SOCIETIES' PROCEEDINGS

THE SCOTTISH OTOLOGICAL AND LARYNGOLOGICAL SOCIETY

The Thirty-ninth Meeting of the Society, held in the Royal Infirmary, Dundee, on Saturday, May 26th, 1934

President—DR. M. J. GIBSON

CASES

A Case of Meningitic Labyrinthitis.—Paper read by Dr. A. BROWNLIE SMITH. This paper is published on p. 263.

CASE I.—A child aged five months, admitted to the Royal Hospital for Sick Children, Edinburgh, with broncho-pneumonia. later developed empyema followed by meningitis and death.

Sections show a healthy tympanic cavity but a purulent exudate in the labyrinth. A pure culture of Pfeiffer's *B. influenzæ* was obtained from the meninges and from the pleural cavity.

DISCUSSION.

Dr. J. S. FRASER: This case is very interesting, especially in regard to bacteriology. I noted some exudate in the niche of the round window. I do not think this came from the Eustachian tube and middle ear but through the labyrinth into the middle ear. In some cases of meningitic labyrinthitis there has been complete perforation of the oval window from within outwards so that otitis media has developed. Secondly, there was much more exudate in the scala tympani than in the scala vestibuli—that would point to the infection spreading from the subarachnoid space, up the perilymphatic aqueduct.

Dr. STEWART: For the sake of argument I would say that you cannot definitely rule out a perforation of the drumhead as shown from these sections. The sections appear to have been taken through only a portion of the drumhead and it is possible that a perforation might be present in the uncut portion of the drumhead.

Dr. DOUGLAS GUTHRIE: Does Dr. Smith suggest that primary labyrinthitis without middle-ear suppuration may be commoner than we suspect and that routine examination of the ear at *post mortem* examinations might confirm this view? Labyrinthitis appears to be somewhat rare in children, judging from clinical experience, although it is, no doubt, often masked by meningeal symptoms.

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Dr. A. BROWNLIE SMITH *in reply*: With regard to the spread through the aqueduct of the cochlea, it may quite possibly have been a spread along the aqueduct as well as along the nerve. With regard to Dr. Stewart's question on perforation of the tympanic membrane, the sections were all serial sections and in none of the sections was there any sign of a perforation. With regard to Dr. Douglas Guthrie's question I think these labyrinth cases are much more frequent in children than we think. They are not always noticed because the temporal bones are not always explored. No labyrinth symptoms were noted at all. One would hardly suspect labyrinthine symptoms in a child dying from meningitis.

CASES II, III, IV and IX.

CASE II.—**Lymphoepithelioma of the Nasopharynx and Tonsils.**—Paper by Professor D. F. CAPPELL, Pathology Department, University College, Dundee. (Introduced by Dr. M. J. GIBSON.)

This paper was published in the *Journal of Pathology and Bacteriology*, xxxix., 1934, 49.

Lymphoepithelioma of the Nasopharynx treated by Radium.—Dr. M. J. GIBSON.

Death two years later from metastases in the 4th and 5th cervical vertebrae.

CASE III.—James W., aged 21 years, ploughman.

July, 1931.—Had two left upper molar teeth extracted. This was followed by swelling in the left side of the palate. Swelling tender on pressure, and causes pain on swallowing. Thought by family doctor to have a quinsy, and the swelling was explored, with a negative result.

August, 1931.—Admitted to Dundee Royal Infirmary under the care of Professor Anderson. Complaint: difficulty in opening the mouth, swelling of the roof of the mouth and left side of pharynx, and swelling of the left cheek. Deafness and tinnitus left ear. *On examination*, marked swelling of the left cheek, with tenderness all over, more marked below the outer angle of the left orbit, and in the region of the left temporo-mandibular joint. Teeth can be separated only half an inch. There is a bulging of the lateral wall of the pharynx, left side, and a brawny swelling of the left tonsillar region, extending forwards into the palate. Hard mass below the angle of the left mandible attached to the deep tissues, but not attached to the skin. The left nasal passage is full of blood-stained discharge, and the left middle ear shows typical Eustachian tubal catarrh.

18.8.31.—Specimen removed from the nasopharynx by Professor Anderson. *Pathological report* (Professor D. F. Cappell)—"This

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is a cellular malignant tumour, composed of irregularly arranged strands of epithelial cells, intimately associated with lymphoid cells. The growth appears to belong to the type recently described by Regaud as 'Lymphoepithelioma'. The tumour is highly radio-sensitive, and treatment by radium is the method of choice. The ultimate prognosis is bad, but a good immediate response to radiation may be expected."

31.8.31.—Under general anæsthesia, the left antrum was opened in the canine fossa and found to be full of pus and necrotic blood-stained débris. A large part of the posterior wall of the antrum was destroyed, and a finger was passed through this opening, to a cavity with necrotic walls, in the pterygo-maxillary fossa. Twelve mg. of radium in needles was placed in the nasopharynx, and 30 mg. of radium in needles was placed in the cavity posterior to the left maxilla. The antrum was packed with gauze soaked in Flavine (1 in 1,000 in water), and the wound in the canine fossae was left open.

3.9.31.—Radium needles removed, and a Columbia paste collar, with 30 mg. radium applied to the left side of the neck.

28.9.31.—Radium collar removed, severe erythema, which developed into a burn of the first degree, on the skin of the left side of the neck. Total radium dosage, 2,982 mg. hours, with needles placed directly into the tissues. 11,880 mg. hours by Columbia paste collar method.

