EDITORIAL

Ultrasound teaching in Anatomy

Prof Zakiuddin G Oonwala is my teacher since ages. I learnt the basic surgical skills from him. Later on after my fellowship examination I have been groomed by my respected teacher.

Prof Oonwala has special interest in research and reproduce several of our studies in various renowned Journals of Surgery. I develop interest of research and article writing while I was working with him way back in 1985 while he was working in Civil Hospital, Karachi and Dow University of Health Sciences. He wrote his experience of Ultrasound in Clinical Medicine in such a nice way that encourages me to give his experience a place in the editorial of Pakitan Journal of Surgery which will motivate new clinicians and surgeons to develop special interest of ultrasound and new emerging techniques to use as a tool to diagnose various diseases in the patient.

Prof Saleem Khan,
Editor,
Pakistan Journal of Surgery

How I started ultrasound teaching in Anatomy, what brought my interest in ultrasound investigation- how I was attracted by ultrasound. I was Associate Professor of Surgery and Head of the Surgical Unit-5 in Dow Medical College and Civil Hospital Karachi. The year was 1989. One of my student- a young graduate requested me that he be allowed to do ultrasound of the cases admitted in my unit. The young doctor had purchased an ultrasound equipment and wanted to gain experience in the use of the machine, obtaining ultrasound images and improving his diagnostic sonographic skill. I had no hesitation in giving him the permission to come to the unit and scan the patients admitted under my care. Our unit had about 50 beds, male and female ward.

A middle-aged male patient of mine was running hectic fever, un-diagnosed till now. There were no significant abdominal findings. After the ultrasound examination, I was informed by him- sir, this patient has an abscess in the spleen. I was rather taken a back – the spleen having an abscess! There was no history of any splenic trauma, the spleen was not palpable. I did not believe him. Later when I operated on him, I did found an abscess in the spleen. This young man with no significant surgical experience, was able to diagnose correctly a patient with splenic abscess, which had no place in my differential diagnosis.

I was amazed at this young doctor making a correct diagnosis. This young doctor has no surgical experience, has just finished his house job and yet made a correct diagnosis. I had failed to make a diagnosis even after an experience of several years of surgical exposure. I was fascinated by ultrasound waves and images and develop an interest which last till to date.

I became interested in ultrasound equipment. I bought one portable machine. The purpose of buying the machine was to cater to the needs of my wife maternity clinic and to use it on my patient too. I requested the vendor to help me learn ultrasound technique. He directed me that I can attend the private clinic where he has supplied the equipment earlier on and observe. There was no teaching institute for surgeons to learn ultrasound at that time. I just did that and spend 2 hours daily to watch how ultrasound equipment was being used. I did this for about 4 weeks. I also bought a book ' Practical Ultrasound ' Edited by R.A. Leski, Medical Physics Department, Ninewells Hospital and Medical School, Dundee UK –first Published 1988, IRL Press, Oxford, Washington DC. (ISBN 1 85221 068 0)

I realized that the best person to interpret the ultrasound images is the surgeon himself. Surgeons knows anatomy in greater details and ultrasound images are related to the anatomical structures. Having taken a history, examining the patient, the surgeon has number of possible diagnosis in his mind. Performing Ultrasound in the clinic, soon after history taking and physical examination can make the diagnosis relatively easy. A jaundice patient can be diagnosed as having surgical versus medical jaundice, a breast lump can be diagnosed as cystic or solid, liver abscess can be picked up, scrotal swellings can be diagnosed more accurately and so on. Ultrasound empowered me to see the pathology in the viscus and make a diagnosis.

After acquiring basic ultrasound skill, I started doing ultrasound on my own. The machine was portable and could easily be adjusted on the back seat of my car. I used to bring the ma-

chine to my surgical unit and had kept two days every week for the ultrasound session. I also entertained the patients referred to me from other units. Being the surgeon, knowing the anatomy, it was relatively easier for me to interpret the ultrasound images. The radiology department of the hospital at that time was not catering to any ultrasound request. Awareness about the ultrasound usefulness was almost absent.

I presented the following paper in the academic symposium.
'Ultrasound and Laparoscopy -A Surgeon Experience during the 8th Annual Symposium of Dow Medical College and Civil Hospital Karachi (20-22nd March 1990) and 4th Annual Symposium of Abbasi Shaheed Hospital, Karachi Municipal Corporation (21-22nd February 1990).

Laparoscopic Surgery was also introduced at this time. The initial term used for laparoscopy was Peritoneoscopy. I was fascinated with both the newer technology of Ultrasound and Peritoneoscopy. I suggested the topic of Peritoneoscopy to one of my trainee registrar, as the topic of her dissertation for fulfilment of the requirement of Fellowship examination of College of Physicians and Surgeons Pakistan. She completed the project and produced a beautiful Thesis publication which was much appreciated by the CPSP reviewer.

Now since my appointment as a Visiting Prof. of Clinical Anatomy (August 2013) at Hamdard College of Medicine and Dentistry, my interest in Ultrasound has once again rekindled. Ultrasound machine has now become more miniaturized, have become more economical and their use has become widespread in Clinical settings. Traditionally the students are taught anatomy on cadaver by dissection, on models, on charts and by medical imaging like ultrasounds, x-rays, CT scans, MRI. A burning desire arose in me-why not to teach live dynamic, real time anatomy to students. I was new in the department. Till now I was Prof. of Surgery, teaching surgery. Now my role had changed teaching Clinical Anatomy. When I joined the department of Anatomy, there was no Head of the Department. There was acute shortage of teachers on the basic side. The Departmental Head came in January 2014. Human relationship takes time to develop. Understanding each other, trusting each other needs consistency and sincerity. Once I gained the confidence of the faculty, I floated strongly the idea of use Ultrasound teaching in anatomy. Ultrasound technology now allows you to show live human organs to students-muscles, tendons, blood flow, liver, spleen, kidneys, heart and other organs. The teaching of anatomy will be more interesting and students will enhance their understanding of the subject of anatomy. When I opened up the literature, I was surprised to find that ultrasound teaching has already been integrated in subject of anatomy in some medical schools of USA and is catching up more. This gave me a further boost and I was now convinced that this is doable.

I spoke with the Dean, Principal and Head of the Department of Anatomy, Head of Department of Radiology. I showed them the literature and references. They were all very supportive and gave me their blessings. The problem were quite a few-where will the equipment come from, how much finances is involved, who will be the teachers, how will it get incorporated, whether it will be acceptable to Pakistan Medical and Dental Council. But as the saying goes ' Where there is a will, there is a way'.

We have completed three batches of pre-clinical batches who have been exposed to ultrasound images. The students feed back has been very satisfactory. Many of them have requested me to sustain and continue the ultrasound classes in their clinical years as well. Hopefully we will be to integrate the ultrasound teaching through the clinical years as well.

Zakiuddin G.Oonwala
MBBS FRCS(Edin.) FICS(Hon.)
Prof of Clinical Anatomy
Hamdard College of Medicine and Dentistry and
Editor Emeritus
Pakistan Journal of Surgery