

ORAL ABSTRACTS

Alphabetical according to presenting author's surname

Evaluation of the role of Non-Echo-Planar Diffusion Weighted Imaging Magnetic Resonance Imaging in sparing “2nd-look” surgery after modified (attic inclusion, mastoid exclusion) Canal Wall Up-surgery for Cholesteatoma in a resource-constrained setting

Presentation Method: Oral

Review Status: Accepted Travel Award

Eksteen, Constant

Constant Eksteen (Tygerberg Hospital), James Looek (Tygerberg Hospital, ENT), Leon Janse van Rensburg (Tygerberg Hospital)

Purpose:To evaluate the rate of residual Cholesteatoma is sparing “2nd-look” surgery after modified (attic inclusion, mastoid exclusion) Canal Wall Up-surgery for Cholesteatoma in a resource-constrained setting, by using only limited MRI sequences (Non EPI DWI and ADC). Currently the rate of recurrence is not known for this procedure.**Material and Methods:**The study was approved by the Institutional Ethics board. Seventeen (18) patients (11 Male and 7 female) who had modified (attic inclusion, mastoid exclusion) Canal wall up-surgery, was referred for MR imaging. Limited MRI sequences were performed on a 1.5 T magnet, due to resource constraints. NON EPI DWI (axial and coronal) and coronal ADC map of the temporal bones were done. The b-values for the DWI was done at 0 and 1000 mm/s. ADC was reconstructed from the coronal DWI (b-value = 50) with a noise level of 50. Images were evaluated by a registrar and reviewed by specialist with a neuroimaging fellowship. Where recurrence was detected on MRI, these images were compared to the intra-operative notes and findings, to establish the exact location of the cholesteatoma at the time of surgery. **Preliminary Results:**Five (5) out of the 18 patients had residual cholesteatoma on the MRI. These were clinically undetectable. This corresponds to residual disease in 28% of patients in the limited cohort. Average size of residual cholesteatomas were 4mm.**Conclusions:**Limited MRI (NON EPI DWI and ADC ONLY) is valuable to detect postoperative residual cholesteatoma in a resource limited setting. The rate of residual disease corresponds to recurrence rate after canal wall up (CWU) in literature. Further studies with larger patient population would be of value to determine if the recurrence rate is reproducible.

Accuracy of Plain Radiographs for Diagnosing Histologically Proven Malignant Bone Lesions

Presentation Method: Oral

Review Status: Accepted Travel Award

Gerber, Erhardt

Erhardt Gerber (UCT), Sally Candy (UCT)

Diagnosis of primary bone tumours is based on a combination of clinical-, radiological- and histopathological findings. Plain films form an integral part in the: exclusion of malignant tumours and diagnosis of benign lesions. diagnosis and treatment planning of malignant lesions. Few studies have been performed evaluating the radiologist's interpretation of plain films against the histopathological diagnosis. AIM: To determine the: spectrum of bone tumours at a tertiary hospital in South Africa sensitivity and specificity of plain film interpretation in the diagnosis of bone lesions interobserver agreement in plain film interpretation of bone tumours. To calculate the: radio-pathology correlation of bone tumours. positive- and negative predictive values for malignant lesions of 8 radiological signs METHOD: Retrospective review of histopathological reports of all bone biopsies performed during 2012-2014. Biopsied patients' plain films were interpreted by radiologists; who used a predetermined standardised format for data capturing. The sensitivity and specificity of the readers' interpretation of the plain films were calculated against the histology and the inter-rater agreement of the readers was calculated. RESULTS: Of the 88 suspected cases that fulfilled the inclusion criteria, 43 were malignant bone lesions and 45 benign on histology. Using a predetermined set of criteria, sensitivity in the diagnosis of aggressive bone lesions, ranged from 93-98% with specificity of 53-73%. Calculated Kappa values showed substantial agreement between radiological interpretation and final histology results and moderate agreement between the readers' plain film interpretation. The 4 radiological signs with the highest PPV were ill-defined border, wide zone of transition, cortical destruction and malignant periosteal reaction. CONCLUSIONS: A systemic approach in the interpretation of bone lesions on plain film yields high sensitivity but low specificity for malignancy. The presence of benign bone lesions with aggressive plain film appearance necessitates continuation of the triple approach in the diagnosis of bone tumours.

