

One hundred male patients having at least one-year history of infertility, were examined, their age range was 21- 41 years. (Mean = 33 years).

**Table 1: The incidence of varicocele by physical examination, B-mode ultrasound and CDI**

Type of Examination	RT (%)	LT (%)	Total no. of patients
Physical	8	70	100
B-mode UIS	39	69	
Color Doppler UIS	21	50	

The incidence of patients with negative physical examination and positive B-mode and/or CDI for varicocele was 22%. The total incidence of right varicocele was 8% by clinical examination, 39% by B-mode ultrasound and reversed flow was detected by CDI in 21% of patients. The total incidence of left varicocele was 70% by clinical examination, 69% by B-mode ultrasound and reversed flow was detected by CDI in 50% of patients.

Only 6% of patients had high clinical suspicion for varicocele with no B-mode and / or CDI evidence. The high clinical suspicion for varicocele was supported by B-mode and/or CD ultrasound in 62% of patients, 54% were supported by B-mode only while 36% were supported by CDI ± B.mode ultrasound.

Recurrence of varicocele was diagnosed 6 months-6 years after varicocelectomy by reversed flow in 3/8(37%) of patients by CDI. Varicocele was detected on the other side instead of or in addition to the clinically suspected side in 19% of patients by B-mode ultrasound and in 10% of patients by CDI.

CDI was the only clue for subclinical varicocele in the absence of clinical or B-mode ultrasound findings in 5% of patients, all of them were on the left side.

#### **Size of the testes:**

Testicular atrophy was found in 11% of patients with infertility, 5% on the right side and 6% on the left side. Bilateral testicular atrophy was present in 4% of patients.

#### **Discussion**

CDI is a valuable non-invasive new imaging modality which altered the diagnosis and management of causes of infertility, but it is an operator dependent procedure and needs sufficient experience, i.e., any case with suspicion of varicocele should be examined in supine and standing position as reversed flow which is very important to detect subclinical varicocele may be seen only on standing position with Valsalva maneuver. If such patients are examined in supine position only, the reversed flow may not be detected and these cases may be missed as normal, meanwhile they are also normal on physical examination, therefore, CDI has now become the most reliable test to detect non palpable reflux or confirm questionable reflux<sup>[2]</sup>.

CDI has superseded ultrasound in measurement of venous diameter which shows too much overlap between competent and incompetent veins, a spermatic veins > 3mm in diameter can be competent while veins less than 2mm can be incompetent, between 2 and 3 mm the overlap is such that B-mode ultrasound is not reliable, so CDI is more sensitive and can detect up to 93% of reflux.

Brief reflux that lasts less than a second is physiological and can be seen in 42-50% of normofertile men without palpable varicocele<sup>[14]</sup>.

Permanent reflux is non palpable in 20% of cases and lasts more than 2 seconds, it does not correlate with the diameter of spermatic veins<sup>[2]</sup>, in such cases CDI is very helpful to detect subclinical varicocele. Intermediate reflux is never palpable and lasts 1-2 seconds; it keeps decreasing during