed a high prevalence of spinal abnormalities. In view of the high yield from MRI examination, we suggest MRI as the first imaging modality for the assessment of suspected spinal pathologies.

**Key words:** Spine, magnetic resonance imaging, radiculopathy

## Brain misdiagnosis: How well are radiologists diagnosing neurosurgical cases?

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### ABSTRACT

**Background:** Medical imaging in Nigeria has is now increasingly used as the cornerstone of medical diagnosis. As a result the radiologist's report is critical in the clinical management. An error in image interpretation can result in an undesirable series of events leading to medical misadventure. Multiple autopsy studies claim misdiagnoses rates as high as 47%. **Materials and Methods:** Neurosurgical cases presented at the clinical Neuroradiology seminars of the University College Hospital, Ibadan and cases managed at a private hospital in Abuja, Nigeria over a one year period were reviewed to identify brain misdiagnosis. **Results:** We present a pictorial review of twenty-one neurosurgical cases suspected to have CT and MR imaging misdiagnosis. **Conclusion:** Neuroimaging workshops and subspecialty fellowship training for radiologists involved in neuroimaging reporting may help in reducing the rate of misdiagnosis and improve the quality of care of patients with neurosurgical problems.

**Key words:** Neuroimaging, misdiagnosis, radiologists

## Objective structured clinical examination in radiology: How prepared are we?

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### ABSTRACT

**Background and Objectives:** OSCE is an established, multi-station test for the assessment of practical professional skills in an objective and a transparent manner. The problems intrinsic to the traditional clinical examination model in radiology, such as its overall lack of objectivity, among other numerous reasons and the recent move by some sister faculties in our various postgraduate colleges to introduce OSCE in their examinations prompted this presentation, in order to highlight the prospects and constraints of introducing OSCE mode of assessment in radiology in our training institutions and by our faculty. **Materials and Methods:** The presentation will discuss the design of typical radiology OSCE station, classification of OSCE stations, components of OSCE

station, required task accomplishment within an OSCE station and the scoring system in OSCE station. **Results:** OSCE form of assessment in radiology came with its own strengths, weaknesses, opportunities and threats. **Conclusion:** Our postgraduate medical colleges should direct various hospitals and teaching institutes and centre's to compulsorily introduce and conduct OSCE, over a period of time. This will enable examiners, potential examinees and the trainers across the west African sub region to become familiar with the OSCE format of assessment, and hence, the key to the initiation and successful implementation of OSCEs in radiology.

**Key words:** OSCE, radiology

## Imaging of acute appendicitis: Ultrasound versus CT in equivocal cases

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### ABSTRACT

Acute appendicitis, an important cause of acute abdomen in children still poses a diagnostic and therapeutic dilemma due to varying ways of presentation. This necessitates the application of imaging in making an accurate diagnosis. Ultrasound scan is the mainstay among imaging modalities due to its availability, use of non ionizing radiation and affordability. However, non enteric unenhanced CT scan of the abdomen can sometimes be employed in the diagnosis of acute appendicitis in children especially in equivocal cases or when there is limitation of ultrasound beam penetration due to the presence of excessive bowel gaseous distension in acute abdomen and excessive fat in obese children. Occasionally, unenhanced abdominal CT scan is used in place of ultrasound scan especially in complicated cases like appendiceal mass or ruptured appendix or when there is excessive bowel gaseous distension and fatty tissue in obese children.

**Key words:** Acute appendicitis, abdominal ultrasound scan, children, unenhanced abdominal CT scan

## Abdominal ultrasound findings among HIV/AIDS patients in Jos University Teaching Hospital

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## ABSTRACT

**Background:** HIV/AIDS is associated with multiple organ pathologies in which ultrasonographic assessment is invaluable in its overall management. The modality is relatively inexpensive, easy to perform and does not make use of ionizing radiation.

**Aims:** The purpose of this study was to determine the common abdominal ultrasound findings among adult HIV/AIDS patients and to correlate these findings with the immune status of the patients as represented by the level of the CD4+ counts. **Materials and Methods:** A prospective assessment of the abdominal sonography of 350 adult HIV/AIDS patients was done at the ultrasound unit of the Jos University Teaching Hospital. **Results:** Lesions detected included hepatomegaly in 98 (28%), hepatic echo-textural changes 86 (24.8%), renal parenchymal disease in 64 (18.3%), splenomegaly in 50 (14.2%), cholecystitis in 36 (10.3%), lymphadenopathy in 18 (5.1%) and gall stone in 2 (0.6%). Group of patients with CD4<200 had significantly higher pathologies when compared with group with CD4≥200: Hepatomegaly (76 vs. 22;  $P=0.00$ ), hepatic echo-textural changes (81 vs. 5;  $P=0.00$ ), cholecystitis (30 vs. 6;  $P=0.00$ ), renal parenchymal disease (54 vs. 10;  $P=0.00$ ); splenomegaly (25 vs. 25;  $P=0.943$ ) and lymphadenopathy (18 vs. 0;  $P=0.00$ ). **Conclusion:** Abdominal ultrasonography is important in the assessment of organ pathologies in HIV patients especially those with CD4<200. Further studies are however needed to correlate laboratory with clinical and ultrasound findings so as to maximize the clinical utility of ultrasonography.