An audit of polytrauma fracture detection in Cape Town trauma units utilizing the Lodox Statscan whole-body digital X-ray machine

Presentation Method: Oral

Review Status: Accepted Travel Award

Holdt, Frederik Carl

Frederik Carl Holdt (Stellenbosch University), Richard Denys Pitcher (Stellenbosch University)

Background: The increasing global demand for specialized radiological investigations has resulted in a tendency to delayed or non-reporting of plain trauma radiographs by radiologists. This is particularly true in resource limited environments, where referring clinicians rely largely on their own radiographic interpretive skills. A wide range of accuracy has been documented for non-radiologist reporting of conventional trauma radiographs. The Lodox Statscan whole-body digital X-ray machine is a relatively new technology. There has been no work on fracture detection rates of trauma clinicians utilizing this modality. Such studies are important, since the Lodox bodygram poses unique interpretive challenges. Objective: An audit of fracture detection in Cape Town trauma units utilizing the Lodox Statscan for the triage of adult polytrauma. Methods: A retrospective study of Level 1-equivalent trauma units in the Western Cape Province of South Africa during March and April 2015. All Statscan whole-body images acquired for the triage of adult polytrauma were reviewed and correlated with follow-up imaging investigations and patient records. Missed fractures were identified and stratified by body part, mechanism of injury and ventilatory support. Descriptive statistics were utilized to define patterns of undetected injury. Results: 227 patients (male = 193, 85%; mean age: 33 years) were included; 195 fractures were demonstrated on the whole-body triage projections. The lower limbs were the most common site of fracture (n = 66, 34%). Of 21 undetected fractures (21/195, 11%), more than half (12/21, 57%) involved the shoulder girdle or elbow. All elbow fractures (n = 3, 100%), more than half the shoulder girdle fractures (9/13, 69%) and more than 10% (15/123) of extremity fractures were undetected at triage. Conclusion: Particular review of the shoulder girdle, elbow and extremities, together with standardized limb positioning is recommended to improve the accuracy of Statscan polytrauma fracture detection.

**Radiological studies in very low birth weight and extremely low birth weight neonates:
'ALARA' revisited.**

Presentation Method: Oral

Review Status: Accepted Travel Award

Jeetoo, Surgit Damon

Johan Smith (Stellenbosch University), Richard Denys Pitcher (Stellenbosch University), Surjit Damon Jeetoo (Stellenbosch University)

Aim:An investigation of radiographic practice and effective radiation dose (ED) in very low birth weight (VLBW, 1000-1500g) and extremely low birth weight (ELBW, <1000g) neonates in a resource-limited setting, and comparison with published data from well resourced environments. **Method:**A retrospective analysis of all radiographic examinations performed on ELBW and VLBW neonates born in a large South African tertiary hospital from January through June 2015. Data were stratified by birth weight and radiographic examination. The ED was estimated according to the method of Puch-Kapst (2009). Non- parametric T-tests were used to compare the number of radiographs and ED in VLBW and ELBW neonates, at 5% significance. **Results:**393 neonates (median birth weight 1130[IQR:930-1340]g) were included; 265(67%) were VLBW and 128(33%) ELBW; 35(8.9%) died at a median of 6 (IQR:3- 13) days. A median of 2 (IQR: 1-5) radiographs were performed per neonate, with median ED 28.8 (IQR:14.4– 90.8) μ Sv. The median number of radiographs for VLBW and ELBW neonates were 1 (IQR:1- 4) and 4 (IQR:2-9) respectively ($p<0.0001$) with median ED of 14.4(IQR:14.4- 70.4) μ Sv and 71.2(IQR: 28.8- 169.3) μ Sv respectively ($p< 0.0001$). **Conclusion:**Neonatal radiographic practice in resource- limited settings has the potential to contribute to the discourse on international best practice.

