lesions in infants under the age of 2 years, based chiefly on a review of the High Wood figures (Bentley *et al.*, 1954).

Misgivings about the possible hazards of drug treatment in tuberculous mediastinal lymphadenitis have been expressed (Bentley, 1955), as mentioned previously. He also records the development of segmental lesions in 10% of a group of 80 children of all ages suffering from tuberculous mediastinal lymphadenitis treated with drugs, and he points out that this compares unfavourably with an incidence of 4% in 202 children of all ages with uncomplicated tuberculous mediastinal lymphadenitis studied at High Wood between 1942 and 1946, although he admits that much of the apparent increase in the drug-treated series may result from earlier diagnosis and admission. Cases were classified, mainly on the radiological condition found on admission, as showing uncomplicated mediastinal lymphadenitis or segmental lesions in the earlier series, and there was an average waiting period of three months before admission, during which interval the majority of the segmental lesions might be expected to appear. As a result, cases of uncomplicated mediastinal lymphadenitis classified as such at the time of admission would represent a selected group much less prone to the development of segmental lesions after admission.

In a recent article dealing with the treatment of tuberculosis in children with isoniazid (Plettenburg, 1955) the development of lobar atelectasis in 29 children, mostly of "crawler" age, is recorded. The total number of children in the group with hilar lymph node tuberculosis in whom this complication appeared is not recorded. Treatment consisted of isoniazid in a dose of 10 mg. per kg. and streptomycin in an unstated dosage. Four of these children died after bronchoscopy carried out in order to remove caseous material and granulation tissues from the bronchi.

The results obtained in the present relatively small series of cases, although they cannot take the place of an adequately controlled large-scale trial, do not suggest that specific chemotherapy in young children is likely to increase greatly the natural hazard of the development of segmental lesions. The latter occurred in only two cases in the group 2 years and under, and the overall incidence of 8% does not appear excessive in view of the low mean age of the group treated. In all four cases the lesions involved segmental areas in upper lobes, and no case of massive lobar consolidation or collapse was noticed. Three cases have run their course to a residual area of fibrosis and final stability has not yet been reached in one. No haematogenous complications occurred and no deaths were encountered.

The hazards of primary infection in the young child are well recognized. Haematogenous complications occurred in 10% of children under 2 years of age (Bentley *et al.*, 1954). The risk of meningitis or miliary tuberculosis among children under 5 years has been estimated at 4% (Cammock and Miller, 1953). The known risks in the group 2 years and under lend support to the current practice of advocating antimicrobial therapy for them, and the results in the present series do not suggest that there is at present strong enough reason to withhold the benefits of drug treatment, even in the child with obvious enlargement of the mediastinal glands.

Summary and Conclusions

A series of 50 cases of tuberculous mediastinal lymphadenitis in children were studied.

The influence of antimicrobial treatment on the development of segmental lesions was investigated.

There is no obvious increase in the natural frequency of segmental lesions as a result of antimicrobial treatment.

There appears to be no definite reason to abandon the current practice of administering specific drug treatment to children aged 2 years and under suffering from primary tuberculous infection even in the presence of obvious mediastinal glandular enlargement.

ADDENDUM.—Since this article was submitted for publication, eight further cases have completed a minimum of three months' treatment. Three were aged 2 years or under, and five were over 2 years. Segmental lesions appeared in two of these cases within three months, one occurring in each age group.

It does not appear that these additional cases increase the frequency of segmental lesions in drug-treated cases beyond the range of their natural incidence in the respective age groups.

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PENETRATING ULCER OF THE TONGUE

BY

GORDON F. CASSIE, M.B., F.R.C.S.

Ashford Hospital, Middlesex

Penetrating ulcer of the tongue is of fundamental importance, in that it resembles carcinoma very closely. It has been appearing infrequently in the surgical clinics of this hospital recently, thus stimulating a search for information about the subject. No record of this disease has been found in any standard British textbook on surgery, medicine, pathology, oral medicine, or pathology. No reference has been found in the last ten years of the *Index Medicus*. Thoma (1949) mentions briefly what he calls decubitus (traumatic) ulcer of the tongue. Butlin and Spencer (1900) described traumatic ulcers of the tongue due to rough teeth, commented upon the difficulty in diagnosis, and indicated that complete excision may produce a dramatic cure.

Details

The lesion is a deep ulcer (Fig. 1), oval or circular, with sloping or slightly rolled edge and yellow slough base. It feels hard, but induration does not spread into the muscle. It is painful when eating and has usually been present for two to four months before advice is sought. The picture is typical of carcinoma, except that deep induration is absent and the cervical glands, if enlarged, are tender.

The ulcer seems to occur after middle age, affecting the same age groups as carcinoma. The frequency is impossible to assess at present, because most out-patient notes are not indexed with diagnosis. In this hospital in the last five years penetrating ulcer and carcinoma have occurred with equal frequency. The posterior aspect of the lateral border of the tongue seems to be the most commonly affected site, but it may develop in the central area.

Chronic irritation by adjacent teeth is the most obvious cause, but this cannot explain Case 3, in which the central

FIG. 1.—Penetrating ulcer of the tongue (Case 2).

area was affected and the dentures had been worn for 20 years. This area is not in contact with the upper incisors during speech or mastication. There would appear to be a special response by the tongue to irritation in advanced age groups.

