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Updates on Percutaneous Valvuloplasty

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Introduction

If dilatation is the major component of vein valve insufficiency, long-term diameter reduction by external compression may be a solution. Percutaneous valvuloplasty (PVP) using cross-linked hyaluronan to achieve diameter reduction has been recently introduced. Now, a first evaluation of an approved commercial product was performed.

Methods and Materials

In this prospective controlled study, 22 patients with proximal GSV valve incompetence but preserved and mobile valve structures according to 8 – 16 MHz ultrasound analysis were included (8 f, 4 m, 32 – 54 yr/o): Vein diameter was 7.0 – 12.0, mean 8.6 mm). PVP was performed by use of a cross-linked hyaluronan acid (Princess Volume, Croma) and a safety cannula (Sterimedix).

Results

Orthograde flow was established in 20/22 cases (90.9%). Gel volumina varied from 4 - 13 ml (mean: 8.2 ml. There were no adverse reactions. At one year follow-up, orthograde flow was present in 14/20 cases (70.0%). 5/6 cases (83,3%) with recurring reflux successfully received supplementary hyaluronan injections of 2 – 6 ml. At one year follow-up, the assisted success rate was 95%.

Conclusions

Percutaneous valvuloplasty is the first minimal-invasive method to eliminate venous reflux while fully preserving the target vein. It is effective and safe. Maintenance injections seem to be required in few year´s intervals. The course of the disease has not yet been studied when combining PVP with other measures like compression stockings and physical activation training. Early detection of vein disease is mandatory to fulfill eligibility.