peutic range" in seven of these. One patient (No. 9) developed a deep haematoma of the calf after minor injury and transient haematuria. Further, eight patients were eventually restabilized only on a dose of warfarin lower than might have been expected from the original phenindione dosage.

Other centres may be considering changing patients from phenindione to warfarin, and it is suggested that the initial maintenance dose of warfarin should be less than that normally calculated and that fairly close monitoring of the prothrombin time might be instituted for the first few weeks after the transfer.—I am, etc.,

J. LESLIE.

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REFERENCE

- ¹ *British National Formulary*, 1968, p. 59. London, British Medical Association and Pharmaceutical Society of Great Britain.

Control of Anticoagulants

SIR,—Your leading article (18 October, p. 125) reports that the test used to control treatment is the one-stage prothrombin time. Dacie and Lewis¹ state that "occasionally, because of prothrombin or Factor IX deficiency, a patient on long-term anticoagulant therapy may begin to bleed although the Quick one-stage result is well within the generally accepted therapeutic range. There is no doubt, therefore, that the Quick one-stage is far from the perfect test. It has, however, the great merits of simplicity and speed, and is still very widely used."

In practice the Thrombotest is a reliable reagent which gives good results on finger-prick specimens and a degree of uniformity between laboratories.² The latter fact is surely of importance. The fact that the Thrombotest can be performed on a finger-prick specimen is another advantage when laboratories are understaffed and work-loads are increasing.

It would seem to me, from past experience, having performed both Quick one-stage and Thrombotest, a retrograde step to have to venepuncture every long-term anticoagulant patient, with the resulting increase in cost for syringes, needles, labour, and time in collecting samples and preparing suitable anticoagulant containers.—I am, etc.,

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Suffolk.

REFERENCES

- ¹ Dacie, J. V., and Lewis, S. M., *Practical Haematology*, 1968, 4th ed., p. 309. London, Churchill.
² Poller, L., ed., in *Recent Advances in Blood Coagulation*, 1969, p. 141. London, Churchill.

Immunological Treatment of Cancer

SIR,—Professor G. Mathé (4 October, p. 7) once more calls attention to the important part played by immune response in the "control" of cancer, but the intricacies of the mechanism are far from being understood.

The radiotherapy department of this hospital has a combined hormone, chemotherapy, and immunological clinic. For the past few years a constant stream of patients has been put through a delayed hypersensitivity skin

test programme in which over 1,000 complete tests have been done, using both varidase and tuberculin as general indicators. It was felt advisable to be very conservative in selecting the methods for sequential testing in order to render them as safe and comfortable as possible. It is fully realized that such a test programme for cancer is quite non-specific, and, indeed, at the most only general conclusions can be drawn from a sequential, graphically recorded test programme. Somewhat similar attempts at immunotherapy have, in part, been employed as those seen in use in Nairobi. These comprise the administration of B.C.G. (also used by Professor Mathé), triple vaccine, and smallpox.

Certain suggestions emerge from looking at the graphs. These are:

- (1) That the person who is being overcome by cancer has a declining response.
- (2) That the person in whom host resistance to cancer is "demonstrated" may have a favourable response.
- (3) That in patients successfully treated by irradiation for advanced disease and in whom survival was not expected a favourable test response may be obtained.

(4) That the primary immunological response may be damaged by cytotoxic drugs, steroids, radiotherapy, and extensive surgery.

It is suggested that the effect on the response is dependent upon the magnitude of the procedure: small things do nothing, moderate do some damage, and large procedures may depress the response for some considerable time. With radiotherapy it is clear that, if the technique for breast cancer is modified to administer "small" volume node dose, thus avoiding "block irradiation," the immune response may not be disturbed. If, after an interval, the second node area is irradiated, no disturbance may accrue. This is quite different from routine irradiation of extensive areas as practised in many clinics.

(5) It has been noted that, after the ablation of cancer by "limited" surgery, the response to skin testing may rise. This has also been noted with radiation, in which an overswing of response has been recorded—that is, a temporary drop and then a rise to a higher level. Further, regarding surgery, we know that the presence of an appreciable number of cancer cells in the blood after operation does not always mean the early demise of the patient. It follows, therefore, that the defence mechanism must be powerful in some instances. Nevertheless, surgeons of experience have all seen severe exacerbation of cancerous growth following operation on advanced cases. The defence mechanism is, therefore, probably unduly stressed.

It appears possible that, given some degree of immunological booster which would control the growth of cancer, small radiotherapy beams directed with accuracy on limited residues of malignancy may produce dramatic results. Indeed, in the hormone clinic here this principle has been tested in that some advanced breast cancers with metastases have been "controlled" and radiation then given to limited parts with apparently improved results. Clinical impressions are notoriously fallible; one swallow does not necessarily make a summer, but when most are flying in the same direction it is certainly suggestive.—I am, etc.,

ANTHONY GREEN.

Royal Northern Hospital,
London N.7.Meckel's Diverticulum Causing
Obstruction in a Neonate

SIR,—Meckel's diverticulum is commonly asymptomatic and an incidental finding at operation or post mortem, but it can produce a wide range of symptoms. It may produce abdominal pain simulating appendicitis, cause intestinal haemorrhage or perforation, or present dramatically with acute intestinal obstruction. Obstruction may be produced in a free diverticulum or when the diverticulum or its terminal ligament is attached to the umbilicus, abdominal wall, mesentery, or any other abdominal viscera.¹

I wish to report a case in a three-day-old infant which falls in the first, rarer group. The mechanism of the obstruction was unusual, and therefore considered worth recording.

A full-term female infant weighing 3.5 kg. was quite well at birth and passed meconium normally. At two days she started vomiting bile and the abdomen became distended. She was admitted to Royal Manchester Children's Hospital the next day, and clinical and x-ray findings were suggestive of a small bowel obstruction. At laparotomy she was found to have an obstruction at the site of a Meckel's diverticulum, the bowel proximal to it being very dilated. The diverticulum was free—that is, not attached to the umbilicus or any other structure. It had a mesentery running to the adjacent ileum and the ileum was acutely kinked proximal and distal to the diverticulum. The obstruction was treated by local resection of the ileum with an end-to-end anastomosis. Postoperatively she had a rather prolonged ileus but recovered well.

Histological examination of the specimen showed small bowel mucosa only and no heterotopic tissue.

Aitken² reported on 18 cases with a band obstruction in relation to Meckel's diverticulum and the ages of his patients ranged from 3 days to 11 years.—I am, etc.,

SAEED AHMED.

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Pendlebury, Lancs.

REFERENCES

- ¹ Romig, R. S., *Archives of Surgery*, 1961, 83, 262.
² Aitken, J., *Archives of Diseases in Childhood*, 1953, 28, 1.

Mite Infestation

SIR,—The interesting letter by Drs. E. Freeman and M. S. Kataria (4 October, p. 53) describing human infestation with the poultry mite *Dermanyssus gallinae* prompts us to record our own observations.

In October 1967 two small children were referred by their family doctor because of persistent scabies of typical distribution. Their mother drew attention, however, to tiny "insects" crawling on the bathroom wall. Although initially no connexion was suspected, some of these creatures were submitted to the laboratory for examination. They were identified as *Dermanyssus gallinae*, a mite usually associated with poultry, but frequently infesting starlings and capable of producing scabies-type lesions in man. In view of this, a search of the patient's home was made, and starlings' nests were found in the space through which the bath waste pipe made its exit from the house. Removal of the nests and spraying with a D.D.T. preparation destroyed the mites; the "scabies" rash rapidly cleared with benzyl benzoate treatment and did not recur.