to show a correlation between overgrowth of candida and adverse symptoms after short-term antibiotic therapy.

Proliferation of candida in many patients did not cause significant morbidity in this trial, but in view of the morbidity and even mortality which candida can occasionally produce (Reynell et al., 1953; Caplan, 1955), it would seem wise to contain or reduce the reservoir of candida when using antibiotics in certain patients.

Summary

Of 166 patients admitted to a general medical ward in a year 28% were shown to have positive throat swabs and 8.4% to have positive rectal swabs for candida, the incidence increasing with age and being more common in women though not increasing after five days in hospital.

The administration of parenteral penicillin or oral tetracycline markedly increased the incidence of positive throat and rectal swabs after five days, but where the latter antibiotic was combined with nystatin this tendency was suppressed.

In the present study gastro-intestinal symptoms were not affected by short courses of antibiotics, as assessed after 6 and 12 days, but because of the potential pathogenicity of candida it is felt wise, in selected patients, to administer nystatin by mouth in combination with antibiotic therapy.

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REFERENCES

REFERENCES

Basu, R., Basu, N., and Banerjee, A. K. (1961). Bull. Calcutta Sch. trop. Med., 9, 20.
Benham, R. W. (1957). 7. chron. Dis., 5, 460.
Caplan, H. (1955). Lancet, 2, 957.
Cawson, R. A. (1963). Brit. dent. 7, 115, 441.
Chamberlain, C., Burros, H. M., and Borromeo, V. (1958). Antibiot. Med., 5, 521.
Childs, A. J. (1956). Brit. med. 7, 1, 660.
—— (1957). Scot. med. 7., 2, 400.
Conant, N. F., Smith, D. T., Baker, R. D., Callaway, J. L., and Martin, D. S. (1954). Manual of Clinical Mycology, 2nd ed. Saunders, Philadelphia and London.
Dawson, C. O. (1962). Sabouraudia, 1, 214.
Drouhet, E. (1957). Sem. Hôp. Paris, 33, 843.
Larkin, R. (1959). Lancet, 1, 1228.
Larkin, R. (1959). Lancet, 1, 1228.
Lepper, M. H., Lockwood, J., Spies, H. W., and Rubenis, M. (1958-9).
Antibiot. Ann., p. 666.
Mackenzic, D. W. R. (1961). Sabouraudia, 1, 8.
MacLean, K. (1962). Medical Treatment, 2nd ed., p. 715. Churchill, London.
Marten, P. H. (1959). Brit. 3. Darm. 71, 422. MacLean, K. (1962). Medical Treatment, 2nd ed., p. 715. Churchill, London.
Marten, R. H. (1959). Brit. J. Derm., 71, 422.
Metzger, W. J., Skigmann, F., Jenkins, C. J., Pamuken, S. F., and Kaminski, L. (1956-7). Antibiot. Ann., p. 208.
Murdoch, J. McC. (1964). Textbook of Medical Treatment, edited by D. Dunlop, S. Davidson, and S. Alstead, 9th ed., p. 71. Livingstone, Edinburgh and London.
Newcomer, J. D., Wright, E. T., and Steinberg, T. H. (1954-5). Antibiot. Ann., p. 686.
Reynell, P. C., Martin, E. A., and Beard, A. W. (1953). Brit. med. J., 1, 919.
Robinson, H. M. (1954). Arch Deven Such (2011) 25 1, 919.
Robinson, H. M. (1954). Arch. Derm. Syph. (Chic.), 70, 640.
Robinson, M. (1957-8). Antibiot. Ann., p. 451.
Shelmire, B. (1925). Arch. Derm. Syph. (Chic.), 12, 789.
Stenderup, A., and Pedersen, G. T. (1962). Acta path. microbiol. scand., 54, 462.
Stone, M. L., and Mersheimer, W. L. (1955-6). Antibiot. Ann., p. 862.
Tanner, F. W., Lampert, E. N., and Lampert, M. (1927). Zbl. Bakt., I. Abt. Orig., 103, 94.
Todd, R. L. (1937). Amer. J. Hyg., 25, 212.
Whittle, C. H., Moffatt, J. L., and Davis, R. A. (1959). Brit. J. Derm., 71, 1.
Winner, H. I. (1960). Unpublished data quoted by Winner and Hurley (1964), p. 125. (1964), p. 125.