Cost analysis of violence-related medical imaging in a Free State tertiary trauma unit

Presentation Method: Oral

Review Status: Accepted Travel Award

Steyn, Tiaan

Cornel van Rooyen (University of the Free State), Fekade Gebremariam (University of the Free State), Tiaan Steyn (University of the Free State)

Background: Medical care and -imaging are expensive and health care practitioners, specifically in the public sector, are largely unaware of the costs involved. There is no data available regarding the cost of medical imaging in the public health care sector. This study aimed to provide this data in a select patient population in a tertiary public hospital. Patients with violence-related injuries were chosen as the study sample due to the large socio-economic impact violence has on society. **Objectives:** To provide a reliable cost analysis of medical imaging in violence-related injuries in a tertiary public hospital and additionally, to provide epidemiological data on violence-related injuries treated at Pelonomi Tertiary Hospital's trauma unit. **Method:** The hospital's trauma unit registry was used and 1 380 patients with violence-related injuries were consecutively sampled for the six months ending 31 December 2017. Each patient's imaging investigations were documented and categorised according to the Department of Health's Uniform Patient Fee Schedule (UPFS). Descriptive analysis and cost calculations were performed using the 2017 UPFS tariffs. **Results:** Of 1 273 violence-related trauma visits, 5 475 imaging investigations were performed at a cost of R7 108 845.00. General X-rays (n = 3834) amounted to R843 354.00, CT scans (n = 1566) to R5 957 280.00 and MRI scans (n = 38) to R271 510.00. In perspective, for every R1.00 the hospital spent on imaging in violence-related injuries, 84c went for CT scans, 12c for X-rays and 4c for MRI. **Conclusion:** The cost of medical imaging in violence-related injuries were substantial and the largest portion was attributable to CT scans and general X-rays. Measures that will reduce the cost of imaging includes raising cost awareness among referring physicians and radiologists, ensuring appropriate imaging indications for X-rays and CT scans and to reduce the incidence of violence-related injuries by government policies.

'TB or Not to Be (TB)': Preliminary data in the study of indications and outcomes of patients with massive haemoptysis presenting for bronchial artery embolization at Groote Schuur Hospital'

Presentation Method: Oral

Review Status: Accepted Travel Award

Wojno, Maja

Hannah Chung (UCLA), Maja Wojno (Groote Schuur Hospital)

Hemoptysis is defined as exteriorization of blood from the mouth following a cough which originates from below the level of the glottis. If massive (defined as greater than 300mls per day) it can be life-threatening, with mortality rates reaching up to 50%, requiring urgent evaluation and management. Medical and surgical options have shown significant limitations, with bronchial artery embolization (BAE) now being considered as the first-line therapy for massive hemoptysis and an established procedure in the emergency management of these patients. Bronchial artery embolization is a minimally invasive endovascular procedure which involves catheterization of the bronchial arteries using image-guidance and injection of hemostatic agents, most recently, inorganic PVA (Polyvinyl alcohol) microparticles, in order to control the bleeding. We present a retrospective case review of 64 patients with massive haemoptysis who have presented to the Department of Radiology at Groote Schuur Hospital, Cape Town in the last 5 years for bronchial artery embolization. Our preliminary data shows that an overwhelming number of these patients have clinical, laboratory and imaging features of acute and/or chronic pulmonary tuberculosis infection. This presentation will emphasize the clinical burden of pulmonary tuberculosis as the major cause for massive haemoptysis in our population by reviewing the indications for the BAE procedure. It will further identify the major source of arterial bleeding in these patients and explore the imaging findings (on CT Chest and during intervention) as well as highlight the clinical and imaging outcomes of these patients following the procedure. By understanding the endemic etiologies, predictors of success, and risk factors for failed response to BAE for patients with hemoptysis may lead to improved patient outcomes while optimal resource allocation. Furthermore, understanding factors predicting technical failure of bronchial artery embolization may suggest the need for alternative or supplementary treatment.

