

LETTER TO THE EDITOR

A CANNULA FOR ADMINISTRATION OF DRUGS INTO THE SUPERIOR CERVICAL GANGLION OF CAT THROUGH THE COMMON CAROTID ARTERY

Sir,

Paton and Perry (1) and Trendelenberg (2) have described a method for injection of drugs through lingual or the external carotid artery retrogradely into the superior cervical ganglion of cats. The original method has certain disadvantages:

(1) The area from which the lingual artery branches from the external carotid artery is very vascular and even blunt dissection sometimes leads to bleeding.

(2) The lingual artery even in large size cats was found to be of a smaller diameter and difficult to cannulate.

These difficulties were overcome by devising a cannula which was used successfully in experiments on the effects of snake venom on the superior cervical ganglion of cats (to be published). The cannula was devised from two 16-gauge needles (Fig. 1A) and the drug is injected through a rubber diaphragm. The dead space of the cannula is 0.3 ml.

The best method of inserting the cannula into the common carotid artery (Fig. 1B) is as follows:

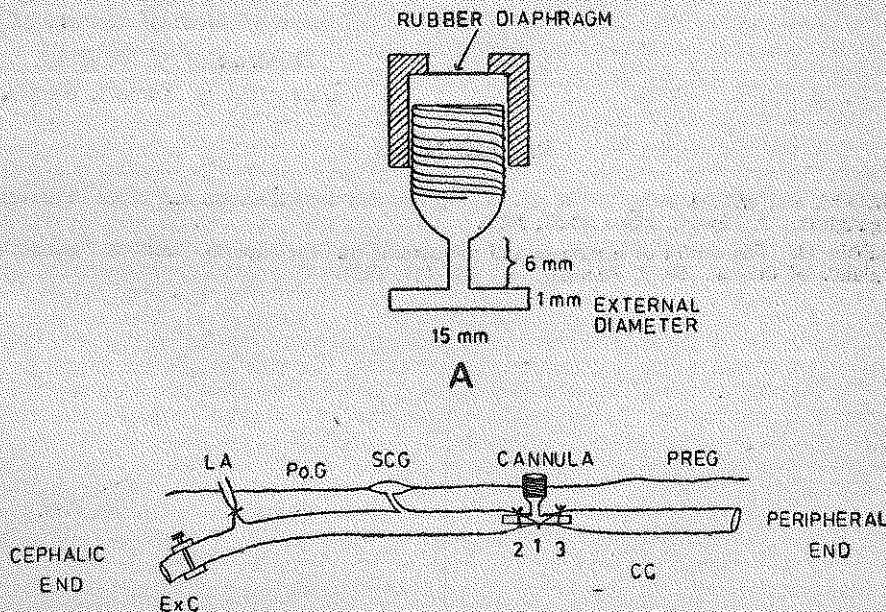


Fig. 1: A. Longitudinal section of the cannula.

B. Cannulation of the common carotid (C.C.) artery with clamp on external carotid (ExC) artery; Po.G, postganglionic trunk; SCG, superior cervical ganglion; LA, lingual artery.

A short length of common carotid artery is separated from the vago-sympathetic trunk from the base of the neck cephalwards for about 20-25 mm. All branches emerging from the artery including the lingual artery are tied and divided between ligatures. The common carotid artery is ligated in the middle (site 1) and the thread kept long for holding the artery. The cannula before insertion is filled with heparinised saline and inserted into the cephalic portion of the artery and tied (site 2). The small portion of the artery between site 1 and 2 is cut so that the peripheral end of the artery becomes free. The peripheral part is held by the long thread, and the other end of the cannula is inserted into the artery and tied (site 3). The cannula is anchored to the side of the trachea by a loosely tied suture. The external carotid artery may be clamped (Fig. 1B) and the peripheral end of the artery to be constricted at the time of injection of the drug through the cannula which is administered slowly.

The advantages offered by the cannula are three-fold:

1. It overcomes the disadvantages mentioned above.
2. The cannula can be implanted chronically in cats and exteriorised for injection of drugs into the superior cervical ganglion and nictitating membrane of cats.
3. The blood supply to the superior cervical ganglion remains uninterrupted.

B.V. TELANG

*Section of Medical Pharmacology,
Department of Medicine,
University of Nairobi, Kenya.*

REFERENCES

1. Paton, W.D.M. and W.L.M. Perry. The relationship between depolarisation and block in the cats' superior cervical ganglion. *J. Physiol.*, 119 : 43-57, 1953.
2. Trendelenberg, U. The action of histamine and pilocarpine on the superior cervical ganglion and the adrenal glands of the cat. *Br. J. Pharmac.*, 9 : 481-487, 1954.