

to November 2016 at tertiary care hospitals of Karachi, Pakistan. A structured questionnaire was distributed to 65 participants. The questionnaire was divided into 2 sections. In the first section, demographic information of the participants was included. In the second section, 6 questions regarding radiation protection were included. **Results:** Out of total 65 participants, males were predominantly higher 51 (78%) as compared to females 14 (22%) [Median age 37 (28-42)]. Majority of the participants 43 (66%) were residents while 22 (34%) were technologists. Awareness for evaluation of personal dosimeter data and radiation protection tool was found to be higher 55 (85%) followed by disease caused by radiation damaged 48 (74%), tissue most susceptible to injury from ionizing radiation 40 (62%), knowledge about dose optimization 34 (52%), standard about radiations 29 (45%) while only 14 (22%) were susceptible to radiation damage. **Conclusions:** The findings of our study have showed considerably low knowledge in our studied participants. In particular, technologist working in VIR department should be trained through regular educational seminar.

## P201

### Artificial Ascites a Problem-solving Technique in Primary Hepatic Tumor Radiofrequency Ablation

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**Background:** Primary liver malignancies are not uncommon especially in Egypt due the high prevalence of virus B and C. Treatment options include surgical option (transplantation, hepatectomy) and less invasive option (RF, microwave, TACE and TARE). RF is a very good treatment option which is equivalent to hepatectomy yet less invasive in patient with lesions less than 3 cm (Barcelona Clinic Liver Cancer, 2016). RF is avoided when the lesion is near bowel or in the liver dome hidden by the lung. Artificial ascites is considered as valuable problem solving technique for these limitations. **Methods:** Before ablation of 21 peripherally located hepatic tumors near adjacent bowel, intra peritoneal infusion of adequate amount glucose 5% using 18 G needle aiming for adequate tumor bowel separation to avoid thermal injury of gastrointestinal tract. **Results:** Technical success with was done adequate separation in more than ninety percent of the patient with safe tumor ablation. One patient with failure of separation which was likely attributed to peritoneal adhesion subsequent to previous surgery. No serious complication. None of the patient required post operative diuretics. **Conclusions:** Production of artificial ascites is a safe technique with no major technical complication nor post operative thermal bowel injury or adhesions. It is safe effective technique to feasible delivery of radiofrequency ablation of hepatic tumor near gastrointestinal tract avoiding major surgery in lesion less that 3 cm (hepatectomy).

## P202

### Value of Rectal Spacing in Cancer Prostate Management Plan

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**Background:** Prostate cancer is third most common malignancy (National Cancer Institute, 2016). In 2013, there were an estimated 2,850,139 men living with prostate cancer in united states (National Cancer Institute, 2016). Treatment options include surgical option (total prostatectomy) and less invasive radiotherapy option (three dimensional conformal radiotherapy 3D CRT and intensity modulated radiotherapy IMRT). Radiotherapy is an effective treatment option which is equivalent to prostatectomy yet less invasive (National Comprehensive Cancer Network, 2016). Rectal toxicity is one of the most limiting factors for radiotherapy because of rectal tolerance dose. Rectal spacing is considered as valuable problem solving technique for these limitations. **Methods:** Before the radiotherapy planning of 12 patients, rectal spacing was done by hydrogel using 18 G needle aiming for adequate rectal separation targeting 10-20 mm to avoid radiation rectal injury. **Results:** Technical success with adequate rectal separation was done in all patients. No serious complications. None of the patient required post procedural care. Radiation dose was delivered with decreased rectal manifestation and toxicity. **Conclusions:** Injection of rectal spacer is a safe technique with neither major technical complication nor post operative radiation gastrointestinal injury (rectal toxicity). It is a safe effective technique to deliver higher required radiation dose compared to convention radiation dose for better control cancer prostate avoiding major surgery (prostatectomy) with reduced risk of rectal toxicity.

## P203

### Fluoroscopy-guided Percutaneous Hydrodissection for Radiofrequency Ablation of Hepatic Malignancies Involving the Liver Capsule: Evaluation of Technical Success and Safety

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**Background:** Radiofrequency ablation is a widely recognized procedure for local control of unresectable primary or metastatic cancer of the liver. Hydrodissection under ultrasound guidance has emerged as a common technique to protect adjacent tissues from RFA related thermal damage. This study was undertaken to evaluate the technical success and safety of fluoroscopy-guided percutaneous hydrodissection for hepatic malignancies abutting the liver capsule. **Methods:** A total of 60 patients were treated with ultrasound-guided percutaneous RFA from January 2011 to July 2016 at our institute. Fluoroscopy guided percutaneous hydrodissection was performed in 15 patients (6 males, 9 females; age range, 42-84 years; mean age, 60.9+/- 9.9 years) with 15 hepatic nodules. All these tumors were closely apposed to the liver capsule in the right lobe. An 18 G single wall needle was used to access the peritoneal space and hydrodissection was performed with 5% dextrose in water displacing liver capsule at least 5 mm away from the diaphragm. Two RFA systems with multilined expandable electrodes were used for ablation. The technical success, safety of technique including the early and delayed complications were analyzed. **Results:** The primary technical success rate of percutaneous fluoroscopy guided hydrodissection was 100% (15/15). The mean volume of solution infused for hydrodissection was 736.1 ± 335.9 mL (range, 200-1500 mL). No major complication related to hydrodissection occurred during

the procedure and on 6 weeks follow up CT scan. There were two minor complications (n = 2, 13%). **Conclusions:** Fluoroscopy guided percutaneous hydrodissection is a safe and effective technique prior to radiofrequency ablation of hepatic malignancies abutting the liver capsule.