17.10.31.—Patient discharged. Burn almost healed. Antrum clear, there is a free communication from the site of the abscess, posterior to the maxilla, to the lateral aspect of the nasopharynx. Patient's general health good, taking food freely, but cannot easily open the mouth.

Patient reported regularly each month, for about six months.

Local condition in the nasopharynx and antrum appeared healthy, and the patient was allowed to return to work as a ploughman.

3.12.32.—Admitted to a medical ward, with a history of weakness of the lower limbs. Found on X-ray to have a metastatic growth in the region of the fourth and fifth cervical vertebrae. Given a course of deep X-ray therapy. Seen by Dr. Mathers, who reported no evidence of local recurrence.

Patient taken home, and died in *November*, 1933.

Lymphoepithelioma of Pharynx.—Dr. M. J. Gibson.

Case IV.—Mrs. C.B., aged 53 years. History of feeling some discomfort in the throat for the past three years. Consulted Dr. J. M. Morgan two years ago, as to the advisability of having the tonsils removed. Dr. Morgan states that at the time of his examination, both tonsils were large and appeared to be healthy.

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May, 1933.—Admitted to the Infirmary with a large fleshy mass in the region of the left tonsil. One small gland, about the size of a bean, below and behind the angle of the jaw on the left side. Nose and nasopharynx normal.

11.5.33.—Under general anæsthesia, an attempt was made to dissect away the tumour mass. Tissue was very friable, and the hæmorrhage was so free, that the idea of complete removal was abandoned.

Pathological report.—The lymphoid tissue is almost entirely replaced by a cellular tumour of a malignant nature. The cells are epithelial in type, and the tumour is probably to be classed as a lymphoepithelioma.

Treatment.—Radium on a Columbia paste collar, applied to the left side of the neck for twelve hours daily. Total dosage 6,600 mg. hours. Radium used on the collar—50 mg. with standard screen. No reaction to the radium, apart from some dryness of the throat, and a brisk erythema of the skin on the left side of the neck. Patient reports every two months: throat normal, no evidence of metastases or recurring growth.

Sarcoma of the Nasopharynx, treated with Radium.

—Dr. M. J. Gibson.

Mrs. M.

17.9.30.—When first seen, gave a history of a cold in the head, and postnasal catarrh, following a motoring holiday in August. At present patient complains of deafness and tinnitus in the left ear with slight pain. No nasal obstruction, and no disturbance of the sense of smell.

Examination revealed a normal nose, a nasopharynx difficult to see in the mirror, with a little congestion of the mucosa. Both drumheads were retracted, with some serous fluid in the left tympanum. Inflation with Politzer's bag improved the hearing and relieved the tinnitus.

Diagnosis of Eustachian tubal catarrh made and the patient treated with inhalations and argyrol drops for the nose.

17.10.30.—Patient reports that both ears are deaf, and that relief after inflation is of short duration. Digital examination of the nasopharynx revealed nothing abnormal. Conservative treatment continued.

November, 1930.—Patient reports that hearing is worse. Large mass of glands in the upper part of the anterior triangle of the neck (both sides). Digital examination revealed a little thickening of the mucosa on the posterior wall and roof of the nasopharynx, like a small mass of adenoids.

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27.11.30.—Under general anæsthesia, specimen removed with an adenoid curette.

Pathological Report.—Dr. Tudhope and Dr. F. E. Reynolds. " The tissue has all the appearances of a small celled sarcoma, with many mitotic figures and evidence of great cell activity."

8.12.30.—Fifteen mg. of radium buried in the nasopharynx for seven days. Total dosage 2,520 mg. hours. Fifty mg. to the neck on a Columbia paste collar, total dosage 6,500 mg. hours. Columbia paste collar kept in position for roughly twelve hours, so that the treatment to the neck was spread over eleven days. After the radium treatment it was noticed that the glands in the neck were very much smaller, and the patient stated that the hearing was greatly improved. One week after the removal of the radium collar the patient had a very dry throat, with a pale whitish mucosa, like a blister from boiling water. The secretion of saliva and mucus was greatly reduced.

During 1931.—Patient suffered from atrophic pharyngitis, and some neuralgic pains in the back of the neck. X-ray examination revealed healthy cervical vertebrae.

During 1932.—Nothing abnormal to report, general health very good.

July, 1933.—Patient had some thick post-nasal discharge, and her doctor noticed at this time that she had a very flat voice, like that associated with a palatal paresis.

November, 1933.—Examined by exhibitor. Anterior nasal passage clear. Posterior rhinoscopy revealed an atrophic mucosa, with a grey slough across the inferior aspect of the sphenoid, above the posterior choanae. Digital examination revealed bare bone below the slough. At this time there was definite loss of the palatal movement. X-ray examination in *November*, 1933, revealed no bone disease, or evidence of metastasis.

X-ray. All the cervical vertebrae and skull healthy.

April, 1934.—Patient very well. Voice greatly improved. There is still a little slough in the rôof of the nasopharynx.

Discussion.

