

OC1.1

Is it Trivial That Interventional Radiologists Comply with Radiation Protection Practices? Maybe Not!

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Background: Radiologists are at higher risk of adverse health effects due to their occupational radiation exposure; therefore, applying protection techniques is imperative. Studies on radiologists' compliance in this regard are scarce. We aimed to assess compliance with radiation safety practices among radiologists. **Method(s):** Questionnaires were distributed to radiologists in tertiary hospitals. The questionnaire was designed to assess compliance in three domains: using personal protective devices, using exposure-reduction techniques during fluoroscopic exposures, and using personal dose-monitoring devices. Descriptive analysis of the compliance was performed. **Result(s):** Sixty-two radiologists were included in the analysis. Use of leaded aprons and thyroid shields was commonplace, whereas only 3.2% ever use leaded eyeglasses. About half of the radiologists always considered reducing the time of exposure and avoided exposure by the primary beam, and the other half did that sometimes. Most of the radiologists (66.1%) always complied with reducing the number of unnecessary exposures, and the rest only complied sometimes. Most of the radiologists (93.5%) always used single personal dose-monitoring devices, most commonly at the neck level over the collar. There was no difference in compliance between different sexes, position descriptions, hospital types, hospital sizes, or years of experience. **Conclusion(s):** Future compliance improvement strategies for radiologists should focus on use of thyroid shields and leaded eyeglasses and use of exposure-reduction techniques during fluoroscopic operations.

OC1.2

Mechanochemical Endovenous Ablation, Mechanochemical Ablation: A Novel Endovenous Technique without Tumescence Anesthesia and Comparable Results for Treatment of Varicose Veins

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Background: Minimally invasive endo-venous techniques have revolutionized the treatment and outcome of insufficient truncal veins and are associated with a good outcome. The use of thermal energy (EVLT- endo-venous laser therapy) requires the instillation of tumescence anesthesia around the vein. Mechanochemical endovenous ablation (MOCA) combines mechanical endothelial damage, using a rotating wire/ prongs, with simultaneous infusion of a liquid foam sclerosant. Studies using MOCA™ in both great and small saphenous veins showed good anatomical and clinical results with fast and equivalent post-operative outcome and recovery. **Method(s):** Mechanochemical

endovenous ablation versus radiofrequency ablation in the treatment of primary great and small saphenous vein insufficiency is a single center study in which total of 30 patients (40 limbs) randomized (1:1) to MOCA™ and EVLT are studied. Patients with primary great and small saphenous vein varicosity and / or incompetence, are studied. The primary endpoint is anatomic success, defined as occlusion of the treated veins objectified with duplex ultrasonography at 3 months of follow-up. Post-procedural pain, initial technical success, clinical success, complications and the duration of the procedure and patient satisfaction were studied and compared. Both groups evaluated on an intention-to-treat principle. **Result(s):** The clinical (sign and symptoms) and radiological (on doppler ultrasound) outcome of both MOCA and EVLT are almost comparable. The peri-procedural pain is significantly less in the MOCA. There is no need of multiple needle injections to inject tumescence anesthesia in MOCA, so it is easy to perform MOCA. Patient satisfaction was better in MOCA. Varicosities associated and connected with GSV and SSV also got sclerosed through sclerosant injected into GSV and SSV. **Conclusion(s):** Significantly decreased peri-procedural pain and ease of the MOCA therapy in the treatment of varicose veins can make it treatment of choice in the treatment of varicose veins over EVLT as per our study.

OC1.3

Does Left Ovarian Vein Reflux Cause a Pseudo-Nutcracker Effect Creating Meso-Aortic Narrowing of the Left Renal Vein?

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Background: Trans-abdominal and trans-vaginal ultrasounds are performed for pelvic venous reflux. Patients are scanned at diagnosis and at 6-8 weeks following Pelvic Vein Embolization. Our aim was: 1) Identify the proximal extent of Left Ovarian Vein (LOV) reflux. 2) Evaluate the left renal vein (LRV) and identify or exclude Nutcracker phenomenon as a cause of LOV reflux. 3) Compare changes in appearance or calibre of the LRV following PVE. **Method(s):** 24 female patients underwent embolisation between September 2016 and April 2017. Scanning was performed with patients erect and 30 degree. Diameters of the hilar and mesoaortic segments were recorded. Proximal versus distal LOV reflux prior to PVE was noted. 3 patients were excluded. **Result(s):** (1) Group 1: 11 patients with LOV reflux had pre PVE hilar to mesoaortic diameter ratios with a mean of 5.0 and post PVE diameter ratios with a mean 2.0 (p=0.001). (2) Group 2: 10 patients, 8 without LOV reflux and 2 with LOV reflux distally had pre PVE ratios with a mean of 2.1 and post PVE with a mean ratio of 2.0 (p=0.799). 5 patients in Group 1 had hilar to mesoaortic diameter ratios >5 prior to PVE with suspicion of Nutcracker. These 5 included both patients with PCS who experienced complete symptomatic resolution post PVE. Post PVE all patients in Group 1 had normal diameter ratios with none showing abnormal ratios. **Conclusion(s):** Nutcracker phenomenon has been suggested as a cause of LOV reflux,

secondary to obstructive flow due to compression of the left renal vein between the Aorta and superior mesenteric artery. In this study, LOV reflux appeared to cause a siphon effect, with LRV drainage preferentially following the LOV reflux path. This results in physiological narrowing of the meso-aortic LRV – we have called this “pseudo-nutcracker” phenomenon. This effect is relieved following successful embolization of the LOV.

