

## **ELECTIVE (SSC5b) REPORT (1200 words)**

A report that addresses the above four objectives should be written below. Your Elective supervisor will assess this.

I am applying to the Gastroenterological Imaging and Interventional Oncology department in Juntendo to experience how cancer is managed in a specialist centre. In our lectures, we have learned quite extensively, the clinical science behind cancer. Yet, in our clinical rotations, we hardly get to see any cancer cases. In this elective, my objective is to apply what I learn from the textbook and apply it in a clinical setting. To learn about the different types of diagnostic imaging and the treatment of cancer, in particular, radiofrequency ablation which the Oncology department at Juntendo specialises in. Besides the medical aspect of cancer, I will also get to learn more about social support and management of patients in palliative care which will come useful as a junior doctor.

During my time at Juntendo University, I spent 3 weeks with the Gastroenterological imaging and Interventional Oncology team, headed by Professor Shuichiro Shiina. The team consists of doctors in their different stages of training, and who have undergone Gastroenterological training at some point in their career and wanting to branch out and specialize in interventional oncology, specifically radio frequency ablation of cancer tumors.

Daily routine in this department involves observing radiofrequency ablation of hepatocellular carcinoma. On average, there are about 4 to 5 patients daily. Each operation takes about 1 to 1.5 hours depending on the number of lesions and most importantly the difficulty of access to the lesions. In a given operation, most of the time spent is dedicated to searching for a lesion and the position to place the probe. Lesions that are small and deeper into the liver are very difficult to locate and operation on these patients are usually done by the senior consultant.

The ablation itself takes 5 minutes at most but looking for the optimal point of entry for the probe is vital. This is to ensure no vital structures, such as gallbladder and large vessels, are damaged and also to avoid piercing through the lesion itself as that may risk dissemination. The idea is not to ablate the tumor direction but the tissue surrounding it and the outer rim of the lesion. Before the operation, MRI and CT scans of the lesions are taken and during the operation itself, only ultrasound imaging is used to guide the ablation probe into the liver. This makes it very difficult even for experienced doctors to search for the lesion. Sometimes a fusion imaging of CT and ultrasound is used to locate elusive lesions. This fusion is a combination of both modalities to match images between pre-set CT scan with real-life ultrasound imaging. For superficial lesion, sometimes an artificial ascites or pulmonary effusion is created to separate the liver from the abdominal wall and lungs. This helps with creating a better image of the lesion. Radiofrequency ablation has the advantage of being minimally invasive and has the same rate of hepatocarcinoma remission as laparoscopic incision at 75%. Most of the patients that we saw were elderly men who had chronic hepatitis B or C infection, which is the most common cause of hepatocarcinoma in Japan. Besides radiofrequency ablation, these patients also undergo conventional treatment of viral hepatitis.

I have enjoyed my time with the department in this elective. I was given the chance to assist in the operation and do minor procedures. We were also thought some basic imaging in relation to hepatocarcinoma. However, I thought the programme itself could be more suited to our level of knowledge. I felt the topic is too specialised and narrow. I was hoping to see different types of cancer, in particular gastric cancer but we did not get the chance to see such cases as the team we were attached with was very specialized and only deals with hepatocarcinoma. Most of the time we were in theatre while I thought we could do with a lot more by spending more time at the wards. In other times, we also attend lectures by other doctors on their studies and research. We were able to meet other local medical students and talk about our different experiences in our career.