Deep Venous Valves: Why Are They Important And When And How Should They Be Treated
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Background:
In an era that has seen significant changes in the way we manage non-healing venous leg ulceration, the present paper’s aim is to report the rationale, results and changing trends of a 18 year experience of deep vein valve surgery with evaluation of end-points at 2, 5 and 10 year in the management of non-healing venous leg ulcers in 228 patients.

Methods:
228 patients (302 limbs) undergoing deep vein reconstructions were followed–up for 2 to 18 years (mean 8.6 years). All patients had non-healing C6 venous leg ulcers and were offered deep venous reconstruction as a ‘last resort’ treatment. End-points of the study were freedom from leg ulceration, vein valve patency and competence assessed by physical examination, duplex scanning, ascending and descending venography and CT / MR venography.

Results:
Primary refluxive disease was present in 156 patients (209 limbs). External valvuloplasty was performed in 12 limbs (19 valves) and internal valvuloplasty was performed in 181 limbs (324 valves). External supports were used in 16 limbs (16 valves). Multilevel (≥2) reconstructions were performed in 126 limbs.

Seventy two patients had secondary valvular defects involving 93 limbs. Axillary– femoral vein or Sapheno-femoral vein valve transplant was performed for 49 patients (64 limbs) and 5 patients (5 limbs), respectively, saphenofemoral venous transposition was performed in 7 patients (9 limbs), and femoral/popliteal vein ligation was carried out in 11 patients (15 limbs).

At 10 years, External valvuloplasty showed ulcer healing in 16% of limbs with maintenance of competency at only 15.7 % of valve stations. Internal valvuloplasty was the most durable valve repair procedure with year leg ulcer healing rates of 67% and valve station competency of 79%. For secondary incompetence, valve transplants had a significant deterioration in valve patency and competence at 2 years: 58% and 47%, respectively, with 55.3% leg ulcer healing. It was also noted that single-level repairs or single valve transplants had lower ulcer healing rates than multilevel repairs or valve transplants with multiple valve stations.

Conclusion:
In a 2 year follow up, valvular reconstruction for refluxive disease is effective in healing venous ulcers that defy conservative management and superficial/perforator venous surgery. Furthermore, these procedures appear more promising for primary than for secondary incompetence. Multilevel or multivalve reconstructions yield superior results to single-level repairs in medium-term follow up.