POSTER ABSTRACTS

Alphabetical according to presenting author's surname

Hot Under The Collar - The Quadrate Lobe “Hot Spot” Sign

Presentation Method: Poster

Review Status: Accepted Poster Prize

Dzamatira, Davison

DAVISON DZAMATIRA (GROOTE SCHUUR HOSPITAL, CAPE TOWN), MAJA WOJNO (GROOTE SCHUUR HOSPITAL, CAPE TOWN)

The Superior vena cava (SVC) is the major drainage vessel for venous blood from the head, neck, upper extremities, and upper thorax. Various pathological conditions can cause obstruction of this thin-walled, low-pressure vessel as it traverses the right side of the mediastinum. Superior vena cava syndrome (SVCS) refers to the constellation of symptoms that result from SVC obstruction, which are associated with venous congestion: head and neck swelling, upper extremity edema, oropharyngeal, orbital and nasal edema, headaches and syncope among others. In the event of chronic occlusion, collateral pathways must develop to maintain venous drainage. Computed tomography (CT) is useful for identifying the cause of and level of obstruction; and for demonstrating the collaterals bypassing the obstruction. We present a case of a 59 year old female patient who presented with a 1 month history of exertional dyspnea, weight loss and abdominal pain. Past history included alcoholic cerebellar degeneration and SVC thrombosis. Physical examination revealed reduced breath sounds in the bilateral lung bases and epigastric tenderness. CT of the chest and abdomen showed SVC obstruction and an intense arterial-enhancing focus in the quadrate lobe of the liver. This finding, known as the quadrate lobe “hot spot” sign, is often prone to misinterpretation as other conditions such as hemangiomas can mimic this appearance. We discuss the physiological basis and significance of the sign and describe the collateral pathways in SVCS.

Association of moderate alcohol intake with disability (EDSS) and fractional anisotropy (FA) in multiple sclerosis (MS)

Presentation Method: Poster

Review Status: Accepted Poster Prize

Janse van Rensburg, Susan

CHRISTINE LOCHNER (University of Stellenbosch), COENIE HATTINGH (University of Stellenbosch), DAWIE VAN VELDEN (University of Stellenbosch), ESTELLE HERBERT (Cape Peninsula University of Technology), JP FOUICHE (University of Stellenbosch), KELEBOGILE MOREMI (University of Stellenbosch), MARITHA KOTZE (University of Stellenbosch), MARTIN KIDD (University of Stellenbosch), MERLISA KEMP (Cape Peninsula University of Technology), PENELOPE ENGEL-HILLS (Cape Peninsula University of Technology), RAJIV ERASMUS (University of Stellenbosch), SUSAN JANSE VAN RENSBURG (University of Stellenbosch)

Introduction: Multiple Sclerosis (MS) is characterised by demyelination and neurodegeneration in the central nervous system (CNS), which may result in brain volume loss and neurological disabilities over time, causing considerable hardship to patients and their families, in addition to being costly to treat. Several lifestyle factors have previously been investigated for influencing disability progression in MS. In the present study, the associations of alcohol intake with disability progression and fractional anisotropy (FA), a component of Diffusion Tensor Imaging (DTI) were investigated. A neurological test, the Expanded Disability Status Scale (EDSS) was used to assess disability. In addition, FA was determined as a measure of white matter properties in MS. Methods: Patients diagnosed with MS (n = 118) were assessed for alcohol intake using a questionnaire, as follows: (1) Abstain, (2) 1-2 units occasionally only, (3) 1-13 units, (4) 14-21 units, and (5) 22 units or more. In a sub-study, 11 of the female patients had assessments of DTI. FA was determined in 48 white matter tracts in each patient. Results: Higher alcohol intake was associated with significantly lower EDSS scores, i.e. lower disability ($p = 0.03$) in the whole patient cohort. There were no significant associations of alcohol intake with FA, except in the inferior cerebellar peduncle (right hemisphere; $p=0.02$). Discussion: The present investigation confirmed the findings of previous studies that moderate alcohol intake was associated with improved disability measures, possibly due to less brain atrophy in MS. Conclusion: Alcohol intake may play a significant role in disability outcomes in MS. The association of moderate alcohol intake with FA in white matter tracts as well as brain volume measurements need to be confirmed in a larger patient sample.

