

Valsalva and stops before the end of the maneuver.

In this study permanent reflux only was regarded as subclinical varicocele depending on the study of Cornud et al^[20] who found that the Doppler aspect and change after treatment in patients with permanent reflux on CDI are identical to those with palpable varicocele. This standard helped a lot to clarify the controversy over whether or not non palpable reflux should be treated in hypofertile men, as Marsman and Schats stated that only patients with permanent reflux should be treated^[20].

B-mode and CDI were positive in 22% of patients with negative physical examination, which indicates that B-mode plus CDI can increase the incidence of varicocele by 22%, which is very significant and subsequently alters the management of infertile cases.

B-mode and CDI were very useful as a standard reference method to correct the diagnosis of false positive clinical cases, which were not uncommon (6%) in the current study, and this was useful to avoid unnecessary surgery.

B-mode and CDI were highly valuable in confirming the high clinical suspicion of varicocele in 62% of patients, and this is very important for surgery from the medico legal point of view as some of the patients who do not benefit from varicocelectomy claim that the clinical diagnosis was wrong and there was no solid evidence by a documented test, so CDI became solid documented investigation to convince the patient.

B-mode and CDI are very important in follow up of patients after varicocelectomy, especially in patients with persistent poor seminal fluid results. The usual expected findings after successful varicocelectomy are reduction in size of pampiniform plexus to normal with no reversed flow, this should be checked ideally at least 6 months after the operation to give enough time for the pampiniform plexus to decrease in size, this if they were mildly dilated, but if the

pampiniform plexus was markedly dilated it will be found dilated but thrombosed with no upward or reversed flow postoperatively. This group of patients are important for follow up by CDI as it is the only method which ensure successful varicocelectomy with no detectable flow regardless the size while clinically they may be regarded falsely as recurrent varicocele. Therefore B-mode ultrasound alone is not sufficient to diagnose recurrence of varicocele and in this study significant number of patients 3/8(37%) showed recurrence of varicocele depending not only on persistence of large pampiniform plexus on B.mode ultrasound but also the presence of reversed flow on CDI.

The high sensitivity of ultrasound in diagnosing varicocele was essential in detecting it on the other side or in addition to the clinically suspected side in 19% of patients by B-mode ultrasound and in 10% of patients by CDI which is important to prepare the patient for bilateral instead of unilateral varicocelectomy and missing varicocele on one side may be the cause of persistent poor seminal fluid results after unilateral varicocelectomy.

Detecting subclinical varicocele by CDI in 5% of patients with infertility is significant in this study making referral of infertile patients for CDI is mandatory. B-mode ultrasound was useful in detecting testicular atrophy as a medical cause of infertility, which was found in 11% of patients in this study, and it was bilateral in 4% of patients. CDI was useful in excluding or confirming varicocele as a surgical cause of infertility in patients with testicular atrophy.

The total incidence of right varicocele was significantly high by B-mode (39%) and CDI (21%) than by clinical exam (8%) and this is due to the fact that clinicians always concentrate in their examination on the left side because left varicocele is more common, as a result they easily miss subclinical (or even RT varicocele) while the total incidence of left varicocele in this study was almost the