Dr. Gibson : This is the first case that cropped up. The clinical appearances at the time of his arrival in hospital were very much shadowed by a septic infection of the pharynx and maxillary antrum. When his antrum was opened there was a large mass destroying the posterior wall and it was possible to put one's finger into the pterygo-maxillary fossa. Case IV was a sarcoma. She had a fairly short history and clinically she was diagnosed as lymphosarcoma but it turned out to be a lymphoepithelioma. Case IX was diagnosed as a sarcoma by Dr. Reynolds while in Edinburgh, and by Dr. Tudhope in Dundee. She had an enormous mass of glands at the side of the neck

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at the time of the application of radium. She was deaf and had an obstruction of both Eustachian tubes when the radium was applied. Professor Cappell has told you that these cases are very responsive to radium.

I would be glad to have suggestions as regards radium dosage. The first case had a very big dose; Case IV had a small dose and Case IX had a fairly large dose. I would be glad to know how much radium to use. I would also be glad to know a suitable method of assessing the amount of radium to be applied in each case.

Dr. COLLINS: I had under my care last year a case of malignant tumour of the nasopharynx and the report I received from the pathologist was "squamous epithelioma". I gave a general anæsthetic and was prepared to remove it by diathermy but I found that the growth was totally inoperable from the point of view of diathermy and I inserted radium needles. It was difficult to ascertain the exact dosage as the radium needles came out very easily, but by a later method in which nasal tubes containing radium were inserted through the nose into the nasopharynx, a more exact and constant dose was obtained. A total application of approximately 2,000 mg. hours was given, and in addition, a course of deep X-ray therapy. One thing I did notice was the extreme radium sensitivity of this tumour, even after the first application of approximately 500 mg. hours. I found the growth really melting away. The glands in the neck were enlarged and they reacted extremely well to deep X-ray therapy. In view of Professor Cappell's interesting paper, I think it would be worth while re-investigating this case, as it presents some similarity to the case he has mentioned.

Dr. DOUGLAS GUTHRIE: I recently saw a case of lymphoepithelioma of the nasopharynx which was extremely radio-sensitive. After inserting radium needles one could almost see the growth melting away from day to day and it was quite gone within a week. Curiously enough in this case the cervical glands were enlarged and although they were not treated by radium they also disappeared during the treatment. Last year I visited the Radium Institute in Stockholm and there one found that the general principle was to apply very large doses of radium for a short time only.

Dr. MATHERS: We are much indebted to Professor Cappell for his demonstration. Is there any greater involvement of the lymphatic glands in these regions than there would be in an epithelioma or a sarcoma? I wonder if he could give us any help which would be useful at the clinical examination before biopsy?

Dr. TUDHOPE: I must confess that I was sceptical for a time as to the differentiation of lymphoepithelioma from a group of tumours apparently sarcomatous in nature, but I think the sections that we have shown to-day are convincing. The arrangement of reticulum as shown by specific staining is striking, but I think even more convincing than that is the fact that one can trace a continuous series from parts which are definitely epitheliomatous to those which look sarcomatous. There is another example of a tumour formerly called a sarcoma becoming recognized as a carcinoma. I have greatly enjoyed the opportunity of seeing the lantern slides of these cases.

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CASES III, IV and IX.

Professor CAPPELL: I would like to say a word regarding points which have been raised in discussion. Dr. Gibson mentioned that he was not entirely in agreement regarding the slow-growing character of these tumours. In my paper I was referring to a point which has been emphasized by various writers, namely that they grow more slowly than anaplastic squamous-celled carcinoma. Numerous cases are on record in which the patient had complained of symptoms at a time when no abnormality could be detected in the part to which the symptoms referred, and I may remind Dr. Gibson that this is a point we discussed in Case IV. The patient had complained of sore throat about three years previously, but when Dr. Gibson examined her he could find nothing the matter with the throat at that time. I think it is worth recording that she had complained of her throat so long before any lesion could be observed in it.

In the cases on which my paper is based, a story of repeated attacks of tonsillitis was met with in most of these in the second group. Other writers have also emphasized the occurrence of repeated sore throats over a period of years with exacerbation and remission; finally the malignant disease was ushered in by sore throat which failed to subside as usual.

With regard to Dr. Collins' case the story sounds very like that of lymphoepithelioma. Some pathologists are unwilling to use new terms and prefer to continue with the old names with which they expect the clinician to be familiar. Possibly, in this case, the pathologist used the term "anaplastic squamous-epithelioma" as one familiar to everyone, and therefore not likely to be misunderstood. I am sure, however, that cases of this nature are not really rare, and are probably within the experience of most of the members of the society.

I was very interested to hear from Dr. Guthrie that the glands were not specially treated in his case and yet they disappeared. In our recent cases a radium collar was used with satisfactory results, as also was deep X-ray therapy. As everyone has remarked, the rapidity with which the glands disappear is really astonishing. While such cases are extremely radio-sensitive, this property is shared by other growths, e.g. lymphosarcoma. With regard to Dr. Mathers' case I have nothing to add to what I have said in the foregoing paper. In the reports of other writers, great emphasis has been laid on the fact that enlargement of the glands is frequently the first clinical sign of the disease, and is usually out of all proportion to the size of the primary tumour. In many cases the patient had been treated for enlargement of glands for months before the primary growth declared itself by local symptoms. In our own series of cases enlargement of the glands has not overshadowed the primary condition, and in every case the patient sought advice on account of the local condition in the nasopharynx or tonsil though in many the glands were already enlarged at that time.

In conclusion, I would emphasize that it is not possible to make a diagnosis of lymphoepithelioma with certainty from the naked-eye appearances. Biopsy is necessary, but surgical excision should be

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confined to those in which a positive result is obtained and treatment by radiation is method of choice.

