

reduced markedly to 7% as compared to the use of anticoagulation alone in a contemporary data is 50%.

## OC406

### Variations in Sapheno-Popliteal Junction Anatomy

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**Background:** Varicose veins are also common in short saphenous vein territory which has most variable anatomy in lower extremity. Variations in the veins of the lower limb are very common. This may be due to the anomalous involvement of the main trunks of the veins or their tributaries alone. Detailed knowledge regarding the anatomical variations such as reduplication of vein and unusual course and termination of the vein is a prerequisite in the diagnosis and management of vascular diseases. **Methods:** Included in the study were 626 Limbs. They were referred to radiology department by physicians, surgeons, and orthopedicians for investigation of clinically detected superficial varicosities and suspected chronic venous disease. The examination includes history, clinical examination, and detailed duplex scanning of lower limb veins. Study data were based on the detailed examination and reporting of anatomic variation of termination of the short saphenous vein (SSV). Duplex scanning of lower limb veins was performed with the patient standing on low stool. Body weight was on placed on a contralateral limb which enabled examined side to be relaxed, slightly flexed, and externally rotated position. The popliteal fossa and calf venous system were evaluated with particular attention to termination of SSV. A real time B-mode zoom facility enabled optimal anatomic delineation of the SSV and Giacomini vein. The termination of SSV is variable and three patterns have been defined. **Results:** Following important observations was made: 410 out of 620 (65%) lower extremities shows the prevalence of Giacomini vein. In 45 out of 620 (7.2%) lower extremities, the SSV terminated into popliteal vein with further extension into thigh. In 171 out of 620 (27%) lower extremities, the SSV terminated into popliteal vein. **Conclusion:** A proper knowledge about the anatomy of the short saphenous vein and its communications with other veins and mode of termination of short saphenous vein is mandatory for a safe and successful intervention. The variant termination of the small saphenous vein may contribute to recurrent varicose veins in this territory; this aspect generally makes the subject of interest in the view of varicose vein operations.

## OC407

### Treatment of Incompetent Perforators in Recurrent Venous Insufficiency with Adhesive Embolization and Sclerotherapy

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**Background:** Recurrent lower limb venous insufficiency is often a challenge in clinical practice and is most commonly due to incompetent perforators. Many of these patients do not have

adequate symptom relief with compression and require some form of treatment for incompetent perforator interruption. The various treatment methods have been tried with different efficiencies. To evaluate the feasibility, efficiency, and safety of an outpatient combined cyanoacrylate adhesion-sodium tetradecyl sulfate sclerotherapy for the treatment of patients with symptoms of persistent or recurrent lower limb venous insufficiency secondary to incompetent perforators. **Methods:** Eighty-three limbs of 69 patients with symptoms of persistent or recurrent lower limb venous insufficiency secondary to incompetent perforators were treated with cyanoacrylate embolization of incompetent perforators and sclerotherapy of dilated collateral veins (surface branch varicose veins). Technical success, procedural pain, perforator occlusion, venous occlusion, clinical improvement, and ulcer healing were assessed. The follow-up was done 3- and 6-month postprocedure. **Results:** The procedure could be successfully performed in all patients. One hundred and ninety-one perforators were treated in total. Perforator and varicose veins occlusion rate was 100%. Deep venous extension of cyanoacrylate occurred in 4 (4.8%) patients, with no adverse clinical outcome. Venous clinical severity score improved from a baseline of  $8.18 \pm 3.60$ – $4.30 \pm 2.48$  on 3-month follow-up and  $2.42 \pm 1.52$  on 6-month follow-up ( $P < 0.0001$ ). All ulcers showed complete healing within 3 months. Significant prolonged thrombophlebitis occurred in 38.5% of limbs. **Conclusion:** Combined cyanoacrylate adhesion and setrol sclerotherapy is technically easy, has a lot of advantages including being an outpatient procedure and highly efficacious but with a guarded safety profile.

## OC408

### Adhesive Embolization: Can it Replace Thermal Ablation for Truncal Varicosities?

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**Background:** Among the endovascular treatment, thermal ablation is one of the effective and acceptable methods of treatment. However, in a developing country like India, cost of the procedure is one of the main factors which determines the nature and type of the treatment. If a procedure can be done with one-fourth of the cost of thermal ablation for varicose veins with an equivalent result, it is beneficial to the patient. **Methods:** A prospective study is done to evaluate the occlusion and recanalization rate of cyanoacrylate embolization of trunk with foam sclerotherapy of varicosities and assess the cost benefits compared to the radiofrequency ablation of trunks with foam sclerotherapy of varicosities. Twenty patients in each group are randomly selected and underwent the procedure in the past 1 year. The patients are followed at least for 6 months (1 week, 1 month, 3 months, and 6 months), and the results are compared. **Results:** We are able to achieve technical success in 100% of patients. The occlusion rate for trunks is around 94% at 6 months for glue embolization compared to 94% for RF ablation at 6 months. There were no case with significant deep vein thrombosis in both groups. There is a significant improvement in venous clinical severity score with an ulcer healing rate more than 95% is noted in both groups. The cost of the Glue embolisation is cheap (at least one-fourth) compared to thermal ablation. **Conclusion:** Adhesive embolization

and sclerotherapy is an affordable, cost-effective, and acceptable method of treatment for the varicose veins compared to the Thermal ablation.

