Atrial septal defect (ASD) device closure using a device sizing formula without balloon sizing or invasive echocardiography is safe, cost effective and increases access to treatment.

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**Aim:**
To assess the outcome of a modified method for ASD device closure without balloon sizing or invasive echocardiography.

**Background:**
ASD device closure in USA routinely uses balloon sizing and invasive echo and costs approximately USD 7000 excluding device cost. Balloon sizing increases radiation and procedure times. The sizing balloon costs approximately USD 500. Device closure without balloon sizing is described but not fully determined. We derived a sizing formula from our initial results and oversized the device 4-6 mm to maximum ASD diameter by trans thoracic echo(TTE). Following a 2007 feasibility study this modified method is used routinely at our centre. In Sri Lanka estimated cost by this method excluding device cost is about USD 300.

**Method:**
Registry and follow up data of 511 consecutive ASD device closures by a single operator using the modified technique during 54 months from 2007 to 2012 were analyzed. Procedures were done under local anesthesia and per local protocols. Device size was selected using above sizing formula. Fluoroscopy and TTE imaging were used for device positioning.

**Results and discussion:**
Procedural success rate 93% (attempted 511, failed 39) and complication rates (minor 5%, major 0%) are comparable to studies with balloon sizing. Mean age 33 years (7-76 years). Females 388 (76%). Mean ASD diameter 20 mm, device size 24 mm. Mean over sizing 4mm. Up or down sizing of device done in 25 patients with large ASD (5%). No device erosions seen at 1 year (68% follow-up). Average procedure time was about 15 minutes. Mean device closures done in a routine mixed cath list was 3 (range 1-12).

**Conclusions:**
Device closure using TTE instead of invasive imaging and a sizing formula instead of balloon sizing is feasible, safe and reduces cost, fluoroscopy and procedure times thereby increasing access to treatment.

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