long. The mucosa is roughened and shows very small military-sized nodules. *Histology*: This is a *lymphosarcoma* which has breached all coats of the bowel. Numerous tumour foci are present in the bowel wall well away from the main neoplasm."

Comment

It seems probable that the high post-operative mortality in recorded cases of perforated malignant tumour of the small intestine will be reduced by use of chemotherapeutic measures. Frazer reported no cases of survival after perforation.

The very short history in this case did not give rise to any suspicion of malignancy in the pre-operative diagnosis.

F. DENIS HINDMARSH, T.D., M.S., F.R.C.S.,
Assistant Surgeon, Royal Victoria Infirmary,
Newcastle-upon-Tyne.

REFERENCES

- Frazer, K. (1945). *Brit. J. Surg.*, **32**, 479.
Lewis, D. L. (1939). *Ibid.*, **26**, 540.
Ullman, A., and Abeshouse, B. S. (1932). *Ann. Surg.*, **95**, 878.

Dermatitis after use of Pentavalent Arsenicals per Vaginam

Infestation of the vagina with *Trichomonas vaginalis* is nowadays commonly treated with powders or pessaries containing arsenic in its pentavalent form (acetarsol, "stovarsol"). In general practice these preparations are often used for the symptomatic treatment of leucorrhoea without examination of the discharge, and they are regarded as a stand-by in the vaginal discharges arising during pregnancy. The occurrence of dermatitis after such medication in a case of leucorrhoea in a pregnant woman serves to remind us that the administration of arsenic in any form (trivalent or pentavalent) is not without risk. The drug is absorbed from the vehicle, but it is normally easily detoxicated and excreted without difficulty. Certain individuals may, however, show idiosyncrasy, or intolerance may develop after prolonged administration.

Intolerance is shown by vasomotor crises, gastrointestinal upsets (diarrhoea, vomiting), or toxic effects on the liver, nervous system, or skin. Pentavalent arsenic has also a specific effect on the optic nerve, producing atrophy. In general, the pentavalent form is less toxic than the trivalent (neoarsphenamine), and it is sometimes used when previous reaction to the trivalent form has been encountered, particularly in cases of skin intolerance.

Case Report

In February, 1948, a pregnant woman aged 21 was found to be suffering from syphilis. She was treated with 6,000,000 units of penicillin, followed by seven injections of "stabilarsan" over a period of six weeks (total 2.55 g.), when she developed a generalized exfoliative dermatitis, which required admission to hospital. Two months later anti-syphilitic therapy was continued with bismuth without reaction. She began a period of observation for test of cure in August, 1948, the serum tests having become negative. She miscarried six months later, and, although a blood test showed W.R. negative, Kahn one plus, and Meinicke doubtful positive, she was kept under observation until August, 1949, when she again became pregnant. A course of treatment was advised, and, after a patch test with neoarsphenamine proved to be positive, a course of penicillin, followed by bismuth, was begun. After 3,600,000 units of penicillin and 1.5 g. of bismuth she developed a generalized erythema

with oedema of the eyelids on December 2. A blood count showed: red cells, 3,800,000; white cells, 15,000 (polymorphs 76%, lymphocytes 17%, eosinophils 5%, monocytes 2%); Hb, 74; C.I., 0.98. The urine showed no abnormality.

She was given promethazine hydrochloride, 0.02 g. once daily, vitamin-B complex, 3 mg. daily, with vitamin B₁₂ ("cytamen"), 20 µg. daily, for five days and then 20 µg. weekly. The acute skin condition subsided by December 9, and had cleared, after a fine desquamation, by the end of the year. She was delivered on March 19, 1950, of a healthy child. The possible cause of the dermatitis was discussed with the family doctor, and it was at first thought that it might have been due to sensitization to penicillin or to bismuth (a rare complication). The patient's doctor later recalled that just before the dermatitis appeared he had prescribed "stovarsol" vaginal compound (S.V.C.) pessaries for a leucorrhoea. Seven months after the skin condition had completely cleared a patch test with S.V.C. gave a strongly positive reaction. The serum tests had now become negative and the blood picture was within normal limits. At this time, however, she had spongy gums and gingivitis.

Comment

There are few references to the effect of the pentavalent arsenicals on the skin. Michael (1929) reported a case of exfoliative dermatitis in a woman who had been treated with acetarsol for mucous colitis, and Nicolas and Rousset (1936) noted the occurrence of lesions resembling pityriasis rosea after injection with the same drug. Beatrice Kesten (1938) described five cases of sensitization following intravaginal therapy for trichomonas infestation with a powder containing acetarsol. Persistence in the treatment of these cases resulted in generalized dermatitis after warning signs in the form of a local erythema of the external genitalia and thighs. Campbell (1937) recorded a further case in a woman treated for the same condition with acetarsol tablets per vaginam. This patient had shown intolerance to trivalent arsenic during treatment for syphilis some years previously, having developed an exfoliative dermatitis after 3 g. of neoarsphenamine. She presented an itching erythematous rash on the face, neck, trunk, and limbs, which was followed by desquamation, with thickening of the palmar skin.

The case described above illustrates the development of hypersensitivity to arsenic, and has many features in common with Campbell's case, in which sensitiveness is shown to both valencies. There was no evidence that defective elimination played any part. That it was allergic in nature is perhaps supported by the response to the antihistaminic and by the moderate eosinophilia. Patch tests with both forms of arsenic were positive, but the value of the patch test is disputed: it may be worth doing if previous intolerance to the arsenicals has been shown at any time.

The simultaneous use of the antihistaminic and the vitamins appeared to limit the spread and shorten the course of the illness. Dimercaprol was not given, as the arsenical nature of the condition was not at first suspected, and, when it was, the condition was beginning to subside. The administration of dimercaprol during the former attack did not apparently lessen the length of stay in hospital.

W. E. ORCHARD, M.D., D.P.H.

REFERENCES

- Campbell, C. G. H. (1937). *Lancet*, **2**, 688.
Kesten, Beatrice M. (1938). *Arch. Derm. Syph., Chicago*, **33**, 198.
Michael, J. C. (1929). *J. Amer. med. Ass.*, **92**, 645.
Nicolas, J., and Rousset, J. (1936). *Bull. Soc. franç. Derm. Syph.*, **43**, 3.