- and Hurley, R. (1964). Candida Albicans, p. 62. Churchill, London.
Younger, D., Epifano, L. D., Dipillo, P., Hoffman, I., Thaler, E., and Yarvis, M. (1959). Antibiot. Med., 6, 216.

Treatment of Trigeminal Neuralgia with Carbamazepine: a Follow-up Study

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There have been several reports of the use of carbamazepine (Tegretol; 5-carbamyl-dibenz(b.f.)-azepine) in the management of trigeminal neuralgia (Blom, 1962, 1963; Spillane, 1963, 1964; McArdle, 1963; Taylor, 1963; Campbell, Graham, and Zilkha, 1966). These reports, pointing to a 60-80% success rate, have been mainly concerned with treatment in the short term.

In order to assess the value of the drug in the long term the present study was undertaken.

Material and Methods

The case records of 96 patients with trigeminal neuralgia treated with carbamazepine at the National Hospital, Queen Square, have been assessed with reference to the success or failure of this method of treatment over a prolonged period.

The cases have been arbitrarily divided into three groups according to the length of follow-up. The follow-up period was defined as the interval between starting carbamazepine and the last consultation. All patients were complaining of pain

typical of trigeminal neuralgia when they were first put on the drug.

Group A.—Forty-four patients, followed up for 1 to 11 months, with a mean of 5.3 months.

Group B.—Forty-two patients, followed up for 12 to 23 months, with a mean of 14.8 months.

Group C.—Ten patients, followed up for 24 to 30 months, with a mean of 26.6 months.

The results in each group were analysed separately, and four categories were recorded: (1) pain-free; (2) some slight pain but well controlled and content; (3) poorly controlled though perhaps slightly improved; (4) failed. The results are summarized in the Table.

Dosage of Carbamazepine.—All patients were started on a dose of 100 mg. four times daily. Those who did not show a good response within 48 hours had their dosage doubled to 200 mg. four times daily. Of the 71 patients remaining after exclusion of the failures, 59 were still taking the drug when last seen. Twenty of these were doing so intermittently and at irregular intervals, a small dose usually being sufficient to keep the occasional spasm at bay. The other 39 were evenly distributed, half taking an average dose of 400 mg. daily and the other half 800 mg. daily.

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Summary of Results

| Category | | Group A (Less than 1 Year) | | Group B (1-2 Years) | | Group C (Over 2 Years) | | All Groups | |
|---|----|----------------------------|---------------------|---------------------------|---------------------|------------------------------|--------------------|---------------------|---------------------|
| | | No. | % | No. | % | No. | % | No. | % |
| Pain-free Well controlled Poorly ,, Failed | | 13 11 3 17 | 29 25 7 39 | 11 20 3 8 | 26 48 7 19 | 2 8 0 0 | 20 80 0 0 | 26 39 6 25 | 27 41 6 26 |
| Total | •• | 44 | 100 | 42 | 100 | 10 | 100 | 96 | 100 |

Duration of Treatment.—The duration of treatment varied widely. On the one hand one patient took the drug for a fortnight and then remained pain-free for a year; on the other a patient took the drug continuously for two years, had a remission for four months, and then was started on carbamazepine again on return of the pain.