CASES V and VI.

Pharynx : Malignant Disease. Left Tonsil.

—Dr. R. P. MATHERS.

CASE V.—John B., æt. 57. Seen 13.9.32 at O.P. with a swelling in the left side of the neck.

Examination.—Left tonsil enlarged. Hard, irregular in appearance, swelling encroaches on base of tongue and also involves the anterior pillar.

19.9.32.—General anæsthesia. Diathermic removal of tumour. Five needles of radium (3 mg. each) inserted round the tumour. Section shows squamous epithelioma.

30.9.32.—Total dose of radium 3,324 mg. hours.

20.10.33.—Radium applied in Columbia paste collar to left side of the neck. Total dosage 20,412 mg. hours.

Patient reported at intervals.

The pharynx remained in a septic sloughy state for some months, and the skin of the neck was burned by the radium.

6.2.34.—Throat clear. No sign of any tumour. Gland in neck hardly palpable.

Epithelioma of Tonsil, Alveolus and Margin of Tongue.

—Dr. R. P. MATHERS.

CASE VI.—Peter M., æt. 59. First seen 25.9.33 with pain on the right side of the throat of two months' duration.

Examination.—Tumour of right tonsil spreading to anterior pillar of the fauces, base of tongue and lower alveolar margin. Tongue protruded with difficulty. No lymphatic glands palpable.

27.9.33.—Surgical diathermy for removal of tonsil. The diathermic current was also applied to the surrounding infiltration.

Microscopical section proved the tumour to be a squamous-celled epithelioma.

6.2.34.—Patient re-admitted. Tumour mass removed by diathermy from right side of pharynx.

11.4.34.—Pain relieved—mouth opened to slight degree—only obstructing site of growth.

DISCUSSION.

Dr. FRASER : I asked Dr. Mathers how he used diathermy to remove this tumour and he told me that he had used a diathermy snare. I think perhaps it would be interesting if we heard a little more about this method. We have all heard about Dr. Dan McKenzie's method of roasting the tonsil in little bits, spread over ten or twelve sittings under local anæsthesia ; that method hardly appeals to me.

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If it were possible to use the diathermy knife or needle as a dissecting instrument, or to use the diathermy snare, it would be a different matter.

Dr. STEWART: I noticed that this patient had some very septic teeth and I think that removal of these septic teeth would help in this case in preventing ulceration.

Dr. MATHERS: With regard to these two cases, there is nothing I can tell you of very great importance. I am sure you have all had similar results in similar cases. The method of diathermy which I used was a thin loop of wire in the shape of a snare and it was inserted round the base of the tonsil, which was thus shelled out. I got it completely out from the bed and then used the diathermy button, but the main mass of the tumour was removed by the loop. You may find it necessary to cauterize the area afterwards with the button.

With regard to the septic teeth, he was very unwilling to have them out. I do not think he is doing well and, therefore, I do not like to trouble him.

CASES VIII and XXI.

Epithelioma of Pharynx—Soft Palate.

—Dr. M. J. GIBSON.

CASE VIII.—Hugh M., aged 62 years.

12.4.1930.—Patient complains of a swelling in the roof of the mouth, present as long as he can remember. Recently the swelling has increased in size, and now interferes with the patient's speech, and the act of swallowing. Recently there has been a little pain in the right side of the neck, behind the angle of the jaw.

On examination, a nodular tumour occupying the right side of the soft palate, and right lateral wall of the pharynx was seen. The tumour appears to have a capsule, and there is no glandular involvement. There is incipient ulceration of the superficial mucosa on the inferior aspect of the swelling.

14.4.30.—Tumour shelled out under local anæsthesia, and the incision in the palate repaired with interrupted catgut sutures.

Pathological Report.—Flat-celled epithelioma.

29.4.30.—Wound healed, and patient allowed home.

31.5.32.—Patient re-admitted, with a recurrence of the swelling in the right side of the pharynx. Nose and nasopharynx clear, and no gland involvement.

Under general anæsthesia, a tumour with a definite capsule was removed from the right tonsillar region. As it looked impossible to remove the lower pole of the tumour with the capsule intact, 3 milligrams of radium was placed in the inferior part of the tumour bed, and a radium collar with 50 milligrams of radium applied to the neck.

Total radium dose.—7,100 mg. hours.

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20.6.33.--Patient discharged, mouth and wound healed, slight erythema of the right side of the neck.

Pathological Report.—Professor Cappell. A tumour of the mixed parotid type, containing much squamous epithelium.

10.2.34.—Patient very well, swallowing well.

Parabuccal Salivary Tumour.—Dr. J. M. GIBSON.

CASE XXI.—Miss C., aged 50 years.

2.3.34.—Patient complains of a swelling in the roof of the mouth, on the right side, first noticed about a week ago. Patient gives a history of good general health, apart from neuralgic pain in the region of the right temporo-mandibular joint about three years ago. X-ray examination of the skull, at that time, revealed nothing abnormal.

At present there is no pain, no nasal obstruction, and no deafness.

On examination, there is a definite swelling in the lateral wall of the pharynx, above the right tonsil. The swelling passes into the soft palate, and the upper pole of the right tonsil is pushed towards the middle line. Digital examination of the nasopharynx reveals a definite bulging of the right lateral wall of the cavity. No involvement of the cervical glands.

Wassermann reaction definitely negative.

