Surgical Creation of a Monocusp Valve

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The purpose of deep venous valve repair or creation is to correct deep reflux

Deep venous reflux can be classified by etiology

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<th>Primary</th>
<th>Secondary (PTS)</th>
<th>Valve agenesia</th>
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- Primary
- Secondary (PTS)
- Valve agenesia

In primary deep venous incompetence (E_p)

Valves are usually present but malfunctioning

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Internal Valvuloplasty is the best option

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Valve agenesis

In congenital deep venous incompetence (Ee)

Valve cusps are usually destroyed

In secondary deep venous incompetence (E5-PTS)

When the valve repair is not possible, alternative techniques are available

- Transposition
- Neovalve
- Valve transplant

Monocuspid neovalve construction

Obtained by parietal dissection

Monocuspid neovalve

the morphology may change depending on wall features and thickness
Failure risk for monocuspid valve re-adhesion of the flap (deeper pocket)

How to prevent re-adhesion?

Technical element
the valve is stabilized in semi-open position

Hemodynamic element
the valve is created in front of a vein confluence

This determines a competing flow: better washout, more mobile flap

Flow pattern in venous valve (bicuspid)
The neovalve presents a reduced mobility that can lead to its failure in time.

The competing flow concept suggested us the model of a neovalve on stent for endovascular approach.

The neovalve works as an antireflux mechanism.

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thank you