Popping the corkscrew on Genitourinary Tuberculosis

Presentation Method: Poster

Review Status: Accepted Poster Prize

Matimati, Bornaventure

Bornaventure Matimati (Groote Schuur Hospital)

Tuberculosis remains the leading cause of death from infectious disease and according to W.H.O (2014), 1/3 of the world's population has latent TB. Urogenital TB is infection of the urinary and genital systems by mycobacterium tuberculosis. The genitourinary tract is the commonest site after the lungs for TB infection. We present a case series of three patients seen at Groote Schuur Hospital over a 2 year period. We discuss the clinical presentation, imaging features (one of which is the corkscrew ureter), laboratory investigations, treatment and complications. We further discuss the role of interventional radiology in management of genitourinary TB. The poster classifies urogenital tuberculosis, lays out the imaging findings and summarises the complications. We conclude by explaining why a standard unified approach to this multi - variant, often overlooked disease remains a challenge.

A case series of 180 HIV positive patients presenting with myelopathy

Presentation Method: Poster

Review Status: Accepted Poster Prize

Murthy, Nishanth

Nishanth Murthy (Groote Schuur hospital), Sally Candy (Groote Schuur hospital)

A case series of HIV positive patients presenting with myelopathy Nishanth Murthy, Sally Candy An estimated 36.7 million people are living with HIV globally (including 1.8 million children) – with a global HIV prevalence of 0.8% among adults. South Africa has the highest worldwide prevalence of HIV (7.1 million) translating to a population prevalence of 18.9%. Neurological manifestations are common in HIV, occurring in all stages of infection and resulting in significant morbidity and mortality. Spinal symptoms are less common than those attributable to intracranial manifestations. Clinical features are varied including spastic paraparesis, sensory ataxia, sensory symptoms, and/or urinary incontinence. Causative HIV vacuolar myelopathy, often coexisting with HIV encephalopathy or neuropathy was described in the early phase of the epidemic in first world countries. With the dramatic increase in HIV infection in the developing world, infective and immune reconstitution causes (primarily tuberculous) are increasingly recognized. Several large cohort studies undertaken in South Africa have reported high incidences of spinal TB in HIV infected individuals. This takes the form of spondylodiscitis as well as the previously less well documented tuberculous arachnoiditis / myelitis without osseous involvement. To assess the burden of infective causation at our institution, we conducted a 5 year prospective study (2013-2018) of all HIV positive patients presenting with spinal neurological symptoms requiring MRI. Of the 180 patients who underwent MRI of the spine during this period: 38% presented with TB spondylitis. Approximately 50% of patients had no bony involvement but had either infective or inflammatory myelitis or arachnoiditis. The large majority of these cases were attributable to tuberculous infection or IRIS. Approximately 6% of patients had histologically proven lymphoma. We present a pictorial case series reinforcing the varying radiological manifestations of spinal disease in the setting of HIV.

Unmasking the many faces of Primary CNS Lymphoma

Presentation Method: Poster

Review Status: Accepted Poster Prize

Ncube, Innocent

Innocent Ncube (UCT/ GSH), Ju-mei Chang (UCT/ GSH)

Primary central nervous system lymphoma (PCNSL), one of 2 major subtypes of CNS lymphoma, is defined as disease restricted to the brain, eyes, meninges and spinal cord, without evidence of systemic involvement at time of primary diagnosis. It accounts for approximately 1 – 5 % of all newly diagnosed primary CNS tumours and 1% of all cases of non-Hodgkin's lymphoma. The incidence rates amongst individuals with co-morbid HIV infection have shown a decline in developed countries in recent years, largely attributed to the improvements in availability and efficacy of anti-retroviral therapy, whilst the rate of occurrence in adults over the age of 65 has continued to rise. The clinical presentation of patients with PCNSL is non-specific and varied, with presenting signs and symptoms largely related to the site of the offending lesion and its effect on the surrounding structures. The majority of cases present as a direct result of periventricular lesions in the brain with focal neurologic deficit, raised intra-cranial pressure, neuropsychiatric phenomena and seizures reported most frequently. Furthermore, although several characteristic imaging features have been described on CT and MRI, clinical practice reveals a spectrum of typical and atypical features which may confound the diagnosis. Given the significant therapeutic implications, specifically pertaining to the timing of corticosteroid therapy in relation to planned biopsies and its role in ongoing management, a knowledge of the spectrum of imaging findings is essential. We present a short case series demonstrating the range of imaging findings amongst biopsy proven PCNSL patients presenting to our institution in order to familiarise radiologists with the many faces of this disease. Word Count (Excluding title): 263