6.3.34.—Under general anæsthesia, the tumour was exposed by dividing the soft palate over the most prominent part of the swelling. It was found that the tumour had a definite capsule, and was easily removed by blunt dissection. The cavity was lightly packed with gauze, soaked in Flavine (1 : 1,000) in water, and the incision in the palate was repaired with interrupted catgut sutures.

8.3.34.—Packing removed, cavity clean, and patient comfortable.

Convalescence normal.

Pathological Report.—Parabuccal salivary tumour. Microscopical slide and specimen to be shown.

DISCUSSION.

Dr. TUDHOPE: With regard to the examination of the original tumour: portions examined consisted almost entirely of squamous epithelium and gave no reason for supposing that it was anything other than an epithelial tumour. In the recurrence we found the structure of a mixed parabuccal tumour, and then on going back to the first tumour and examining many sections from different portions, small areas of mixed tumour tissue were found here and there amongst the masses of squamous epithelium. I regard this as an example of squamous metaplasia in a mixed parabuccal tumour. Such cases are rare, and in this one the change has progressed to an advanced degree, leaving only small areas of typical parabuccal structure.

Dr. DOUGLAS GUTHRIE: It will be interesting to observe whether any recurrence develops in any one of this interesting series of cases.

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It is said that although the tumour is encapsuled, there are often outlying nodules which grow later on and appear as though they were recurrences. Colonel Harvey of Edinburgh tells me that he has carefully examined many salivary gland tumours but has never found cartilage in any, although they contain fibrous tissue which resembles cartilage. In the *Archives of Pathology* last year three cases of parabuccal salivary tumour of the thigh were described and it would be interesting to know how such a tumour came to be in so distant a situation.

Dr. TUDHOPE : In none of these cases was cartilage found. We are convinced that cartilage does occur in some tumours of this type for we have a specimen in which there is shown, not only cartilage, but cartilage with incipient ossification.

In Case XXI there was no cartilage.

CASES X, XII and XIII.

Epithelioma of the Larynx. Intrinsic.—Dr. R. P. MATHERS.

CASE X.—J.McD., æt. 65, gamekeeper. Previous history of laryngo-fissure operation in *August*, 1921, for tumour of the left vocal cord, proved by microscopical examination to be an epithelioma.

Patient in excellent health but voice became hoarser in *October*, 1933. Otherwise patient feels well.

Examination showed a warty growth in the scar of the previous operation. No interference with movement of arytenoid seen. No other abnormality of larynx. Piece removed for section was reported as " fairly rapidly growing squamous epithelioma with little keratinization and little reaction on the part of the surrounding tissue ".

5.1.34.—Operation. Tracheotomy. Laryngo-fissure. Removal of almost the whole of the left wing of thyroid with adjacent tissues.

7.1.34.—Tracheotomy tube out.

19.1.34.—Patient went home with wound healed.

31.1.34.—*Report on Section.* Wide margin of healthy tissue round tumour, which is epitheliomatous.

4.4.34.—Patient reported. Feels very well. Voice stronger than before the second operation. Examination of larynx shows some redness and slight swelling of the right side of the larynx. Patient states that he thinks he has had whooping cough which has injured the larynx. No glands palpable.

Epithelioma of Larynx. Intrinsic.—Dr. R. P. MATHERS.

CASE XII.—J.F., æt. 67.

24.6.32.—Seen in Out-Patient Department. Hoarseness for four months. General health good. Wassermann reaction negative.

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Larynx.—Tumour of the right vocal cord at junction of posterior and middle thirds close to anterior commissure. Some limitation of movement of the cord.

12.7.32.—Admitted to hospital.

14.7.32.—Carious teeth extracted.

25.7.32.—Radium, nine needles of 1 mg. applied by fenestration method to region of right vocal cord. No tracheotomy.

3.8.32.—Radium removed. Dosage 1,944 mg. hours.

6.2.34.—Patient is in excellent health. Right cord is pink in colour but otherwise normal.

5.5.34.—Health good but states he has lost one stone in weight in past two months. Right cord thicker than left, otherwise as before.

Epithelioma of Larynx. Intrinsic.—Dr. R. P. MATHERS.

CASE XIII.—W. Ewan, æt. 57. Hoarseness for five months.

15.7.33.—Admitted. Tumour of the right vocal cord.

20.7.33.—Examination of section showed epithelioma. Wassermann negative.

24.7.33.—Tracheotomy. Radium by fenestration method. Total dosage, 1,848 mg. hours.

15.9.33.—Voice good. Right vocal cord red. No sign of tumour or thickening. Œdema of right arytenoid.

6.1.34.—Larynx normal. Right arytenoid does not move as well as left.

10.3.34.—Voice normal. Larynx normal.

DISCUSSION.

Dr. FRASER: Dr. Mathers is very much to be congratulated upon the results of these cases. The dosage he employed was practically double the dosage which I have used. Case X is especially interesting in that the patient was apparently well for twelve years and then had a recurrence.

Dr. GIBSON: I had the privilege of seeing the case you mention with Dr. Mathers and the question arose as to whether it was a recurrence or a new growth—quite a separate epithelioma. Professor Cappell had the specimen to examine and perhaps he could tell us something about it.

