Case 3.—Aged 6 years. Admitted to hospital on July 4, having had scarlet fever and chicken-pox a month previously, from which she appeared to make a good recovery. Since June 25 she had a pyrexia of unknown origin. The Mantoux test was positive and there was enlargement of glands at the left hilum with an opacity in left lower zone. The glandular enlargement subsided satisfactorily, and it was estimated that the child would be fit to return to school in March, 1951.

Case 4.—Aged 6 years. History of measles in mid-June, followed by a normal recovery, but on July 4 a pyrexia developed. Investigation showed enlarged right hilar glands and a positive Mantoux reaction. X-ray examination in January, 1951, showed the primary focus to be cleared, but enlarged hilar glands were still present.

Case 5.—Aged 7 years. History of pyrexia starting on July 4. Investigation showed enlargement of the glands at the bifurcation of the trachea and a positive Mantoux reaction. By February the lesion had cleared completely and her general condition was satisfactory.

Case 6.—Aged 6 years. Routine Mantoux test positive. X-ray examination of chest revealed enlarged left hilar glands. Progress was such that this boy was allowed to attend school in December.

Case 7.—Aged 9 years. Routine Mantoux test positive. X-ray examination of chest showed left hilar glands enlarged with stippling in left mid-zone. Satisfactory resolution of root glands enabled her to start school in February, 1951.

Case 8.—Aged 9 years. Vague history suggestive of erythema nodosum. Routine Mantoux test positive. X-ray examination of chest revealed enlarged right hilar glands. Satisfactory resolution was made by February, 1951, when she was able to be up and about, although not fit to return to school.

Case 9.—Aged 8 years. Routine Mantoux test on July 21 negative. General malaise and pyrexia on July 28. Mantoux test positive on August 18, and x-ray films of chest showed enlarged right hilar glands. Satisfactory resolution was made by February and the child was fit to return to school.

Case 10.—Aged 9 years. Routine Mantoux test on July 21 negative. Developed febrile illness on July 31, when the Mantoux test was positive and x-ray examination of chest showed shading in the right upper zone with right hilar glands enlarged. There was satisfactory healing by February, 1951, and the child was able to carry on normal activities.

Case 11.—Aged 8 years. Routine Mantoux test on July 21 negative. Referred to clinic, and Mantoux test repeated in September; the test was then positive, and x-ray films showed enlarged left hilar glands. Progress by February, 1951, enabled him to return to school.

Case 12.—Aged 8 years. Routine Mantoux test in November positive and x-ray films of chest revealed enlargement of right hilar glands. Satisfactory progress was made, enabling her to be fit for school in February, 1951.

In all cases the treatment consisted only of rest in bed, at home or in hospital, with clinical and radiological supervision. Streptomycin was not given.

All the teaching and non-teaching staff of the school immediately volunteered to undergo x-ray examinations, and, apart from the affected teacher, none showed evidence of active tuberculosis.

Conclusions

The staffs of hospitals and local authorities, together with general practitioners, must co-operate in providing a comprehensive health service in which therapeutic and preventive measures play equally important parts.

This local outbreak is an example of the danger that a teacher suffering from pulmonary tuberculosis can be

to schoolchildren. The favourable outcome in this series does not detract from the need for preventive measures. Periodic compulsory x-ray examinations seem to offer the most practicable solution. It must be remembered, however, that pulmonary tuberculosis may be rapidly progressive in a young adult and that annual examinations may not be a sufficient safeguard. Some, maybe, would argue that six-monthly routine examinations would involve waste of effort and money, but, on the other hand, outbreaks such as the one described may be prevented. Preventive measures, we submit, are in the long run financially economical, in addition to being sound from a purely medical standpoint.

The histories suggest an incubation period between the limits of 40 and 62 days.

Summary

Five cases of clinical primary respiratory tuberculosis were reported in pupils of the same school. The probable source of infection was traced to a schoolteacher. Immediate Mantoux and x-ray testing revealed three further cases. The return of the teacher concerned to school after a short period of absence necessitated a follow-up examination of the pupils, and four further cases were brought to light. The classes predominantly affected were those with which the teacher had come into closest contact.

We wish to acknowledge the active part played by Dr. W. E. Thomas, the County Medical Officer, and Dr. J. G. Cox, the chest physician, in the investigations and control of this outbreak.

THE SURGERY OF PAROTID TUMOURS

EXPOSURE OF MAIN TRUNK OF FACIAL NERVE

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Exposure of the main trunk of the facial nerve and the dissection of the distal branches and filaments form the method we have evolved for the removal of parotid tumours.

