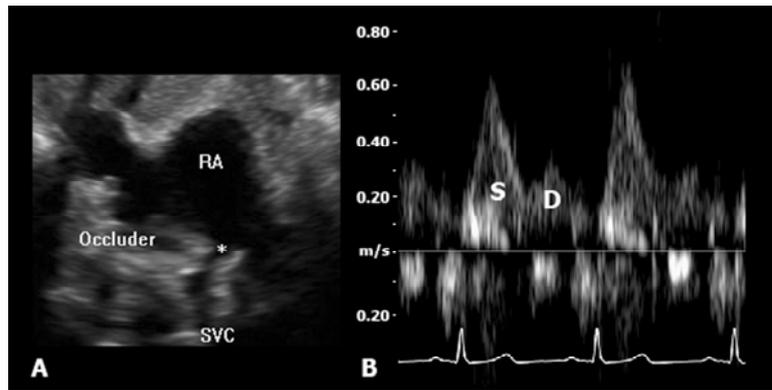


**Superior Vena Cava - Right Atrium Junction Flow Pattern Post Transcatheter Patent Foramen Ovale Closure**

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**Introduction:** Percutaneous transcatheter closure of patent foramen ovale (PFO) has been widely used in recent years, mostly for secondary prevention of cryptogenic stroke. A report of superior vena cava (SVC) obstruction by an atrial septal occluder device has raised our concern regarding blood flow disturbance at the SVC-right atrial (RA) junction following percutaneous PFO closure. The aim of this study was to examine RA- SVC junction flow pattern in 21 patients (4 male, aged  $52.7 \pm 9$  years) who underwent PFO device closure 4-120 months previously, in comparison to 21 age and sex matched controls (4 male, aged  $51 \pm 8.5$  years) with structurally normal hearts.

**Methods:** All patients underwent transthoracic echocardiographic assessment of the SVC-RA junction in the subcostal view with the patient in recumbent position. SVC flow velocity was recorded by pulse wave Doppler with the sample volume placed at the entrance of the SVC to the right atrium (RA) as marked by asterisk on the Figure, panel A. Five well-defined cardiac cycles recorded during quiet respiration were analyzed for each subject. The systolic and diastolic waveforms (S and D respectively - Figure, panel B) were analyzed for flow velocity and waveform duration. The comparison between two groups was made using paired t-test. P value less than 0.05 was considered significant.

**Results.** Mean  $\pm$  SD values of the obtained haemodynamic parameters are summarized in the table:

Parameters	Post PFO closure	Control group	P value
Systolic velocity (cm/sec)	60 $\pm$ 11	64 $\pm$ 17	0.27
Systolic wave duration (msec)	439 $\pm$ 52	422 $\pm$ 67	0.4
Diastolic velocity (cm/sec)	30 $\pm$ 8	35 $\pm$ 9	0.1
Diastolic wave duration (msec)	320 $\pm$ 75	277 $\pm$ 88	0.12

**Conclusions:**

There was no significant difference in the haemodynamic parameters between patients who underwent transcatheter PFO closure, and age and sex matched controls. Therefore it seems that transcatheter PFO closure doesn't affect the normal blood flow at the SVC-RA junction. Further investigation using the higher number of patient in comparison with the age matched controls may be warranted.