Professor CAPPELL: Of course I did not see the original specimen, but there was no doubt about the second specimen which we examined from the growth. We made a series of sections through the whole extent of the tumour and there seemed to be no doubt that the thing was squamous epithelioma this time and was completely removed as far as the local tumour was concerned. I would feel very strongly that if anything recurred it would be owing to something which had got well away from the local tumour. As to whether the second specimen was a recurrence or a fresh growth I think perhaps my own feeling in the matter is that it is likely to be a fresh growth rather than

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a recurrence, and I must say that I have the feeling that this occurs quite often in squamous epithelioma, of the lip and probably other situations. One often finds a wedge removed completely and it heals perfectly. Two years or so later it begins again and the scaly thickening goes on to epithelioma. I cannot help feeling that we are dealing with the persistence of the same factors which give rise to the original epithelioma. It is not really a recurrence from tumour cells which were left behind, but it is a fresh development of a second epithelioma owing to the presence and persistence of whatever was the causative factor in the first instance.

Dr. J. P. STEWART : I would like to know under what circumstances Dr. Mathers does a tracheotomy. In one case no tracheotomy was performed and in another it was. Why did he do it in one case and not in another ? Was there any reason ?

Dr. MATHERS (in reply) : In the first case No. X had a recurrence of epithelioma in the former operation scar in the larynx, and another laryngo-fissure was done. The sections which Professor Cappell reported on after laryngo-fissure seemed to show that the operation had been beyond the extent of the disease. The long duration between the first appearance of the growth and the recurrence is unusual as I think that the longest period previously noted has been eight years.

As regards the dosage of radium, the amount used in these cases was fairly large—about 2,000 mg. hours—and so far I have not seen any trouble. What kind of trouble does one expect ? Are these patients going to develop something in years to come as a result of an overdose of radium ?

I had a lady with a polypus in her nose, apparently simple, but on examination Professor Cappell said it had certain cells in it and he advised radium. I did not give her radium at that time but after recurrence I have used radium. I did an external ethmoid operation and applied the radium for two days, putting in 20 mg., rather a big dose, and left it in for 1,000 mg. hours. That was two months ago and she still has an œdema of the upper eyelid and upper part of the left cheek. Has the radium affected the lymphatic supply or the blood supply ?

As regards the tracheotomy, in the first case I did not do a tracheotomy, but in the second case I did, because the risk of œdema seemed greater.

Radical Mastoid Operation performed by Cholesteatoma.

—Dr. R. P. MATHERS.

CASE XVI.—Mrs. W., æt. 63. Seen in *March*, 1928, with complaint of headaches on the left side accompanied by sickness, discharge from left ear, and pains in ear at times. Deafness in left ear.

History of discharge from the left ear after scarlet fever at age of four years. Discharge pretty constant with occasional attacks of pain which are relieved by further discharge.

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Examination.—Meatus normal. No tympanic membrane present. The posterior meatal wall is absent and in its place there is a mass of cholesteatomatous material. This mass, which was about the size of a cherry, was removed, as also was the membrane which lined the cavity that extended into the mastoid process. Since that time the patient has been free from headaches—except occasional—and has had a dry ear. It is necessary to remove wax from the cavity periodically, as is usual after the radical mastoid operation. The hearing is affected—c.v. heard only at one foot in the left ear.

Dr. GIBSON : The outer wall of the attic still appears to be present.

Nasal Deformity—Implantation of Cartilage.

—Dr. R. P. MATHERS.

CASE XVII.—W.H., æt. 20. History of injury to nose, boxing.

13.2.31.—Injury two weeks ago ; second injury two days ago.

Diagnosis.—Hæmatoma. It was incised.

3.3.31.—To return later for correction of deformity.

27.6.33.—Wassermann negative. Photographed.

25.9.33.—Rib cartilage inserted. Result—correction of depression in upper part of nose.

17.1.34.—Incision at columella. Rib implanted in lower part of nasal bridge. Shape much improved but rather too " Roman ".

10.4.34.—Patient returned with pain, redness and swelling over the bridge of the nose. Abscess in region of graft incised and continued to discharge.

12.4.34.—Nose dry. Depression now exists at tip of nose—as before second implantation.

DISCUSSION.

Dr. DOUGLAS GUTHRIE : This was an interesting case because it illustrates the various routes of the operation—in the first case the cartilage was implanted from above and in the second from below. It is important, when introducing the graft from above, to make the pocket down to the very tip of the nose separating the skin and subcutaneous tissues from the sides of the nose. If the columellar incision is used, it is best to use an angled graft, the hinge being formed by perichondrium. Some authorities have recently advised the use of slips of ivory, and the results appear to be good. An objection to this is that a foreign body is more irritating to the tissues than the patient's own cartilage, and ivory is not so easy to carve into shape. If you have a saddle-shaped depression and put in a straight piece of ivory—you just bridge across this dead space and a hæmatoma is apt to form. Cartilage can be shaped to fill up exactly the defective part and so rebuild the bridge.

Dr. STEWART : In order to restore the bridge of the nose I have used an ivory splint with very good results. An incision is made at

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the root of the nose and a tunnel is made through the tissues along the bridge to the tip of the nose. The ivory graft is then slipped into the tunnel and the wound closed with subcutaneous sutures.

With regard to Dr. Douglas Guthrie's objection that it is a foreign body, I cannot say that there is any objection to this as long as it fulfils its purpose. After all, a piece of cartilage removed from the rib and inserted into the nose is a foreign body also. In one or two cases in which the ivory graft has been removed for one cause or another it has been found that there has been a growth of fibrous tissue uniting the graft to the surrounding tissues, and even a certain amount of absorption of the ivory has taken place.

