

The treatment of aneurysms using a covered endoprosthesis

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Recent technological innovations in endovascular techniques enable, under certain conditions, the treatment of aneurysms by means of a small surgical approach via a peripheral artery. From here, thanks to a catheter holder, the endoprosthesis can be positioned and deployed at the level of the lesion.

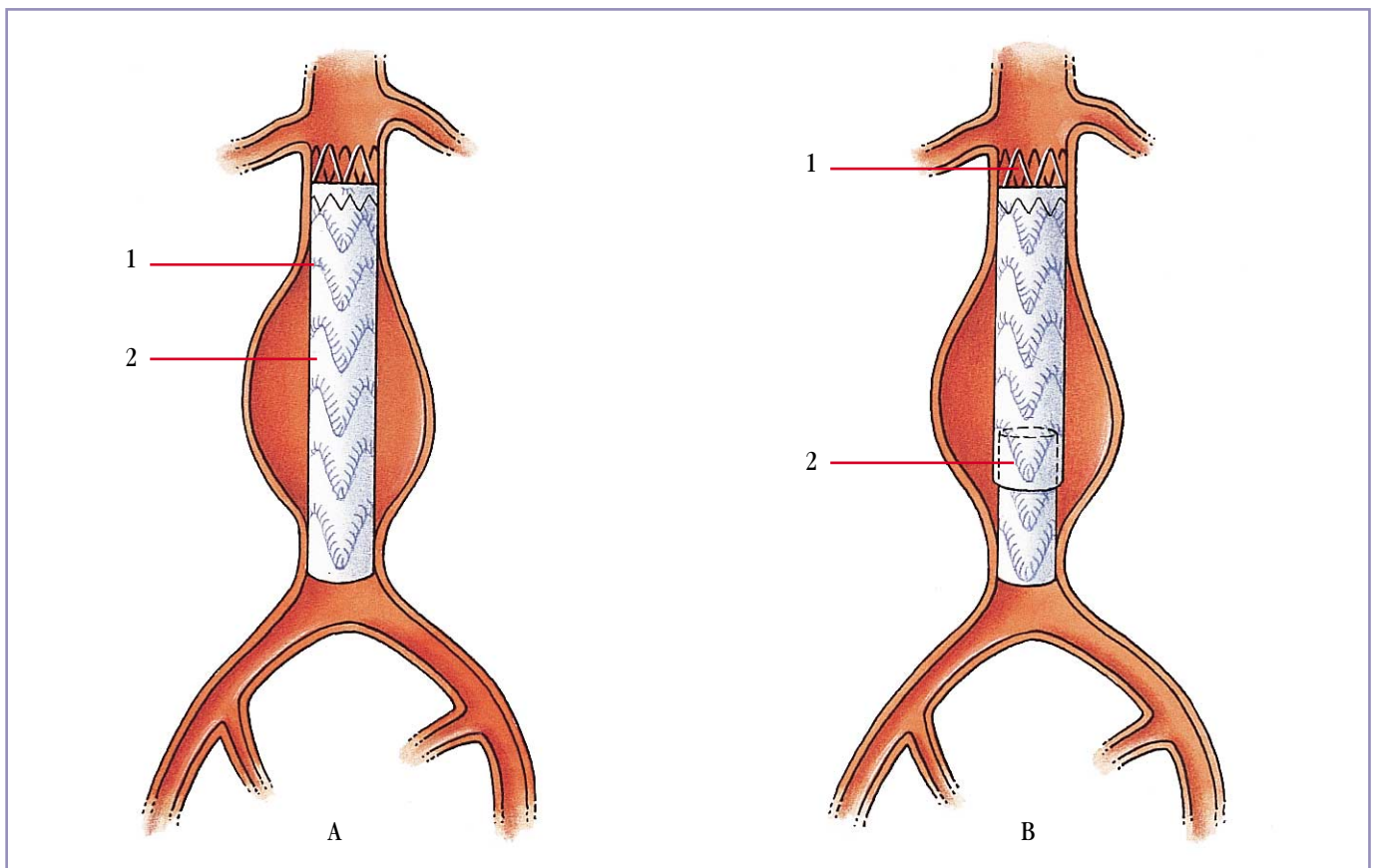


Figure 1:

A: Covered endoprosthesis: this consists of a standard metallic endoprosthesis, which acts as a frame (1), the material covering is polyester which ensures bloodlightness (2).

B: These prostheses consist, at the proximal end, of a mooring system which enables their attachment to the arterial wall (1) and, at their distal end, a system of two coaxial endoprostheses which, by sliding, enable the length to be adjusted according to the lesions (2).

These straight covered endoprostheses, which are of varying widths, are inserted using catheters and enable the treatment of thoracic aortic, subrenal abdominal aortic, iliac artery and subclavian artery aneurysms, etc...

