calcification score (18.2 ± 92.1), including 180 cases (91.4%) of zero calcification, followed by 178 cases (90.4%) of zero calcification in the left EIA. When adjustments were made for age, gender, smoking status, diabetes, hypertension and hyperlipidemia, the Odds ratio (OR) of the left EIA for reaching a higher calcium score level was 1.19 ($P=0.44$, not significant) times greater than the reference group (right EIA). The ratio was markedly higher in the abdominal aorta segment ($OR=146.74$, $P<0.001$), followed by the right CIA ($OR=42.5$, $P<0.001$), the left CIA ($OR=27.3$, $P<0.001$), the right CFA ($OR=3.96$, $P<0.001$), and the left CFA ($OR=3.51$, $P<0.001$). **Conclusion(s):** The study demonstrates a significantly less calcific plaque burden in EIA compared to the adjacent arterial bed.

P102

Hail Medical Students' Knowledge About Imaging Modalities, Risks and Protection in Radiology

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Background: Safety in radiology become a very important patient and occupational safety issue with this constant increase in the use of diagnostic radiology in modern evidence-based medicine. The objective of this study was evaluation of the knowledge of Hail University medical students about safety measures in radiology to ensure they have the essential knowledge to protect themselves and their patients. **Method(s):** In this cross-sectional study, an anonymous electronic questionnaire was sent to 174 randomly selected students. The questionnaire contained 38 questions. The respondents' answers to these questions were used to classify them according to their demographic characteristics, and evaluate their knowledge about common imaging modalities, radiation risks, and safety measures. The data were analyzed using SPSS version 22 software. **Result(s):** Seventy-five (51.7%) of 145 respondents were female and 70 (48.3%) were male. Fifty-five respondents (37.9%) were in year 4, 38 (26.2%) were in year 5, and 52 (35.9%) were in year 6. The mean score for knowledge about common imaging modalities was 4.10 ± 2.030 out of 10, that for knowledge about the risks of radiation was 3.17 ± 1.954 (range 0–8) out of 13, and that for knowledge about radiation protection measures was low at 0.79 ± 0.922 (range 0–4) out of 8. Overall, there was improvement in knowledge about imaging modalities and the risks of radiation as the number of clinical years increased ($P<0.01$), but it was still unsatisfactory. **Conclusion(s):** The study showed there is very limited knowledge about radiation risks and safety measures among clinical years medical students which highlights the need for an urgent action taken by medical schools to improve their students' knowledge about these topics.

P103

Awareness of Interventional Radiology Among Clinical-Years Medical Students and Medical Interns at University of Hail

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Background: One of the most important challenges facing the evolution of modern interventional radiology is the lack of awareness among medical students about it. Objectives: This study aimed to determine the knowledge, perception, and views of University of Hail clinical-year medical students and medical interns regarding various topics of interventional radiology. **Method(s):** In this cross-sectional study, validated anonymous electronic questionnaire was sent to all clinical years students and medical interns. All the participants were informed about the study aim and objectives and an informed consent was obtained. **Result(s):** Two hundred responses were received. The majority of participants (45%) were agreed that their knowledge and information in interventional radiology is poor. The minority (17%) of the participants are interested to consider a career in diagnostic radiology or in interventional radiology. On the other hand, the most common reported reason of not considering radiology as a career was the inadequate and enough knowledge about it (27.5%). The majority of participants (72.5%) have not exposed to interventional radiology. Only (36.5%) of participants are interested in doing a 2-week interventional radiology elective during their internship year. **Conclusion(s):** This study demonstrate that the majority of the under-graduates and interns are lacking for basic knowledge of interventional radiology. About one-third of respondents are interested in doing their elective in interventional radiology, on the other hand, more than the half of participants are not interested or not sure yet.

P201

Non-Target Lung Embolization During Portal Vein Embolization Due to Unrecognized Intrahepatic Porto-Systemic Venous Fistula

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Background: To review literature of this rare complication and rare vascular malformation. To reinforce the value of pre-procedural conventional portogram for vascular abnormality even if contrast enhanced CT or MRI were normal. Preoperative

portal vein embolization is standard procedure done to enhance the size of the future remnant liver. It is simple and relatively safe procedure with low complication rate. The non-target embolization complication is very rare and if it happened it usually involve the future remnant liver portal vein branches. Non- target lung embolization during portal vein embolization is not reported in the available English literature. Intrahepatic porto systemic vascular malformation is rare in non-cirrhotic liver.