OC1.4

Evaluation of Clustered Micro Calcifications, Initially Graded as Likely Malignant On Baseline Mammography, with Stereotactic Biopsy: A Rad-Path Correlation

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Background: Stereotactic guided breast biopsy is an invaluable tool to sample abnormalities visible only on mammography with subtle or occult ultrasound findings. Common mammographic abnormalities which require stereotactic core biopsy include calcifications, architectural distortion and satellite lesions. Use of stereotactic large-core needle breast biopsy is increasing with advancement in techniques for adequate localization of lesions. A study was performed to look for frequency of benignancy or malignancy of microcalcifications and architectural distortions in patients initially falling in malignant category of BIRADS on baseline mammograms when compared with histopathology after stereotactic biopsy. **Method(s):** Patient presenting in OPD clinic who underwent stereotactic biopsies for labeled malignant on mammograms from May 2015 to May 2018 were included in retrospective study. Age, technique used, baseline mammogram and histopathology were reviewed. **Result(s):** A total of 91 patients underwent stereotactic biopsy. Age range varied between 28 to 81 years. Stereotactic biopsies were taken using a standard 14-gauge core needle with long throw of 22 mm excursion. None of the biopsy was inconclusive. In comparison with baseline mammograms and histopathology 40% of the clusters of micro calcification which were initially labeled as malignant turned out to be malignant on histopathology as well whereas 60% were reported as benign breast parenchyma. **Conclusion(s):** Agreement between the diagnostic accuracy of micro calcifications on mammogram and histopathology of same lesions after stereotactic biopsy was comparable to international figures with probability of being benign surpassing malignant on routine screening.

OC1.5

Radial Access Intervention: Application in Complex Oncological Procedures

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Background: Radial access for vascular intervention has been a firmly established as a default access route in our institution

and is now routinely used for complex oncological procedures. We present our experience as Europe's largest single site cancer center, share tips to deal with potential complications and tricks that would facilitate a safer, technically easier procedure. **Method(s):** Over the last 3 years, we have performed over 60 interventional oncological procedures ranging from intra-hepatic treatments including trans-arterial chemoembolization (TACE), selective internal radiation therapy (SIRT), pelvic intervention including fibroid and prostate embolization as well as acute vascular treatments. **Result(s):** Our procedural outcomes have demonstrated that radial access is a safe, viable access route with reduced morbidity and improved patient experience. Potential complications would include radial artery spasm for which a combination of Glyceryl Trinitrate (GTN), Heparin and Verapamil work well. Reduced torquability when accessing distant treatment sites can be overcome by using appropriate types and lengths of catheters. Further challenges such as limb ischemia and procedural failure will be discussed with specific clinical cases. Repeat radial artery punctures and poor haemostats can result in radial artery occlusion, we have devised a deflation protocol to reduce the incidence of this. **Conclusion(s):** Radial access is safe and technically feasible in complex oncological intervention. Once user familiarity is established, it can be safely used for a range of procedures ranging from diagnostic angiograms to complex and acute vascular treatments.

OC1.6

Transcatheter Arterial Chemoembolization Combined with Percutaneous Injection of Ethanol for Treatment of Hepatocellular Carcinoma: In Comparison to Transcatheter Arterial Chemoembolization Treated Hepatic Cellular Carcinoma

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Background: Hepatic cellular carcinoma (HCC) is one of the leading cause of death. The objective of study is to see the better treatment option by comparing treatment outcome of two groups, one group given combination therapy of TACE and TEI and other treated by TACE alone. **Method(s):** A total of 60 patients (51 men and 9 women; age ranging from 48- 80 years) with histopathologically proven HCC were consecutively enrolled from 2016 to 2017 from data base of shifa international hospital. Thirty patient with combination of TACE with PEI (the combo group) and thirty with TACE alone (the control group). Treatment response based on size and enhancement pattern of the lesion were evaluated on serial CT. **Result(s):** 36% patient from combination group show full response, 43% partial response and 20% worsened response. 13% patient from TACE only treated group showed full response, 56% partial response and 30% worsened response. **Conclusion(s):** The study shows that the response of hepatocellular carcinoma (HCC) to combination of trans catheter arterial chemoembolization (TACE) and percutaneous ethanol injection (PEI) is better in comparison to those treated with trans catheter arterial chemoembolization (TACE) alone.