CASES XVIII and XIX.

Rhinoscleroma of Nasal Passages and Pharynx. Follow up case, shown at Edinburgh Meeting, June, 1933.—Dr. R. P. MATHERS.

CASE XVIII.—Male (Medical Student), æt. 25. Radium treatment to nose and fauces between *December*, 1930, and *June*, 1931. No treatment by radium since then. Small pieces of bone separated and came away up to *June*, 1932. Patient has been very well since then.

Present condition.—Large perforation in septum. Patient says he has very little trouble with crusting, and he douches with saline regularly.

5.5.1934.—Pillars of fauces mobile and apparently normal.

Rhabdomyoma of Soft Palate. Follow up Case.
—Dr. R. P. MATHERS.

CASE XIX.—W.S., æt. 14. Was shown at Meeting in Edinburgh in June, 1933. At that time there was no sign of growth.

4.12.33.—Patient re-admitted with recurrence of growth from left side of soft palate. The tumour was the size of a walnut and was removed by diathermy. The attachment seemed to be to the posterior pillar of the fauces.

For two weeks the patient attended the Radium Department receiving daily applications of radium.

26.1.34.—Discharged with no sign of tumour.

4.4.34.—Patient reported. Local and general condition is normal.

DISCUSSION.

CASE XIX.

Dr. MATHERS: I applied it by a sort of instrument with ball and socket joints which enables the patient to rest her arms on those of a chair. This girl had it applied in this way but she could not tolerate the application very long. She also had X-ray treatment. I showed her last June in Edinburgh and she has had no recurrence. She seems to be quite well just now but I do not know how long this will continue.

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Dr. MARTIN: She seems to have a good deal of glandular enlargement deep down on the left side.

Dr. MATHERS: The rhinoscleroma is still keeping well. I understand the patient's brother in Los Angeles has a rhinoscleroma of the trachea and lower pharynx. I had a letter from his doctor who tells me he has had a tracheotomy done and the patient is not doing well. My patient had it in the soft palate and nasal passages where it is much more favourable than in the trachea.

Professor CAPPELL: May I say a word regarding the case of rhabdomyoma of the soft palate? A point of interest is that the growth in each recurrence has retained its structure remarkably well. In the case which was shown to you we subsequently unearthed the first specimen which I did not know about at the time of my first report and which had been reported as a "curious kind of myxo-sarcoma". It would never have occurred to me that it was a rhabdomyoma from the first portion examined five years ago. The first portion which I saw also, I did not recognize as rhabdomyoma; it was only when Dr. Mathers brought to my notice the case which was reported from Edinburgh in the *Journal* some years ago that I stained it by special methods and demonstrated its rhabdomyomatous nature. The credit for discovering it really belongs to Dr. Mathers. The interesting case which was recorded in Edinburgh finally became sarcomatous.

Dr. MATHERS: I have to thank Professor Cappell for finding this out but thanks are really due to Dr. Martin who has already published such a case.

Professor CAPPELL: The most recent recurrence was last autumn and it still has well formed muscle fibres in it. Although it has maintained its structure in quite a remarkable way, I would say that the prognosis is guarded and indeed not very hopeful. The characteristic "bunch of grapes" appearance ought to have made me think of rhabdomyoma at once, because on mucous surfaces it nearly always has that "bunch of grapes" appearance.

Case of Progressive Bulbar Lesion, now showing Laryngeal Involvement.—Dr. W. E. FOGGIE. (Introduced by Dr. M. J. GIBSON.)

CASE XXIII.—Examined in the Throat Department, *March*, 1934. Larynx shows weakness of abduction on both sides, but the left cord is more involved than the right. Peter M., now aged 27, became suddenly ill in *February*, 1932, with the following symptoms:

Numbness, left side of face and head, left shoulder with weakness of left arm. There was also dizziness, loss of voice, and dysphagia, and some twitching of the left upper lip. Paralysis of left palate and paresis of the lower pharyngeal muscles. Deviation of the tongue to left. Nystagmus to the left. Left pupil larger than the right. Left arm a little weaker than the right and movements of it a little awkward. Sensation over the left side of the face, especially in the middle third, confused for all forms of sensation.

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Wassermann negative both in the blood and in the cerebro-spinal fluid. Lange Gold curve normal. Later optic neuritis marked in left disc and right disc blurred. Further left half of tongue atrophied and became tremulous at a later date.

Was in hospital from 5.2.32 when he was seen by Dr. Mathers till 3.6.32. Little change for more than a year. Dysphagia less. Perverted sensation limited to left side of face. Gait never very steady.

In *September*, 1933, right side of face had begun to show confused sensory changes. In March of this year, 1934, general condition had deteriorated. Hoarseness, weakness of arms and legs and nasal regurgitation had set in. The right side (always the better) had become weak. Numb feeling in both arms, even to the elbows. Knee jerks both increased and Rombergism distinct. Laryngeal paralysis now definite. The condition represents one form of the unilateral bulbar syndrome.

DISCUSSION.

Dr. SMITH : The interesting point in the case was that I thought the left cord moved fairly well. The right cord seemed fixed but the right arytenoid definitely moved. This is probably due to the arytenoid muscles still acting, but why should these not have an effect on the cord as well ?

Dr. GIBSON : Dr. Mathers and I thought that the left side of the larynx was most involved. Dr. Watson thought that the right side was involved to-day.

