Modification of the parachute technique to simplify vascular anastomosis in kidney transplantation

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In kidney transplantation, arterial anastomosis in the absence of a Carrel patch (live donor transplant) can be technically challenging. We describe a modified parachute technique in which the assistant maintains even tension on the renal artery using two stay sutures (SS) to simplify the anastomosis.

Two 7/0 polypropylene stay sutures are placed a few millimetres before the corresponding angles of the anterior wall of the renal artery (Fig 1), generating continuous retraction. A standard parachute

technique is then commenced (Fig 2). Retraction with the remaining stay suture (Fig 3) helps facilitate anterior wall completion (Fig 4), thereby ensuring better exposure and accurate suture placement as well as minimising inadvertent vessel damage.

Figure 3 Single stay suture facilitating anterior wall retraction

Figure 1 Stay sutures generating continuous retraction. The darker arrows represent the stay suture and the lighter arrows represent the corresponding angles.

Figure 4 Partially completed anterior wall anastomosis with a single stay suture. The darker arrows represent the stay suture and the lighter arrows represent the corresponding angles.

Completed posterior wall

A standard parachute technique is commenced

Completed posterior wall

Figure 2 Completed posterior wall