**A SERIES OF CASES OF MAXILLARY ANTRAL DISEASE:
SOME POINTS OF INTEREST.¹**

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SINCE January, 1914, 878 cases of maxillary antral disease have been observed by me in hospital and private practice. In 599 cases both antral cavities were affected, in 143 the right alone, and in 136 the left alone.

The diagnosis in all cases rested on proof-puncture. In the author's opinion transillumination and X-ray examination as diagnostic methods are unreliable. Dr. Watson Williams's method rests on the same basis as proof-puncture, and is no doubt equally reliable. Very rarely proof-puncture was not possible either from obstruction in the middle meatus to the ostium or from the nature of the contents of the antrum.

As a rule operation has not been advised till after lavage has been used on several occasions. In one case—not in this series—lavage was practised twenty-three times before a cure was obtained, which has been maintained after some years. Occasionally a single lavage effects a cure—or perhaps it would be wiser to say an apparent cure, as recurrences after some months, it may be, have not been very uncommon. The "wash-out" has shown the various characteristics with which we are familiar. In one case a small polypus was washed out of the antral cavity. Occasional faintness has been observed, but no serious result has been associated with puncture of the antrum.

While on the subject of diagnosis, may I say that in the large majority of cases the antral condition would have probably been overlooked if the performance of proof-puncture had depended on the appearance in the nasal cavity—in other words, latent sinusitis is much more common than patent sinusitis. I don't like the term "latent sinusitis." It is indefinite and misleading, because no two observers would be in accord in a number of cases as to which were latent and which were not. In my experience the commonest complaint of the patient is post-nasal discharge. It is not in the province of this communication to discuss the signs and symptoms of antral disease. Like drinking, that is a job by itself. Let me refer to only one or two less usual complaints.

Asthma was complained of by 31 patients. No doubt this is toxic in origin, and I have come to look upon it as a fortunate association for the patient. The cure of the antral disease has a most beneficial effect on the asthma.

Attacks of epistaxis were found in the histories of 9 patients. In 13, apart from war cases, there was a history of an injury to the head, and in one of these cases the disease in the antrum was isolated to the seat of injury.

Ordinary nasal polypi were present in 89 cases, and there was associated middle-ear suppuration in 87. This latter association is, I think, sometimes lost sight of. One case was associated with paroxysmal hæmoglobinuria, but as the case did not come to operation I cannot say what effect the cure of the antral disease might have had on this interesting condition. In 2 cases proof-puncture caused an explosion, which was followed by the evacuation of clear serous fluid.

Atrophic rhinitis was present in 27 cases. Of these 16 were operated on—10 double and 6 single. The condition of the cavity in these cases

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is of interest. In 8 double and 3 single the changes were bad, which means that the degeneration of the lining was extensive; in 1 double and 1 single they were not bad, and in 1 double and 2 single my notes are deficient in this respect.

Three hundred and ninety-six cases (293 double and 103 single; right 56, left 47) have been operated on. In all except 3, in which the intra-nasal procedure was employed, the radical antral operation was performed. Local anæsthesia alone, according to the method I have previously described, was employed in 306 cases. General anæsthesia was employed in 90. Even with general anæsthesia 20 minims of 10 per cent. cocaine solution with adrenalin added is injected into the cavity through the cannula and spread over it by the gentle use of the air-bag. I should like to recommend this addition to members who have not tried it as it adds greatly to the comfort of the operator, and I have had no anxiety with its use. At the same time there is no doubt in my mind that in antral cases local anæsthesia is to be preferred both from the patient's and still more from the operator's point of view. The only fatality in the series was in a case of mixed ethmoidal, sphenoidal and antral disease in which chloroform was used. The patient died of septic pneumonia. As regards the operation itself, I make use of an incision in the mucous membrane over the canine fossa almost vertical. It seems to allow of a better view into the cavity and of more easily removing the anterior part of the antral wall, or, in other words, of obliterating the anterior angle which I look upon as essential. I also turn a flap of mucous membrane from the inferior meatus into the cavity. This, I think, prevents the growth of granulations over the rough bone in the floor between the antrum and nasal cavity, and so helps to ensure the patency of the opening into the nose. In 8 cases the intranasal operation had been performed some time previously. Two had been drained by the alveolus, and in one an operation had been performed by the canine fossa route thirty years before.