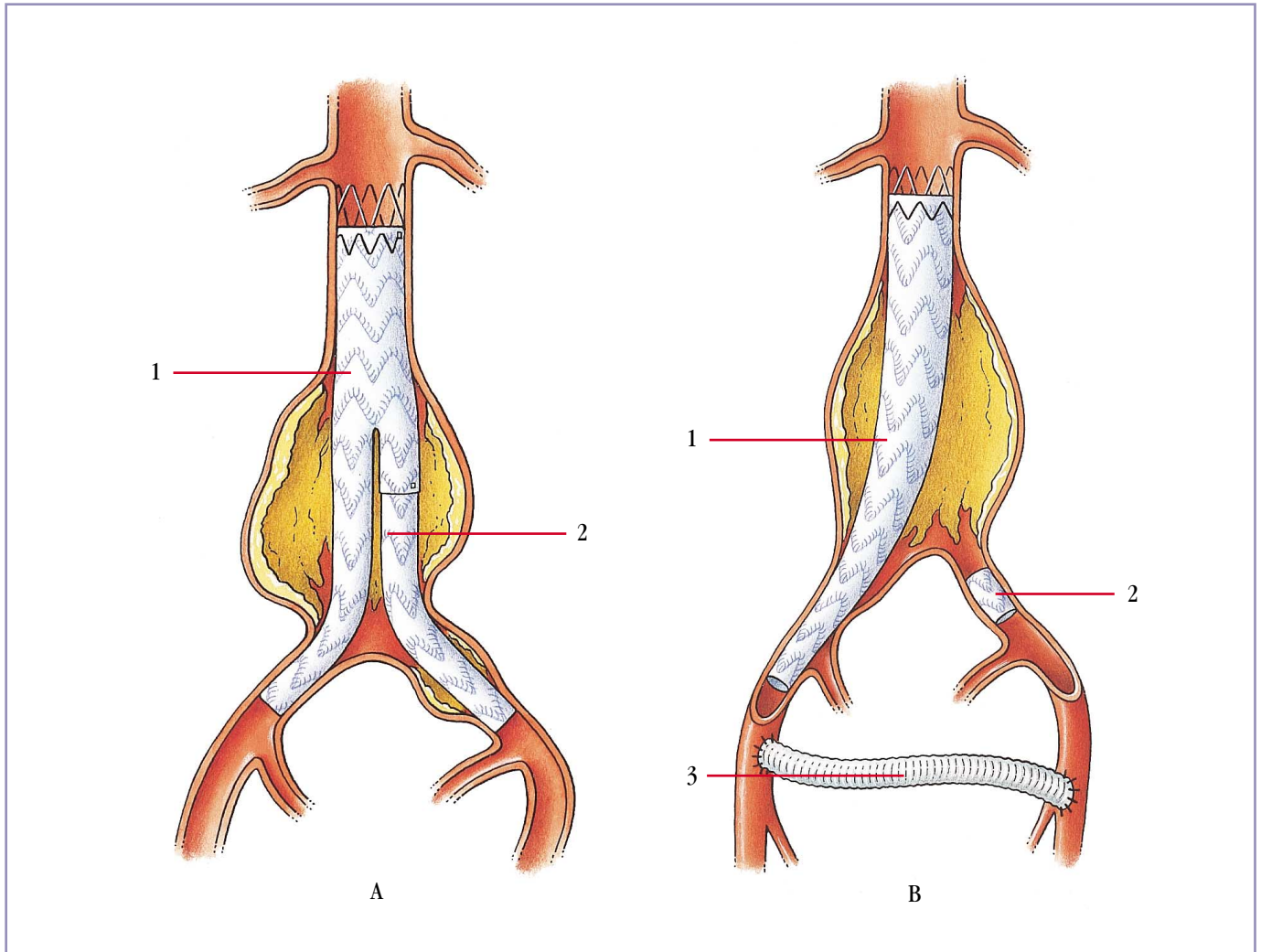


Figure 2: When lesions are located at the iliac bifurcation, the procedure is different and may call for two different systems.

A: A unilateral aorto-iliac prosthesis is first inserted (1), a second contralateral prosthesis is then implanted in a retrograde manner by recanalising the stump of the first prosthesis (2).

B: A decreasing calibre endoprosthesis (1) enables an aorto-uni-iliac bypass to be carried out followed by embolization of the contralateral common iliac artery (2) and then a femoro-distal bypass is undertaken (3).

These techniques are currently in the process of being developed and they can only be undertaken in certain anatomical conditions. In particular, they require the presence of a 1 to 2 cm healthy sub-renal segment to secure the prosthesis.

At present, the commonest indications are patients with a contraindication to surgery (those having undergone multiple surgery, the elderly, patients with associated cardiac, respiratory or renal pathology).