if they will present any substantial advantage over penicillin.

Local and non-specific therapy. In cutaneous anthrax local treatment is comparatively unimportant, and good results are obtained with an occlusive dressing using a mild antiseptic ointment. Rest is, of course, important, with light splinting if necessary.

Healing of the malignant pustule is a slow process. It may take two to three weeks for the slough to separate and to leave a clean floor to the ulcer, when, of course, the time of healing depends on the size.

Usually about another two weeks are needed, but healing is sufficiently certain to make skin grafting unnecessary.

ANNOTATION

The Treatment of Hyperthyroidism

There are now three methods of treatment for cases of hyperthyroidism—*thyroidectomy*, *thiouracil* and *radioactive iodine*. Crile and McCullagh in a valuable article (*Ann. Surg.*, 1951, **134**, 18) assess the results they have obtained with these methods.

In 540 consecutive cases operated on by the technique now used by them—a radical subtotal thyroidectomy of the Lahey type, with demonstration of both recurrent laryngeal nerves and parathyroids—there were no deaths and only two persistent unilateral recurrent nerve palsies. The late results, five to ten years after operation, are interesting although the follow-up was unfortunately only 50 per cent. complete. Following the older operation in which varying amounts of thyroid tissue were used to preserve the recurrent laryngeal nerves, the incidence of recurrent and residual hyperthyroidism in Graves' disease was 15 per cent. and in toxic nodular goitre was nil. Following the more radical technique now employed the incidence of recurrence in both types of disease was only 2 per cent. Post-operative hypothyroidism requiring treatment was found, with the older operation, in 4.5 per cent. and with the present operation in 21 per cent. of cases of Graves' disease subjected to operation. This complication did not occur in secondary toxic goitre.

Propyl thiouracil, dealt with in the second part of the paper, in doses of 300 to 400 mgm. per day was effective in 96 per cent. of the patients so treated. The use of this drug is advocated both as a definitive treatment and as a pre-operative measure. Mortality is practically unknown, only one case of fatal agranulocytosis being recorded in the literature. Toxic effects were found in 2.5 per cent. of the patients but in only half of these were

they sufficiently severe to require cessation of treatment. Frequent blood counts were considered unnecessary provided patients understood that they should report fever, rash or sore throat at once.

The indications for definitive thiouracil treatment given by the authors are: (1) For patients with Graves' disease who have small goitres. (2) In all patients with a short life expectancy or who are (and remain) poor surgical risks. Of 147 patients treated with propyl thiouracil 70 had long-term remissions after withdrawal of the drug, 18 were never adequately controlled and the remainder had a recurrence of hyperthyroidism after an interval. It is considered that if a recurrence is delayed for four months the remission will be prolonged. Remission in Graves' disease was twice as frequent as in toxic nodular goitre.

The last section of the paper deals with radioactive iodine (I^{131}); 337 patients were treated with I^{131} , of whom 109 had completed treatment from between two months and two years before the report. No death was attributable to treatment and there was no morbidity. In both types of disease the hyperthyroidism was controlled, more rapidly in Graves' disease than in nodular goitre. In Graves' disease eight of 73 cases required treatment for hypothyroidism; complication was not seen in toxic nodular goitre. Recurrence in the short period of the follow-up was seen in only one case (of Graves' disease). The advantages of treatment with radioactive iodine are therefore considerable, but in view of the unknown late radiation hazards caution is advised by the authors until a long follow-up period has elapsed, and its present use restricted largely to older patients.

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