The degenerated changes in the lining membrane of the antrum varied. It may, I think, be asserted that the character of the "wash-out" is no sure criterion of the severity of the changes in the cavity. In a few instances even very purulent cases of long standing showed little naked-eye changes in the lining membrane. Moreover, I think there are cases, infrequent no doubt, where the changes are those of atrophy rather than that of hypertrophy and œdema. I should like the opinion of members on this point. In one case a single large polypus was present in both cavities, and in another case a single large polypus was present in the left cavity, and was attached by a long thin pedicle, which passed through the ordinary ostium, to a choanal polypus. Septal formation in the antrum was fairly common. In 2 cases the cavity was completely divided, in one horizontally into an upper and a lower chamber, and in another transversely into anterior and posterior parts. In 1 case a dentigerous cyst occupied almost the whole antrum, into which it had burst. In 2 cases the cavity was full of thick cheesy material. I have seen 1 case in which the sphenoidal sinus was similarly affected. In 2 cases the antrum was full of very sticky material such as that present in the cases described by Mr. Tilley as due to aspergillosis. In one of these cases lavage was impossible. In only 1 case, apart from direct injury, have I found destruction of the external antral wall. In this case the fat of the cheek intruded into the antrum.

Unlike the other accessory sinuses, equality of the two antral cavities

is the almost universal rule. In one patient the left cavity was much smaller than the right. In another patient, an adult, both antral cavities were very small. The external wall and floor were very thick and sclerosed on either side. The sclerosed floor extended above the level of the attachment of the inferior turbinate.

Twenty-six cases of choanal or antranasal polypus was observed. In 2 of these there was a choanal polypus on both sides. In 5 the polypus had returned after removal. The antral cavities affected were equally divided—14 each right and left. In 12 cases there was a single antral ostium. In 1 case the membrane, in which the ostium is located, was practically absent, and there was a large opening into the antral cavity. It was possible to see easily directly into the antrum by way of the middle meatus. An accessory ostium, posterior to the ordinary ostium, was found in 3 instances. In 13 the presence or absence of an accessory ostium was not noticed. In 1 case of right-sided choanal polypus there was sweating and increased heat over that side of the face.

The "wash-out" on lavage showed gradations from almost clear serous fluid in 1 case, straw-coloured in 5, to muco-purulent or purulent in others.

The antrum was opened in 17 cases. The condition of the lining membrane in these was as follows: In 12 the diseased condition was general. In 2 the change was isolated to the place from which the polypus arose, in 1 from the wall below the ordinary ostium, and in the other from the posterior recess adjacent to an accessory ostium. In 1 case there was a large polypus in the antral cavity. Traction on the choanal polypus caused movement of this polypus, and the connecting pedicle was traced through the ordinary ostium. The specimen is shown. In the remaining 2 cases there were other changes in the lining membrane, but not bad.

REPORTS FOR THE YEAR 1918 FROM THE EAR AND THROAT DEPARTMENT OF THE ROYAL INFIRMARY, EDINBURGH.

Under the care of A. LOGAN TURNER, M.D., F.R.C.S.E., F.R.S.E.

PART I.

THE COMPLICATIONS OF CHRONIC MIDDLE-EAR SUPPUR- RATION. INDICATIONS FOR, TECHNIQUE AND RESULTS OF, THE RADICAL AND MODIFIED RADICAL MASTOID OPERATIONS; DETAILS REGARDING THE LABYRIN- THINE AND INTRACRANIAL COMPLICATIONS OF CHRONIC MIDDLE-EAR SUPPURATION.

(*A Paper Based on an Analysis of 306 Cases of Chronic Middle-ear Suppuration, as follows: Radical Mastoid Operations, 248; Modified Radical Mastoid Operations, 17; Labyrinthitis, 26; Intracranial Complications, 25.*)¹

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(*Continued from p. 444.*)

CASE 14: *Synopsis*.—No. 278. R. T.—, female, aged twenty. C.O.M.S. (right). Patient first seen October 16, 1914, and name entered for operation, but patient not admitted for operation till February 17, 1915. *First operation* (radical mastoid)

¹ At a meeting of the Otological Section of the Royal Society of Medicine, held February 21, 1919.