Is Arterial Puncture Dangerous?

SIR,—Professor W. W. Mushin asks (1 August, p. 310) about the complications of arterial puncture. This procedure is now being employed increasingly for radio-diagnostic purposes, and I would like to record the experience of one of my patients.

A man aged 48 years developed recurrent episodes of urinary infection with epididymo-orchitis. An intravenous pyelogram showed a filling defect in the lower pole of the right kidney. The surgeon was unable to perform ureteric catheterization, and advised a renal arteriogram to differentiate between a cyst and a neoplasm. Arteriography was performed at a teaching hospital by cannulation of the right femoral artery, and disclosed a single cyst of the right kidney.

Unfortunately arteriography provoked a complete occlusion of the right femoral artery, causing severe intermittent claudication in the right leg. He was then treated with anticoagulants for three months, with some benefit, but he remained considerably disabled. Finally an exploratory operation revealed occlusion of both the right common femoral and the right external iliac arteries by thrombo-atheromatous clots. Thrombo-endarterectomy was performed with a good resulting blood flow. The following day the wound had to be reopened to evacuate a retroperitoneal haematoma containing four pints (2.3 litres) of blood. When the wound had finished suppurating he made good progress and returned to work after six months of iatrogenic illness.

All specialized procedures have their complications, which are especially apparent to general practitioners because they look after the sufferers afterwards. Arteriography is not to be enterprised nor taken in hand unadvisedly or lightly, but only when the value to the patient of the information sought will outweigh the risks of the technique.—I am, etc.,

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W. M. JORDAN.

SIR,—Your readers may be interested in information of a more factual nature regarding the incidence of complications resulting from arterial puncture. The following observations are due to be published in the near future, but in view of the interest aroused by Professor Mushin's letter (1 August, p. 310) we feel that it may give your readers a broader perspective of the problem than the small number of cases reported so far.

490 patients who were candidates for open-heart surgery were submitted to left-heart catheterization. 92 of these had aortic catheters inserted via the right or the left femoral artery by the percutaneous puncture technique.¹ The remainder had a Cournand indwelling arterial needle inserted into either the right or left brachial artery. Since the aortic catheter and the Cournand needle are much larger than the usual arterial puncture needle chosen for blood sampling, and since the diagnostic manoeuvres involved prolonged intra-arterial manipulation, arterial complications were more likely to be encountered. There were two cases of local thrombosis of the femoral artery in the 92 patients with percutaneous aortic catheterization; one was a small child who required a relatively large catheter for adequate angiographic studies. The risk of thrombosis was realized and accepted, as it was much less than the risk of submitting the child to surgery without excluding the suspected aortic lesion.

In the group of patients (numbering 388) who had an intra-arterial Cournand needle inserted there was a serious complication in only one. The patient developed an acute bleeding state

(? fibrinolysis) and bled from the catheter cut-down site as well as the arterial puncture site. A haematoma around the brachial artery compressed the artery and led to an ischaemic contracture of the hand. Slight local tenderness and bruising commonly followed the arterial puncture.

This experience shows that arterial puncture commonly causes discomfort and may produce serious complications. It is "safe" enough for use as a diagnostic procedure when the information it gives is essential for the patient's welfare, but it is not acceptable as a research procedure.—We, are, etc.,

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H. IKRAM.
P. G. F. NIXON.

REFERENCE

- ¹ Seldinger, S. I., *Acta radiol. (Stockh.)*, 1953, 39, 368.

Drugs for Depression

SIR,—Your leading article, "Drugs for Depression" (29 August, p. 522) considers that to avoid uncertainty in treating depression "it is important to have a clear classification." The author then proceeds to formulate a classification singularly lacking in clarity, since he, admittedly, includes certain anxiety states within the category of reactive depression. The reported successful treatment of reactive depression with barbiturates and Drinamyl in lifelong inadequate personalities seems further to confirm the nosological confusion.

