Goose neck snare assisted percutaneous ASD closure: a safety procedure for very large and complex ASDs

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Background
ASD transcatheter closure is a widespread procedure. However, in some cases ASDs may be large and with soft rims. Furthermore, the tension between the delivery system and the septum can be associated to a significant change in position of the device at release. A potential risk exists for device malposition/embolization.

Methods and Patients
When TEE evaluation and balloon sizing showed large defects with floppy rims the chosen Amplatzer device was implanted in a standard way. Before release a 5 mm goose-neck snare with its 4 Fr catheter were placed across the delivery cable and advanced in parallel up to the screwing mechanism. The goose-neck snare was placed across it and fixed in order to catch the screwing mechanism.

Then the delivery cable was unscrewed and the device reached its final position without any tension. The goose neck snare is very soft and allows a tension-free position of the device. If needed the device can be retrieved and/or replaced or repositioned.

If the position was considered satisfactory the device was released from the goose-neck snare by opening the loop of the snare.

Between January 2000 and October 2014, 14 patients had a snare assisted ASD transcatheter closure (10 females, median age 22 years (range 10-62 years).

Results
Median device size was 20 mm (range 16-36 mm).

In three patients, the device after release from the delivery cable changed significantly its position and a residual shunt due to prolapse of the left atrial disc was seen. The right atrial disc was recaptured with the help of the goose neck snare system and the left atrial disc repositioned properly.

In two subjects with multiple ASDs, a second fenestration looked quite significant with the device still attached to the delivery cable. However, after release (with the device still attached to the snare system) the second fenestration looked significantly smaller at TEE and at Qp/Qs evaluation.

Procedure was successful. No complications occurred during the procedure and during follow-up.

Conclusions
Snare-assisted Amplatzer ASD device placement is a new method for ASD percutaneous closure. It adds safety to the procedure and it proved to be safe.