A SIMPLE MODIFICATION OF THE SCRIBNER-SHUNT

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For haemodialysis in cases of acute renal failure we use the following arteriovenous teflon-silicon-teflon shunt described below which is based on the technique of Scribner.

With local or brachial plexus anaesthesia the arteria radialis and the vena cephalica antebrachii are laid open by 2 parallel longitudinal skin-incisions, both about 2 cm. in length, placed 5 cm. proximal to the wrist (Figure 1). The vascular connections are made by 2 U-shaped teflon cannulae. The vascular branch of the arterial cannula is tapered to the caliber of the artery. The tip of the venous cannula is cut at an angle for ease of insertion into the vein. The free end of each teflon cannula is connected, close to its loop, to a flexible silicon-caoutchouc tube (high-polymeric dimethylpolysiloxan). Both the silicon tubes pass into a 4 cm. long subcutaneous channel in the proximal direction. Their free ends are threaded out through exit points which are cubital and also 2 cm. proximal to the skin-incisions. The cutaneous ends of the silicon tubes are now short-circuited 4 to 5 cm. above the exit points by a U-shaped teflon tube. All the teflon-to-silicon joints are secured by 2 ligatures of silk. In addition the external joints are stabilized by tape bridges. Figure 2 shows the segments of the shunt and their dimensions. Figure 3 demonstrates the complete and secured shunt in place. The whole length of the shunt is 40 cm. in the average. For haemodialysis the external segments of the shunt are clamped for a short time and, after removing the teflon bypass, are connected to the dialyzer tubes by polyethylene couplings (Figure 4).

By the employment of this method the surrounding area of the shunt is easy to observe and to dress. For 1 shunt including waste 40 to 50 cm. teflon and 30 cm. silicon tube are used. The teflon tube is bent by us according to the dimension of the arm. The whole costs for the shunt are 3.50 DM that is approximately 6 to 7 shillings. All parts of the shunt are sterilized in an autoclave.

The longest time we have used such a shunt is 5 weeks for a patient with a Crush-Syndrome. During this time he was dialyzed 9 times with a twin-coil-kidney.

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Figure 1. Topography of shunt left forearm

Figure 2. Parts of shunt

Figure 3. Complete shunt left forearm

Figure 4. Shunt connected with dialyzer tubes left forearm