## P204

### Tumor Cell Needle Tract Seeding and Intracardiac Migration Following Percutaneous Image Guided Fiducial Seeds Implantation: A Two Rare Complications

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**Background:** Fiducial markers are useful for stereotactic body radiotherapy for treatment of malignant tumors. Here, we report two cases of rare complications following percutaneous fiducial markers placement. **Methods:** First case, a 51-year-old male with high grade metastatic neuroendocrine tumour of the liver who underwent ultrasound guided placement of four fiducial markers in the right hepatic lobe tumour. Second case, a 41-year-old lady with rectal adenocarcinoma and pulmonary metastasis who underwent CT guidance fiducial markers placement in four metastatic lung lesions. **Results:** First case developed tumor cell seeding along the needle tract of the fiducial marker placement procedure. This was detected on follow up cross sectional imaging. Second case developed intracardiac migration of one of the fiducial markers into the left ventricle during the procedure. The patient continues to be totally asymptomatic on follow up after one and half month after the procedure. The migrated fiducial marker has not changed its location in the left ventricle as well. **Conclusions:** Although rare, tumour cell tract seeding and intracardiac migration following percutaneous fiducial markers placement are potential complications and should be taken in consideration.

## P205

### Comparison of Efficacy of Transarterial Chemoembolization and Radiofrequency Ablation For Treating Solitary Hepatocellular Carcinoma in Patients with Hepatitis B or C

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**Background:** Hepatocellular carcinoma (HCC) is a common cancer and ranks second amongst all causes of cancer deaths world wide. Its incidence is increasing day by day in many countries specially in Pakistan due to high prevalence of hepatitis B and C which is known risk factor for HCC. **Methods:** This is a retrospective study conducted from January 2015 to December 2015, in which total 148 patients were enrolled with mean age of 56.7 years out of which 84 were men and 64 were women. 102 patients were HCV positive and 46 patients were HBV positive. All patients had solitary HCC (<4 cm). Out of 148 patients, 68 underwent RFA (45.9%) and 80 patients underwent TACE (54.1%). The response of treatment was assessed at 6 weeks follow up by

quadriphasic CT scan. Patients were followed up to 2 years for overall survival. **Results:** A total of 148 patients with solitary HCC were enrolled [RFA 68 (45.9%) and TACE 80 (54.1%)]. At 6 weeks of follow-up, complete response was found higher in RFA group patients which was 67.6%, as compared to patients who had TACE which was 45%. Progressive disease and partial response in TACE was 17.5% and 30% respectively (*P* value 0.031) which is higher than RFA. At 1 year follow-up, out of total 148 patients, significantly higher mortality was observed in TACE (17.5%) as compared to RFA (2.9%) (*P* value 0.004). Among these 132 alive patients, follow-up at 2 year showed insignificantly higher mortality in TACE (18.2%) as compared to RFA (9.1%) (*P* value 0.128). **Conclusions:** RFA is considered as first line of treatment for solitary HCC whereas TACE can be taken as alternative treatment when RFA is not possible.

## P206

### Complete Ablation Rate of Percutaneous Radiofrequency Ablation of Hepatocellular Carcinoma in Favorable and Unfavorable Locations: Using Real Time Ultrasound Guidance and Expandable Electrode Needle

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**Background:** To evaluate the success rate of percutaneous radiofrequency ablation (RFA) for hepatocellular carcinoma (HCC) by using real time ultrasound guidance and expandable electrode. **Methods:** A retrospective study reviewed of CT and MRI findings from August 2015 to October 2016 of 91 HCCs. The patient's data, RFA data, location of the HCC, complication after procedure and imaging success rate of complete ablation were analyzed. The size of tumor range 0.5-4.5 cm. We performed RFA by using real time ultrasound guidance and expandable electrode needle (LeVeen, Boston scientific cooperation, USA) with stepwise method and double ablation method to reduce ablation time and more ablative area. The unfavorable locations of tumor (exophytic appearance, near capsule, near gallbladder, near bowel, near vessels) were performed without artificial ascites. **Results:** Complete ablation was obtained in 91.2% (73/91) of all HCCs. The complete ablation rate in favorable location was 100% (12/12), while the complete ablation rate in unfavorable location was 89.9% (71/79). Only one complication was found in 91 sessions of all HCCs. **Conclusions:** Using expandable electrode catheter combined with real time ultrasound guidance help ablates tumor in high risk locations with high success rate, low complication and fast operation time.

## P301 (Second place poster presentation prize winner)

### Endovascular Armamentarium for the Management of Wide-Neck Intracranial Aneurysms: Rashid Hospital Experience

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