**Key words:** Abdominal ultrasound, HIV/AIDS

## Adult hypertrophic pyloric stenosis co-existing with gastric carcinoma

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## ABSTRACT

Hypertrophic pyloric stenosis in adults is uncommon and occur secondary to a mild infantile form that later presents clinically between 30-60 years. The male to female ratio is 4-5:1. It occurs hypertrophy and hyperplasia of the circular muscles of the pylorus leading to narrowing and elongation of the pyloric canal. It could co-exist with chronic gastritis and peptic ulcer disease. Though its association with gastric carcinoma is uncommon, it could clinically and pathologically mimic it. We hereby report the case of a 41 year old Nigerian male, a known peptic ulcer disease patient that was discovered to have both adult hypertrophic pyloric stenosis and gastric carcinoma. The literature will be reviewed.

**Key words:** Pyloric stenosis, hypertrophic, gastric carcinoma

## Abdominal ultrasonographic findings in patients with sickle cell anemia in Zaria, Nigeria

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## ABSTRACT

**Purpose:** The aim of this study was to evaluate the type and incidence of abdominal Ultrasonographic abnormalities in patients with homozygous for sickle cell disease. **Materials and Methods:** A total of 74 adult patients with sickle cell anemia at the centre for hemoglobinopathy of Department of Hematology and Blood Transfusion, Ahmadu Bello University, Zaria Nigeria were evaluated for intra-abdominal abnormalities by abdominal Ultrasonography (US). At the time of examination, no patient had undergone splenectomy or cholecystectomy. **Results:** The most frequent US findings (expressed as percentages of all patients) were hepatomegaly (90.5%), auto splenectomy (55.4%), shrunken spleen (31.0%), renal size reduction (27.1%), cholelithiasis (24.1%), splenomegaly (4.1%) and renal enlargement (2.7%). A bright liver was identified in 11 patients (14.9%), an echogenic pancreas in 7 patients (9.5%). Medullary hyperechogenicity was observed in 14 patients (18.9%). Sonographic findings typical of renal papillary necrosis were observed in one patient. Left renal hydronephrosis was also observed in one patient. **Conclusion:** Abdominal ultrasound scan of patients with sickle cell anemia revealed a high prevalence of abdominal abnormalities, especially in solid organs.

**Key words:** Abdomen, sickle cell disease, ultrasonography

## GENERAL/FREE PAPERS

## Referring doctors knowledge about patients radiation doses undergoing common radiographic examinations

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## ABSTRACT

**Background and Objective:** In the present day scenario, radiation



dose from medical imaging has come under scrutiny both in the medical and public press. This is as a result of the increased cancer risks associated with radiation as well as cases of excess radiation exposure from advance radiological equipment like CT scans. Therefore, this study assessed doctor's knowledge on patient's radiation doses during radiological investigations on medical imaging equipment namely: Conventional X-ray machine, CT, mammography, MRI and ultrasound in two tertiary institutions.

**Materials and Methods:** This was a prospective study conducted at Maiduguri North Eastern Nigeria. A questionnaire was designed and distributed to all cadres of medical doctors. Radiological investigations were listed, and participants were asked to estimate equivalent doses using the dose of postero-anterior chest X-ray as a reference. Questions on knowledge of hazard of radiation, radiation measurement units, and use of referral guidelines were also included. A total score was aggregated for each question.

**Results:** A total of 81 questionnaires were distributed, and 65 (80.2%) were returned. The respondents that indicated their gender consist of 21 (33.2%) females and 42 (64.6) males. Most of the respondents 63 (96.9%) are aware of radiation hazard, but only 25 (38.5%) knew its units of measurement. Also, most of the participants 38 (58.5) are not aware of referral guidelines for imaging. Majority of the respondents 52 (80%) are unable to estimate dose for most of the radiological examinations.

**Conclusion:** The findings of the study revealed that most of the doctors are aware of radiation hazard, but did not know the amount of radiation dose received by their patients during radiological investigations. Hence, the need for inclusion of radiation protection course in the curriculum of medical school could not be overemphasized.

**Key words:** Radiation dose, referring doctors