The shrivelling hindbrain and the hotcross bun

Presentation Method: Poster

Review Status: Accepted Poster Prize

Paul Human, Gercois

Gercois Paul Human (Groote Schuur Hospital / University of Cape Town), Maja Julia Wojno (Groote Schuur Hospital / University of Cape Town)

Introduction: Multiple system atrophy is a sporadic adult onset neurodegenerative disorder with typical onset between 40-60 years. The diagnosis is made in conjunction with relevant clinical findings which is subdivided into MSA-C or MSA-P depending on the dominant clinical findings – cerebellar signs or parkinsonian features. MRI is the imaging modality of choice. Currently it is believed no treatment options are available with disease progression leading to death within 10 years after diagnosis. We present a case of severe diffuse isolated cerebellar atrophy in a patient presenting with typical MRI imaging features involving the pons. The 'hotcross' bun sign refers to the cruciform appearance of the pons and is typical for MSA-C and is also found in a variety of neurodegenerative diseases. Learning objectives: ∞ To determine the differential diagnosis of conditions that may present with a typical 'hotcross bun' sign involving the pons. ∞ To understand the pathognomic features of the most common neurodegenerative conditions such as multiple system atrophy (MSA) ∞ Describe the clinical presentation, diagnosis, treatment and prognosis of patients with MSA ∞ Determine the specificity of the hotcross bun sign with respect to MSA ∞ Revisit imaging findings and looking at new advances related to MSA. Conclusion: By better understanding the imaging features, typical or atypical, specific or shared, of neurodegenerative diseases, we can better define and narrow the differential diagnosis in this complex spectrum of diseases. By understanding the incidence prevalence of the hotcross bun sign in a clinical context one can further refine and propose a possible diagnosis.

Masked helminth in the brain

Presentation Method: Poster

Review Status: Accepted Poster Prize

Paul Human, Gercois

Gercois Paul Human (Groote Schuur Hospital / University of Cape Town), Lisel Richter-Joubert (Groote Schuur Hospital / University of Cape Town)

Neurocysticercosis is one of the most common parasitic central nervous system infections seen with approximately 1.9 – 6.16 million people in sub-Saharan Africa infected. In South Africa the highest prevalence is in the Eastern Cape (20%), where there were an estimated 34 500 neurocysticercosis-associated cases of epilepsy in 2004. Parenchymal neurocysticercosis is the most common form where the diagnosis is usually not in question due to typical imaging features. Interventricular neurocysticercosis is a less common entity (22%) usually occurring in isolation and in the 4th ventricle. This subgroup has the worst prognosis overall due to the associated complication of hydrocephalus and often require neurosurgical intervention and shunting. Diagnosis may be difficult in these cases due to the lack of the typical imaging features. We, herewith, present a case of a giant solitary histologically-proven interventricular neurocysticercosis cyst, which posed a diagnostic imaging conundrum and required neurosurgical intervention with intralesional shunt placement. In our discussion we aim to review the imaging features and differential diagnoses of neurocysticercosis and extra-cranial cysticercosis.

Intracranial vessel wall imaging in young stroke: Looking beyond the lumen

Presentation Method: Poster

Review Status: Accepted Poster Prize

Richards-Edwards, Heath William

Heath William Richards-Edwards (UCT, Division of Radiology), Vishesh Sood (UCT, Division of Radiology)