Willis (1948, 1950), from whose writings we quote, classifies epithelial salivary-gland tumours as follows: simple adenoma; pleomorphic adenomas and adenocarcinomas (so-called mixed parotid tumours); anaplastic carcinomas; and adenolymphomas (papillary cystadenomas). He states that 90% of all salivary tumours fall into the group of pleomorphic adenomas, and that while most of these tumours grow slowly and appear to be well circumscribed they are not strictly benign. He further states that the mode of origin of the tumours parallels that of mammary carcinoma, which often arises from a considerable field of mammary epithelium. He believes that the recurrence rate after inadequate operation may be as large as 62%, and that the principal factor is the conservative type of operation used because of fear of damage to the facial nerve.

He mentions, too, quoting Patey, that the recurrence may arise from small satellite tumours independent of the main one.

The incidence of parotid tumours, other than pleomorphic adenomas, makes any other clinical diagnosis than this unwise (except the obvious cancer), and their pathology demands that any surgical treatment should be wide excision.

McKenzie (1948) has reiterated that Bailey (1948) is inaccurate in his description of the gland as a bilobed structure. We have not found Bailey's analogy of the facial nerve as the filling in a parotid sandwich of any value in removing parotid tumours, but our experience of facial-nerve branches and filaments makes us accept McKenzie's analogy of the parotid growing like a creeper, weaving itself into the meshes of a trellis-work fence (the facial nerve). Kidd (1950) has described identification of the cervical branch of the facial nerve in the submaxillary triangle as the first step to preserve all the facial nerve. From dissections, however, this nerve appears small and might be difficult to find. One of us (W. K. J. W.) has noted that it commonly lies deep to the platysma $\frac{3}{8}$ in. (1 cm.) behind the angle of the jaw, but this is inconstant.

Method

It seemed to one of us (H. S. S.) that the sensible method to preserve the facial nerve and yet, without reservation, resect widely any superficial parotid tumour would be to expose first the main trunk of the facial nerve soon after its emergence from the stylomastoid foramen and then from this large strong trunk to work forward to the main divisions and filaments as need be. This idea is the basis of the method we describe.

The facial-nerve trunk runs $\frac{1}{4}$ in. (0.6 cm.) below the free edge of the tympanic plate, as determined by one of us (T. McM. B.), and the exposure of the free edge of the tympanic plate is the key to the operation (see Figs. 1 and 2).

The parotid and temporo-mandibular regions are infiltrated with local analgesic to help haemostasis. The incision is liberal, extending from Macewen's triangle a fingerbreadth behind the pinna and

just below the external auditory meatus down to the lower border of the mandible; flaps are dissected. The outer border of the tympanic plate is exposed and the main trunk of the nerve found $\frac{1}{4}$ in. (0.6 cm.) below; the nerve is dissected anteriorly, and in this forward sweep there is no confusion between fine filaments of nerve, fibrous tissue septa, and tiny ducts. The tumour is now excised widely, and after haemostasis the wound is closed with an intracuticular stitch and drained.

We first performed the operation on September 20, 1950, on a woman aged 70. Our clinical diagnosis was an encapsulated parotid tumour, but histology showed a carcinoma—a fitting confirmation of Willis's description of the pathology of these tumours and apt support for our thesis of wide safe removal.

Summary

A new method of surgical treatment of parotid tumours is described.

The main trunk of the facial nerve is exposed $\frac{1}{4}$ in. (0.6 cm.) below the free outer border of the tympanic plate as the first step in the operation to excise widely the tumour and yet preserve the nerve.

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Medical Memoranda

A Relaxant of Very Brief Action

A recent important paper (Paton and Zaimis, 1950) pointed out that the myoneural blocking agents in clinical use as relaxants could be classified, according to their mode of action, into two groups: (1) true curarizing agents—e.g., D-tubocurarine chloride; (2) depolarizing agents, of which group decamethonium iodide is the only member in common use. The different properties of these agents in anaesthetic practice have recently been reviewed (Scurr, 1951).

Bovet (1949) has reported an extensive pharmacological investigation of a large number of synthetic "curarizing" agents. One of these compounds, closely related to succinyl-choline and designated 362 I.S., was considered suitable for clinical trial, and Valdoni (1949) reported briefly on its use in a small number of cases. This substance is di-(β -ethyl dimethyl-ammonium-ethyl) succinate diiodide, and belongs to the depolarizing group of agents. Recently a small supply (4 g.) of this drug became available, and it has been possible to test its effect in a small series of cases.

Effects

After the rapid injection of 50–75 mg. into the average adult the first signs are evident in about 20 seconds. The onset of muscular paralysis is marked by transitory tremors and flickering of muscles similar to but more pronounced than those noted with decamethonium iodide. After 30–40 seconds the effect of voluntary muscular paralysis is maximal, and complete respiratory paralysis may occur. Recovery takes place approximately two minutes from the time of injection, full respiratory activity being rapidly regained. In no case has the duration of paralysis exceeded 2½ minutes.

FIG. 1.—Photograph of exposed left side of face.

FIG. 2.—Diagram of exposed left side of face.