(3) The part of the body from which a blood sample is taken should be stated. Portal vein blood, for example, will normally contain a higher concentration of the compounds sought than blood from other parts of the body. This fact has the double consequence that blood from another part of the body is preferable, and that calculations based on an unknowing analysis of portal vein blood may lead to wrong results.

(4) The toxicologist should be told of any drugs administered either in an attempt to resuscitate a moribund victim or during the treatment of one who is recovering. Modern methods of analysis will easily detect therapeutic doses of most drugs, and it causes the toxicologist much unnecessary work if he extracts these during his analysis and has to identify them.

(5) Whether the victim is living or dead, stomach washouts which have been taken should always be kept and the whole volume submitted for analysis.

(6) As much urine as is available should always be sent, whether in fatal or non-fatal cases. Urine is the best fluid on which to conduct "general-unknown" screening tests.

(7) Since certain poisons are deposited or retained or most easily detected in certain organs, these organs should always be submitted when these poisons are suspected. These organ/poison pairs include not only the well-known arsenic in hair

and nails and lead in the long bones but also the kidneys for heavy metals and the brain and/or lungs for volatile poisons.

(8) For some poisons the type of container used for the organs is important. In particular, polyethylene should not be used if volatile poisons are suspected. The containers may not be gas tight, and, more important, traces of plasticizer from the polyethylene may interfere in the subsequent gas-chromatographic analysis now normally used for this type of poison. Also (though this is admittedly rather a counsel of perfection), in the nowadays uncommon event of lead being suspected as a cause of fatal poisoning, it is helpful if a polyethylene bag is used to isolate the organ from contact with glass, since some types of bottle glass contain traces of lead.

Conclusion

It is obviously impossible in an article such as this to describe in detail everything that a forensic science laboratory does or would like to do. Also, since techniques are constantly being changed and improved, making the previously impossible possible or the difficult less difficult, the final advice must be: If in doubt, consult the lab.

NEW APPLIANCES

New Instrument for Banding of the Pulmonary Artery for Ventricular Septal Defect

Mr. J. S. BAILEY, Department of Thoracic Surgery, Westminster Hospital, London S.W.1, writes: Narrowing of the pulmonary artery in infancy for a large ventricular septal defect was described by Muller and Dammann (1952) as a definitive procedure before the advent of open heart surgery. A series of cases published from different centres confirms the value of this procedure as a palliative measure in infants who would otherwise die from pulmonary complications and

cardiac failure associated with the severe left-to-right shunt (Albert *et al.*, 1961; Craig and Sirak, 1963; Goldblatt *et al.*, 1965).

Since 1957 this operation has been carried out at Westminster and St. George's Hospitals in selected cases. A Terylene or nylon tape 0.5 cm. wide is passed round the root of the pulmonary artery, the two ends being threaded through the flattened eye of a silver probe bent to 90 degrees. The ends of the tape are held by an assistant in one hand while the other hand advances the probe down the tape to narrow the pulmonary artery to the desired degree. The tape is sutured together just distal to the probe, which is then withdrawn. Fine control of the band is required to maintain the correct degree of occlusion while the band is sutured, and this is not easy for the assistant.

The instrument described here was designed to allow such fine adjustment to the tension of the band around the artery and to fix its position in space while it is sutured in place (Fig. 1).

Technique.—The pulmonary artery is approached through an anterior left thoracotomy in the fourth intercostal space when the diagnosis is certain. The main trunk is mobilized and the tape passed around it. The ends of the tape are passed through the slot in the foot of the instrument and drawn up between the clamp jaws. The tape is tightened and the jaws are closed over it. The degree of occlusion is now fixed and the tape can be sutured at leisure (Fig. 2). It is important not to twist the clamp nor to pull on the artery, since both manoeuvres will themselves increase the degree of occlusion. The clamp should be applied with the shaft towards the surgeon's left hand, as in this position it is easier to suture the tape.

My thanks are due to Mr. C. E. Drew, who operated on all the cases in which this instrument has been used. I would also like

to acknowledge the help given by Mr. A. M. Stewart, of the physics department, St. George's Hospital, who made the original instrument, and Dr. P. Hansell, of the depart-

Fig. 1

Fig. 2

ment of medical illustration, Westminster Hospital, for the photographs.

The instrument is now available from Messrs. Allen and Hanburys Ltd.

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