Although more commonly associated with older individuals, the occurrence of cerebrovascular accidents is widely reported amongst young adults (below 45 years of age) with an estimated annual incidence ranging from 3.4 – 22.8/100 000 people per year. The aetiologies and risk factors in this subset of patients differs significantly from those encountered in older adults with vasculopathy, cardioembolism, hypercoagulability and metabolic disorders occurring more frequently than atherosclerosis. Conventional radiologic techniques (including DSA, CTA and MRA) employed in the workup of stroke are limited by their ability to provide information pertaining only to changes in vessel lumen calibre, without allowing interrogation of the vascular wall itself. This precludes the assessment of underlying pathophysiologic disease processes affecting the intra-cranial vasculature, limiting the role of imaging in further narrowing the differential. Unfortunately, failure to timeously diagnose intra-cranial vasculopathies often results in a profound increase in morbidity and mortality associated with delayed/ inappropriate therapeutic intervention. Novel high-resolution MR intra-cranial vessel wall imaging techniques offer promise in allowing the characterisation of vessel wall pathology with the hopes of increasing diagnostic accuracy when differentiating entities with similar radiographic findings. Specifically, volumetric acquisition of high-resolution T1 weighted black-blood sequences at 3 Tesla has provided sufficient spatial resolution for the evaluation of submillimetre wall diameters and marks a paradigm shift in our approach to the evaluation of intra-cranial vascular disease. This important development may serve as a useful adjunct in monitoring ongoing disease activity, guiding potential biopsies and even determining the culprit aneurysm, when multiple, in the setting of acute subarachnoid haemorrhage. We thus present an educational poster supplemented by a case series of patients presenting to our institution with young stroke, having undergone 3T vessel wall imaging, with the hopes of highlighting the utility of this novel technique in the workup of patients with suspected intra-cranial vasculopathy.

Imaging the metastatic spine with regard to therapeutic intervention

Presentation Method: Poster

Review Status: Accepted NOT Travel Award

Smith, Roger

Roger Smith (UHN - Toronto Western Hospital, Toronto)

Cancer management is increasingly multidisciplinary. With improved quality of life and performance status post therapy, metastatic spine disease is common and associated with severe pain and loss of function. Imaging involves multiple modalities, techniques and communication tools. This talk will present the metastatic spine through CT, MRI, PET/CT, bone scan, discuss the rationale for technique choice and need for contrast and introduce communication tools SINS, Bilsky scores and others with regard to management.

Imaging the 'Intervened' spine: What to look for, artifacts and common misconceptions

Presentation Method: Poster

Review Status: Accepted NOT Travel Award

Smith, Roger

Roger Smith (UHN - Toronto Western Hospital, Toronto)

Pain management, opioid dependency and minimally invasive procedures have increased the need for more frequent and appropriate imaging of the spine in benign and malignant disease. Sadly the plain film is not adequate for cancer follow up or decision making. With the increasing complexity of Minimally Invasive procedures (RFA, Cryoablation, Photodynamic Therapy and SBRT and tumour separation surgery) images that define the lesion sufficiently for therapy and follow up will be presented and discussed.

Paediatric lipid pneumonia: the spectrum of radiologic findings

Presentation Method: Poster

Review Status: Accepted Poster Prize

Sood, Vishesh

Diana Marangu (UCT), Ebrahim Banderker (UCT), Marco Zampoli (UCT), Vishesh Sood (UCT)

Lipoid pneumonia is an uncommon entity characterized by the presence of oily material within the alveoli. Although separated into two major groups, namely exogenous or endogenous/ idiopathic based on the source of the lipid material, most reported cases result from aspiration of mineral oils and animal fats. The accompanying clinical features are varied and non-specific, with acute or chronic presentation characterized by cough and dyspnea reported most frequently; and chest pain, haemoptysis and fever less commonly described. Precise diagnostic difficulty is further compounded by the variety of radiological features that include airspace opacification with or without accompanying interlobular septal thickening, ill-defined nodules and with more chronic disease, areas of mass-like configuration accompanied by architectural distortion that may mimic malignancy. Although the HRCT findings of confluent consolidation containing negative density values (ranging from -30 to -150 HU) is considered diagnostic for lipoid pneumonia, superimposed inflammatory processes may invalidate the measured attenuation values, thus reducing the sensitivity of this widely reported feature. Owing to the non-specific clinico-radiologic manifestations, affected patients are at risk of increased morbidity from delayed initiation of appropriate therapeutic interventions and ongoing exposure to the implicating substance. An awareness of the condition and an appreciation of the HRCT imaging spectrum when reporting paediatric pulmonology thoracic imaging studies will allow radiologists to alert clinicians to the diagnosis of possible lipoid pneumonia and prompt a thorough investigation for the offending agent. We thus present a short case-series of patients with confirmed exogenous lipoid pneumonia and review the spectrum of associated radiologic findings, in the hope of acquainting reporting radiologists to this uncommon but important entity.