Dr. DOUGLAS GUTHRIE : The right cord appeared to me to be fixed and the left was vibrating against it in an unusually slow motion during phonation.

Solitary Plasmocytoma of the Skull Base.

—Dr. R. P. MATHERS.

CASE XXIV.—Mrs. G., æt. 57. Admitted 9.1.34.

History.—Patient had had right sided facial paralysis since 1930 and of the right external rectus since *August*, 1933.

Difficulty in swallowing appeared in *January*, 1934, and she complained that food came through the nose. History of intermittent aural discharge since childhood.

10.1.34.—*Operation.*—Mastoid process open and masses of brown gelatinous tissue removed, leaving a cavity which extended down to the pharynx. Hæmorrhage was copious.

20.1.34.—Gangrenous inflammatory lesions appeared in the finger tips.

29.1.34.—Patient died.

Summary of Autopsy Report.—A poorly nourished middle-aged female subject, showing a sloughing condition of the tips of

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thumbs and fingers. Operation wound over the right mastoid region, in sloughy unhealthy condition.

The right petrous temporal bone is almost completely destroyed by tumour growth which has also invaded and replaced the bony floor of the middle and posterior cranial fossae. Medially the growth extends almost to the mid-line; the Gasserian ganglion is raised from its bed but is separated from the growth by a layer of dura. Posteriorly the mass extends to the foramen magnum, involving both basi-sphenoid and basi-occiput; anteriorly and medially it presses on the cavernous sinus but does not invade it. The VIth nerve is much compressed at its entry into the dura.

The growth is of firm elastic consistency and of pale yellowish colour with a coarsely lobulated surface. It has brought about destruction of bone by pressure rather than by invasion, and it has failed to penetrate the dura internally or the external periosteum on the outer aspect of the skull. The pharyngeal swelling appears to have been due to pressure downwards by the mass occupying the skull base; there is no direct spread to or invasion of the pharyngeal vault. The cervical lymphatic glands are not involved.

Microscopic examination of the tumour reveals a highly cellular tissue with a delicate stroma, the majority of the cells being of plasma cell type. The tumour is thus an example of solitary plasmocytoma of the skull.

Discussion.

Dr. Mathers: The tumour was a very big one. There was a history of middle-ear suppuration, apparently for two years, and difficulty in speech and also in swallowing for some weeks. I did not see any discharge in her ear but the posterior meatal wall was pushed forward towards the anterior meatal wall and occluding the wall of the meatus. In the pharynx there was distinct swelling behind the right tonsil which I took to be glandular and which was obviously causing the difficulty in swallowing and of fluid coming down through the nose. This would also account for her difficulty in speech. I admitted her, opened the mastoid, and found very extensive destruction of the mastoid bone, its place being taken by a soft, easily bleeding tumour which came out in pieces. The tumour had exposed the dura mater and the sigmoid sinus but had not invaded either as far as I could see. I did not attempt to remove the whole tumour but inserted a few radium needles.

Professor Cappell: The specimen we received first of all was some material removed at operation and at the time I was not certain as to the nature of it. I have prepared a couple of lantern slides of this.

(Professor Cappell showed two lantern slides.)

Professor Cappell: Finally, thinking of all the possible tumours which could occur in bone, it struck me it might be a solitary plasma-celled tumour. Usually such cases respond to radium radiation and

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sometimes the patient remains very well. Professor Stewart of Leeds, has reported on such cases. Solitary plasma-celled tumour of the skull base is exceedingly rare, only one or two cases have been recorded and they involved the vault of the skull, not the base.

X-Ray Films. Two Cases of Gradenigo's Syndrome.

—Dr. G. B. BRAND.

DISCUSSION.

Dr. GIBSON : I had such a case myself a few weeks ago and the patient had pain over the side of the head and face. Patient described it as if her head were cut in two—one side aching and the other side perfectly well. At operation I found an extension of the disease from the mastoid into the root of the zygoma and a very well defined extradural abscess about one inch anterior to the back of the zygoma. The patient still has the neuralgic pain, though the wound has healed and the 6th nerve lesion has disappeared.

Dr. FRASER : The radiograms showing the condition of the cells at the apex of the petrous bone are very beautiful. I have at present a patient who was operated upon six or seven weeks ago for a very extensive hæmolytic streptococcal mastoiditis. The Gradenigo syndrome came on only about one week ago.

Dr. MARTIN : What is the prognosis ? Do the meninges get well or do some of the patients die of meningitis ?

Dr. MARTIN : I think in the *Annals* there was a complete résumé of all the published cases, and it showed 60 per cent. recoveries.

Dr. BRAND : The reason for showing the films was that we had two cases within a week of each other and the pictures are good. The solitary plate, the girl, later developed a mastoid abscess and the other cleared up with conservative treatment. The one on which Dr. Howie did a cortical operation gave a very good picture. The other ones show marked blurring of the cellular elements of the petrous apex on the affected side. I am inclined to think that the films of the unoperated case are of more educational value than the other.

Dr. FRASER : Was anything done to the apex ?

Dr. BRAND : Nothing at all.

Dr. FRASER : Scandinavian otologists recommend operation through the nucleus of the labyrinth underneath the convexity of the superior canal. If my case had not cleared up Mr. Norman Dott proposed to operate by the route he employs for removal of the Gasserian ganglion, i.e., vertical incision above the ear, trephining the squamous temporal and raising the dura mater from the petrous apex.

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