## OC409

### Assessing Perceptions About Inclusion, Career Deterrents, and the Specialty of Interventional Radiology Among Medical Students and Female Trainees

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**Background:** A diverse health-care workforce in radiology, as in other medical services, helps expand health-care access for diverse communities, including traditionally underserved populations. Radiology ranks 20<sup>th</sup> out of 20 of the largest medical specialties in terms of under-represented minorities (URM) in medicine representation (Chapman *et al.*, 2014), and interventional radiology (IR) demonstrated the lowest levels of URM representation (West *et al.*, 2017). In 2015, women comprised 47.6% of the US medical graduates, which translated into 26.7% female radiology and diagnostic radiology residents and fellows, and only 9.3% of IR female residents and fellows. The purpose of this study was to identify perceptions medical students and female IR trainees (residents and fellows) have regarding the field of IR, including issues of inclusion and occupational deterrents. **Methods:** Medical students, female residents, and female fellows were asked to complete an anonymous web-based survey to gauge understanding of and interest in IR, perceptions of diversity, and inclusion of underrepresented minorities and female physicians, and career deterrents when considering IR as a specialty. The survey responses used a 5-point Likert scale and were collected and stored using Google Forms cloud-based software. Data were examined using generalized mixed modeling assuming a binomial distribution and sandwich estimation with SAS and GLIMMIX. The study was IRB approved and HIPAA compliant. **Results:** A majority of medical students have negative or neutral perceptions when it pertains to issues of inclusivity of both female and minority physicians in IR. In addition, females perceived the length of training and male predominance within the specialty as deterrents to pursuing a career. Furthermore, female students were less likely to view IR as being inclusive of female physicians (all results statistically significant;  $P < 0.05$ ). Regardless of gender, students expressed concerns over occupational radiation exposure, lack of direct patient care, and work-life balance. The majority of female resident and fellow respondents demonstrated that the presence of a female IR mentor influenced their decision to pursue a career in IR. Furthermore, mentorship was equally influential during medical school (46%) and residency (46%). While all female resident and fellow trainees believed that pursuing IR can fulfill potential career goals of direct patient care, high percentage of procedural work, and high salary, 38.5% did not believe that work-life balance can be achieved. Regarding lifestyle changes, many considered duration of training of 6–7 years (23.1%), extended daily work hours beyond training (38.5%), and call responsibilities in IR (46.2%) as deterrents in their pursuit of IR. Furthermore, despite existing data that pregnancy and fetal outcome among pregnant interventional

radiologists matches that of the general population, nearly half (46.2%) were worried about occupational radiation exposure. About 38.5% of attendees did not consider IR to be inclusive of women, and equal number considered male predominance in the field of IR as a deterrent to their pursuit of IR. **Conclusion:** While limited by small sample size, our experience has identified critical perceptions medical students and female trainees have that may hinder women and URM from pursuing a career in the specialty. As our specialty looks to increase diversity and inclusion efforts, issues of diversity and inclusiveness, occupational radiation exposure, and career life balance should be discussed openly to promote recruitment and retention.

## OC410

### Reporting Early Results and Potential Impact of an Online Webinar-Based Interventional Radiology Elective

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**Background:** A review of the 2016–2017 American Association of Medical Colleges Total Enrollment by the United States of America (US) Medical School and Race/Ethnicity illustrates that medical student enrollment by race is not uniform across US medical schools. Previous studies have demonstrated a majority of medical students do not understand that radiologists perform interventional procedures, have a poor knowledge of IR, and are not interested in IR as a career. Interventional Radiology (IR) is now a new specialty and requires exposure and education at the medical student level. The purpose of this study was to evaluate the efficacy of a webinar-based IR elective for outreach to institutions without robust preclinical IR exposure. **Methods:** Between January and March of 2017, eight 50-min didactic sessions were broadcast, recorded, and distributed over the internet in the form of a webinar-based elective using GoToWebinar software (GoToWebinar, Boston, MA, USA). SIR Connect Portal and social media platforms Twitter, Facebook, and LinkedIn were used for promotion and advertising. Registrants and attendance were measured at each session, including the location of all registrants/attendants. This information was cross-referenced with a list of IR Interest Groups, the SIR directory, and the list of approved IR residency and fellowship programs. Student perceptions of IR careers were surveyed after the first session and after the final elective sessions. All statistical analyses used Fisher's exact test. **Results:** An average of 65 individuals (range 88–46) registered for the weekly elective sessions from 92 distinct institutions. Geographically, registration included 29 states and 9 countries. Eight Doctor of Osteopathy (DO) medical programs were included (9%). A weekly average of 39 male (65%) and 20 female (35%) students registered. Registrants included first (26%), second (36%), third (27%), and fourth (12%) year medical students. Additional registrants included radiology technologist and nursing students, as well as administrative staff. Out of 83 US institutions, 62% did not have their own Interventional Radiology Interest Group (IRIG) interest group, 57% did not have faculty listed in the SIR directory, and 74% did not have an integrated IR residency. Total attendance included 48 distinct institutions viewing five different countries,