While it might be considered my personal viewpoint that there are no indications for prescribing potentially dangerous drugs such as Drinamyl or iproniazid, there is less controversy about the use of tranquylpromine. The dangerous side-effects of this drug were reported in the *Lancet*¹ and have been circulated to doctors by the Dunlop Committee. It would seem, therefore, ill-advised to recommend it as "a useful drug in general practice for the mildly depressed. . ."

It is unfortunate that a desire for therapeutic clarity and precision should lead to the propagation of an unsubstantiated classification and the recommendation of dangerous drugs of doubtful therapeutic efficacy.—I am, etc.,

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SIDNEY LEVINE.

REFERENCE

- ¹ *Lancet*, 1964, 1, 540.

* * We agree that the fact that a drug can have dangerous side-effects is a strong reason for ensuring that all doctors who use it are aware of the risks. But if a drug is useful where no other will do as well this is a reason for helping doctors to know when to use it and on what sort of patients. Since most cases of depression, including those mixed with anxiety, are treated by general practitioners at the present time we consider that they are entitled to be informed about these drugs.—Ed., *B.M.J.*

SIR,—I would like to support Dr. A. D. Forrest's letter (19 September, p. 756). It is refreshing to read at last some common sense about depressive illness. For too long have we endured from most of the textbooks and all the drug advertisements the view that

"endogenous" and "exogenous" depressions are diseases created in the beginning which walked, two by two, out of the Ark, each bringing forth after his kind. This "Noah's Ark" attitude to psychiatry has neither practical use nor scientific basis. The depressions are all more or less "endogenous" or "exogenous," not either one or the other, and the practical point to be decided in their diagnosis is their severity.

I once classified my depressive cases into the previously accepted categories of "endogenous" and "exogenous," and calculated the incidence of death of parents before the age of 15 in each group, and I found that the "endogenous" ones had a higher orphanhood rate than the "exogenous," thereby suggesting that in this respect the "endogenous" depressions were more "exogenous" than the "exogenous" ones.

The time has come when the "endogenous" and "exogenous" depressions should not be allowed out in print without the protection of quotation marks on each side of them.

I should also like to support Dr. Forrest's condemnation of Drinamyl (each tablet contains dexamphetamine sulphate 5 mg. and amylobarbitone 32 mg.).—I am, etc.,

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FELIX W. BROWN.

Action of Noradrenaline

SIR,—On several occasions during the past year the action of noradrenaline on the adrenergic receptors has been described in your pages in a possibly misleading fashion.

In a leading article on the effects of pronethalol (16 November, p. 1216) you briefly described the Ahlquist theory of adrenergic receptors. You then bewildered many of your readers by stating: "Noradrenaline is an example of a substance which acts primarily on the alpha receptors; it is thus a powerful vasoconstrictor and causes little or no vasodilatation or stimulation of the myocardium."

On 9 May (p. 1227) the following sentences appeared in Dr. B. N. C. Prichard's discussion of the hypotensive action of pronethalol: "The beta receptors include the adrenergic effects on the heart and relaxation of bronchial muscle; the alpha group include the contraction of smooth muscle, such as vasoconstriction in certain vascular beds. Noradrenaline was found to have almost entirely alpha effects. . ."

Finally in "To-day's Drugs" (29 August, p. 555) while discussing pronethalol you again imply that noradrenaline has little action on beta adrenergic receptors and state that it "causes . . . slowing of the heart."

It is perfectly true that in vascular smooth muscle noradrenaline acts primarily on the alpha adrenergic receptors and that the drug is therefore a strong vasoconstrictor in most of the peripheral vascular beds. On the other hand, it is quite false that noradrenaline causes little or no stimulation of the myocardium. In innumerable studies on denervated hearts or on isolated heart-muscle preparations noradrenaline has been shown to have strong positive chronotropic and positive inotropic actions on the myocardium; it is clearly a powerful stimulator