Result(s): A 60 -year- old male patient with metastatic colonic cancer to the liver is referred for interventional radiology for preoperative right portal vein embolization. He underwent contrast enhanced CT and MRI which show the right hepatic metastasis and normal patent portal vein system with standard anatomy. Ipsilateral portal vein approach was utilized after portogram, right portal vein embolization was done using amplatzer plug followed by glue. During glue injection, small amount the glue was seen flowing into the heart and bilateral lungs through a retrospectively seen an intrahepatic portosystemic venous fistula. Patient remained clinically stable. After four-week patient underwent right hepatectomy and had uneventful post-operative course.

Conclusion(s): although an intrahepatic porto systemic venous fistula is rare in non-cirrhotic liver careful evaluation of portal vein especially conventional portogram is mandatory before portal vein embolization to avoid non- target embolization.

P202

Sentinel Node and Occult Lesion Localization in Non-Palpable Breast Carcinoma: Will it be Standard Procedure

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Background: SNOLL (combined ROLL-Radioguided Occult Lesion Localization and SLN-Sentinel Lymph Node mapping) in one session is the new proposed standard technique used for non palpable invasive breast carcinomas, it overcomes difficult technicalities encountered with WGL (Wire Guided Localization) with wire migration being the most common encountered. Also, it doubled the benefits of both accurate radioactive localization and excision by gamma held camera intra-operative and Sentinel lymph node mapping for infiltrated malignant lymph nodes with much less time consuming in one imaging guided injection intervention procedure either US or mammography or MRI guided, 0.2 ml 99m TC MAA and 0.2 ml 99m TC nanocolloid intra-tumoral and peri-areolar respectively. **Method(s):** Review study paper for the most recent published papers about SNOLL and it's efficiency as a standard procedure for non palpable breast carcinoma Localization and Sentinel lymph nodes mapping. **Result(s):** All 8 most recent studies about SNOLL was in favour of this new technique, only one study reported that WGL and ROLL alone are comparable. Not any study was against the procedure. The comparative tools used in these studies are many yet most important used are; negative margins, re-operate rate, operation time, volume and excised specimen weight, successful excision and SLN mapping. **Conclusion(s):** SNOLL proved it is accurate, simple, safe, reliable technique, it improves negative margins in many studies and recommended to be the standard procedure.

P203

Selective Treatments Including Trans-arterial Chemoembolization in Hepatocellular Carcinoma Patients Combined with Segmental or Subsegmental Portal Vein Tumor Thrombosis, 1 Year Survival

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Background: To determine efficacy and safety of selective TACE in patients with hepatocellular carcinoma (HCC) and segmental and subsegmental portal vein tumor thrombosis (PVTT). **Method(s):** During 12 months, 20 consecutive child a patients with single HCC and segmental or subsegmental PVTT were treated selectively with conventional TACE (lipiodol+adriamycin) using a microcatheter. Mean age was 58 years, 12 (60%) were males. Abdominal ultrasound was done after 1 week to detect ascites. Liver functions was done after 1 week to detect any change then after 1 month then every 3 months for 1 year. Follow up with triphasic CT was performed after 1 month then every 3 months for 1 year. **Result(s):** After 1 week, decompensated ascites was noted in only one patient (5%). After 1 month, complete response was detected in 15 cases (75%), partial response in 5 cases (25%). One case (5%) died during the follow up. Overall survival rates at 12 months was 95%. **Conclusion(s):** Selective TACE is effective and safe in HCC patients with segmental or subsegmental pvtt with excellent survival rate at 12 months.

P204

Bland Embolization in Hepatocellular Carcinoma Patients with Borderline Liver Functions, 1 Year Survival Rate

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Background: To determine efficacy and monitor safety of bland embolization in patients with hepatocellular carcinoma (HCC) and high bilirubin level. **Method(s):** From January 2017 to June 2018, 25 consecutive HCC patients who were Child-Pugh class b with high bilirubin level (> 2 mg/dl and < 4 mg/dl) and no ascites and no signs of extrahepatic disease were treated selectively with bland embolization (PVA 150-250 μ m for HCC < 5 cm and 255-350 μ m > 5 cm) using a microcatheter. Mean age was 55 years, 16 (64%) were males. Abdominal ultrasound was done after 1 week to detect ascites. Liver functions was done after 1 week to detect any change then after 1 month then every 3 months for 1 year. Follow up with triphasic CT was performed after 1 month then every 3 months for 1 year. **Result(s):** After 1 week, decompensated ascites was noted in two patients (8%). After 1 month, complete response was detected in 15 cases (60%), partial response in 10 cases (40%). Three cases (12%) died during the follow up. Overall survival rates at 12 months was 88%. **Conclusion(s):** Bland embolization is effective and safe in Child-Pugh class b patients with HCC with high survival rate at 12 months.