A ‘CLOT-SCREW’ FOR THE WINGED-IN LINE SHUNT

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Clotting still remains the commonest complication of the permanent arteriovenous shunt. However, the use of the winged-in line cannulae (Ramirez et al., 1966), which may be easily declotted, represents a significant advance.

The ‘clot-screw’ is a device made to remove clots from these cannulae. It consists (Fig. 1) of a thin stainless steel coil soldered between the flexible and the rigid parts of a Seldinger wire. The diameter of the coil is smaller than the inner diameter of the teflon tips to avoid friction when the instrument is introduced into the cannulae. The segment of the Seldinger wire between the coil and the handle is rigid (30 cm), while the extremity distal to the coil is flexible (5 cm).

The device is introduced into the venous side of clotted cannulae (Fig. 2) with a rotating motion so that the coil screws up the clot which may then be removed by pulling out (Fig. 3). The danger of pulmonary embolism, existing in the case of declotting the venous side of the shunt, is thus avoided.

The same procedure is followed for declotting the arterial side. In this case, the supplying artery is previously constricted with the armlet of a sphygmomanometer. After pulling out the instrument, the complete removal of the obstruction is confirmed by the force of the blood jet coming out from the cannula (Fig. 4).

The ‘clot-screw’ has been employed on several occasions and has proved useful and free from accidents.

Fig. 1. Two ‘clot-screws’ having coils of different dimensions.
Fig. 2. A 'clot-screw' is being introduced into the venous side of a winged-in line shunt.

Fig. 3. The 'clot-screw' is being drawn out from the venous cannula and a clot may be seen which is coming out with it.

Fig. 4. The arterial side of the shunt has been declotted and the blood jet may be seen coming out from the cannula partially squashed between the fingers of the operator.
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REFERENCE