Failed Treatment.—A more detailed analysis of the results in the 25 patients (26%)—17 in group A and eight in group B who were regarded as having failed to benefit is of interest. Four failed to respond despite adequate dosage, seven made a promising response initially but relapsed subsequently while on a higher dose of up to 1,400 mg. daily, and in 14 the drug was withdrawn because of side-effects. Of these 14 patients the drug was withdrawn in 10 because of a rash, in two because of severe giddiness, in one because of diarrhoea, and in one because of excessive drowsiness. It may be argued that withdrawal of the drug because of side-effects does not indicate that the drug had failed to control the pain. The converse was usually the case, but a therapeutic failure in the practical sense is implicit.

Age.—Four observations were noted in relation to age. Seventeen of the 96 patients were under the age of 50, but differed in no other respect from the remainder. The two patients who had the drug withdrawn because of severe giddiness and the one who stopped taking it because of marked drowsiness were all over 80 years of age. It is our impression that these particular side-effects increase in frequency and severity with increasing age. No similar trend was evident as regards the incidence of the rash.

Discussion

It is clear that a useful proportion of patients treated with carbamazepine can be maintained in reasonable comfort for periods up to two and a half years. There is no suggestion that the rate of relapse on adequate dosage of the drug increased with the duration of treatment; indeed, the converse is suggested. As may be expected group A, with a follow-up period of less than one year, showed the highest failure rate, but, even in this group, if the pain-free and well-controlled patients are combined then 54% did well on the drug. This is comparable with the result of a clinical trial of carbamazepine versus placebo over an eight-week period (Campbell, Graham, and Zilkha, 1966).

In group B, with a follow-up period of one to two years, 74% of the patients on the drug did well; and in group C, followed up for over two years, all 10 patients (100%) did well. Overall, and taking the three groups together, 68% of the patients receiving carbamazepine did well.

Of the 25 patients (26%) who were regarded as failures of treatment with carbamazepine, 16 eventually required operative measures. It is accepted that this proportion will vary according to the clinician's criteria of satisfactory control and the individual patient's reaction to pain.

Summary

The results of treating 96 patients suffering from trigeminal neuralgia with carbamazepine (Tegretol) are given. Of these patients 68% did well on the drug, and were kept comfortable for periods up to two and a half years.

REFERENCES

Blom, S. (1962). Lancet, 1, 839.
—— (1963). Arch. Neurol. (Chic.), 9, 285.
Campbell, F. G., Graham, J. G., and Zilkha, K. J. (1966). To be published.
McArdle, M. J. (1963). Association British Neurologists, Harrogate, April.
Stillage J. D. (1963). Ibid. April.

Idiopathic Ulcerative Colitis in the African: a Report of Four Cases

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Ulcerative colitis appears to be a rare condition in Africans. After many years of personal experience in Uganda, Trowell (1960) wrote: "There is no report in the literature of an African suffering from this disease and none has been encountered in the practice of (Mulago) Hospital. It is important that the first detected case should be carefully recorded, together with an assessment of incidence." The geographical distribution of ulcerative colitis was reviewed in a leading article in the B.M.J. (1962), and the difficulty of assessing the frequency of the disorder in the tropics was commented on. There were references to undoubted cases reported from Egypt, Brazil, Uruguay, Japan, and Israel, but not from tropical Africa.

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Four African patients with ulcerative colitis were seen and diagnosed at Mulago Hospital during 1964; three were reported at a meeting at Kampala in June 1964 (B.M.J., 1964) and a fourth was seen later in the year. The four patients are reported on in detail. It is believed that this is the first detailed account of ulcerative colitis developing in Africans in tropical

All four patients lived in Buganda and belonged to the Baganda tribe, which is the predominant tribe around Kampala and accounts for 43% of medical admissions to Mulago Hospital (Shaper and Shaper, 1958). Two were men and two women, and their ages were 30, 44, 51, and 58 years. Age at onset of the disease ranged from 29 to 52 years, and duration from one to 12 years. The diagnosis of idiopathic ulcerative colitis rested positively on typical sigmoidoscopic or radiological appearances in all of the patients and on beneficial response to corticosteroids alone in three of them, and