The diagnosis must be made by biopsy, as the ulcer may usually be confidently diagnosed as carcinoma on first examination. The Wassermann and Kahn tests are necessary to exclude syphilis, and tuberculosis will be eliminated by histological section. There is no difficulty in differentiating penetrating ulcer from acute ulcers such as peptic, aphthous, and herpetiform. Microscopy shows an abrupt termination of normal epithelium at the edge of the ulcer and diffuse infiltration of the subepithelium and muscle by inflammatory cells (Fig. 2). There may be acanthosis of the epithelium at the edge, especially when healing is occurring.

FIG. 2.—Low-power view of biopsy in Case 2. This shows abrupt termination of epithelium and heavy infiltration with inflammatory cells.

The course is difficult to estimate in view of the small number of cases observed, but at present it can be said that healing will occur in one to three months if treatment is begun at once. The condition does not seem to be premalignant, but prolonged follow-up is obviously essential.

Treatment.—Any likely mechanical irritating factor such as a rough tooth or filling must be abolished. A course of parenteral penicillin should be given. The ulcer may be completely excised by diathermy, but healing will take much longer and the area may produce a patch of acanthosis resembling leucoplakia.

Case Histories

Case 1.—A woman aged 70 attended surgical clinic on November 13, 1951, complaining of painful ulcer on left side of tongue for two months. Tonsillar gland on that side enlarged and tender. Good general health. Several teeth in poor state, one almost opposite the ulcer. W.R. and Kahn, negative. November 28: Excision of ulcer by diathermy. Histology: Hyperplasia of epithelium at edge of lesion and heavy infiltration by inflammatory cells. No evidence of malignancy. January 21, 1952: Ulcer healed. Follow-up until July 10, 1955, shows persistence of soft whitish area which does not appear to be true leucoplakia.

Case 2.—A woman aged 75 attended surgical clinic on January 26, 1955, having had a painful ulcer on the right side of tongue for two months (Fig. 1). Raised edge and yellow slough. No enlarged glands. Good general health. Several teeth present in poor state, one being opposite the ulcer. W.R. and Kahn, negative. Biopsy performed on February 1. Histology: Floor of ulcer composed of granulation tissue heavily infiltrated by polymorphs; no evidence of malignancy (Fig. 2). A course of parenteral penicillin was given and dental clearance performed. March 9, 1955: Ulcer completely healed.

Case 3.—A man aged 63 attended surgical clinic on May 3, 1955, complaining of painful ulcer, $1\frac{1}{2}$ by $\frac{1}{4}$ in. (3.8 by 1.9 cm.), in centre of tongue for four months. Slightly raised edge and yellow slough. No enlarged glands. Good general health. Edentulous; no irritating factor present on upper denture, which had been worn for 20 years. W.R. and Kahn, negative. Biopsy performed on May 6. Histology: The loose fibrous tissue underlying the acanthotic stratified squamous epithelium is heavily infiltrated by chronic inflammatory cells. No evidence of malignancy or gumma. May 30: Ulcer healed.

Discussion

Penetrating ulcer of the tongue deserves widespread recognition and inclusion in standard textbooks of medicine and surgery, because it resembles carcinoma exactly and the two conditions seem to occur with equal frequency. Irritation by a mechanical factor is likely to be the cause of the ulcer, but this response of the tongue epithelium occurs only in later age groups. It is significant that at this hospital the lesion has not been seen in younger age groups, for a much higher percentage of them are edentulous. Biopsy of all such ulcers is imperative. The only salient clinical differences between penetrating ulcer and carcinoma are that pain is a constant complaint in the former and that deep induration is usual in the latter.

So far as can be determined at present, successful treatment involves a course of parenteral penicillin and removal of any irritating factor. In the present state of our experience the lesion is not pre-cancerous, but more widespread appraisal of the disease and prolonged follow-up should provide a final decision in some years.

Summary

A penetrating ulcer of the tongue with an incidence similar to carcinoma is described and illustrated. A plea is made for more widespread recognition of this lesion, which is quite distinct from the small acute "dental" ulcers often seen at the edge of the tongue.

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The Australian Government has appointed a committee of inquiry into the future of the Australian universities. The inquiry arises out of a request by the Vice-Chancellors who approached the Government. This, according to an official source, is the first comprehensive inquiry to be made into the needs of Australian universities. The committee has been asked to indicate ways in which the universities might be organized so as to ensure that their long-term pattern of development is in the best interests of the nation, and in particular to inquire into such matters as the role of the university in the Australian community; the extension and co-ordination of university facilities; technological education at university level; and the financial needs of universities and appropriate means for their provision. It is hoped that the committee will pay attention to what Australian universities could reasonably be expected to do, how they might be organized to do this, and how their activities should be financed; and that it will examine the adequacy of the Commonwealth scholarship scheme. The committee's chairman is Sir KEITH MURRAY, chairman of the British University Grants Committee, and among its members is Sir CHARLES MORRIS, Vice-Chancellor of Leeds University. The committee will carry out its inquiry in July, August, and September.