ON A CASE
OF VERY LARGE
LYMPHO-SARCOMATOUS TUMOUR OF
THE TONGUE.

BY
JONATHAN HUTCHINSON, F.R.S.,
EMERITUS PROFESSOR OF SURGERY IN THE LONDON HOSPITAL COLLEGE.

Received April 14th—Read June 9th, 1885.

THE case which forms the basis of my present communication was under my care about four years ago. The entire tongue of a young man, only twenty-two, was then removed on account of a tumour which had been slowly growing for more than half his life, and which had at length attained such a size that it impeded swallowing and even threatened suffocation. I have purposely allowed a considerable period to elapse before submitting the case to the consideration of the Society, because I wished to have the evidence afforded by time as to the true character of the growth. Two years had passed by, and as the patient remained quite well, I had begun to hope that we might assume it as probable that the tumour was of an innocent character. I am sorry to say, however, that after this long interval these hopes have been disappointed.

The whole mass weighed after removal seven ounces. It was by far the largest tumour of the tongue that I have ever seen removed, and I believe the largest on record.

The subject of the case was a medical student, aged, at the time of the operation, twenty-two years. His father was a medical man, and the conditions had, consequently, been carefully watched from the first. No growth had been observed, and no morbid condition of the organ noticed, during the first few years of life, and his father having had occasion to make applications to the tonsils in childhood, felt sure that he should have seen it, had anything been present.

The first symptom that was observed was at about the age of ten, and consisted of a swelling in the left side of the organ, with a rough papillary growth on its posterior surface. Without causing any inconvenience except from its size, the tumour continued to increase, and when, in the latter part of 1880, I first saw the patient, the organ was fixed in the mouth by its mere bulk, and speech was difficult. At this time the tumour consisted of a large rounded mass, deeply embedded in the tongue, and wedging itself against the sides of the lower jaw. The tip of the tongue was free, and could be moved on the surface of the tumour, but with this exception the whole of the organ was involved. The tumour could easily be felt externally as a hard mass bulging downwards behind the chin. The mucous membrane of the tongue over the tumour was quite healthy, with the exception of the posterior two thirds on the left side, which presented a coarse papillary growth, not in the least painful, nor ulcerated, but which was continuous with the substance of the tumour beneath. The surface at this part was nodular, like the outside of a mulberry. Had it not been for this growth, which implicated the overlying parts, so moveable was the mucous membrane and the superficial layer of muscular structure on the tumour, that one might have been tempted to hope that it was encapsuled, and might possibly be shelled out.

I had had the advantage of the opinion of Sir James Paget, to whose kindness indeed I had been indebted for having the patient placed under my charge, and I subsequently obtained that of Mr. Savory and several other professional friends.

It was felt by all that the time must come when it would be absolutely necessary to operate, and, encouraged by the long duration of the case, we were all hopeful that the disease was not in any sense malignant. As to its precise character, however, no one ventured a confident opinion. The operation was not performed until nearly a year after I had first seen the patient, and in the interval the growth had increased considerably, and the inconvenience had finally become unbearable.

The operation was done on November 20th, 1881, and I had in it the able assistance of Mr. Waren Tay and Mr. R. W. Parker.

The patient having been put under ether a preliminary tracheotomy was performed. It would have been better to have done this without the anæsthetic, for as soon as insensibility commenced the mass fell back upon the glottis and the patient was in the utmost danger from asphyxia. It was impracticable to draw it forward sufficiently to effect relief, and, after a hurried completion of the tracheotomy, we were obliged to do artificial respiration for some time to restore animation. The patient having well rallied the pharynx was next plugged with sponge, and an exploratory incision was made into the substance of the tumour in order to ascertain whether or not it was encapsuled. Finding that it was not so, that it was very firmly fixed on all sides, and that it was quite impossible to get the finger either beneath or beyond it from the mouth, I at once made an incision through the lip and chin and cut the symphysis of the jaw. Having freed the muscular attachments and widely separated the two halves of the jaw, access was gained to the base of the organ. Having well isolated the mass, partly by scissors and partly by tearing, the wire *écraseur* was

applied over its base just in front of the epiglottis, and the removal completed. There was no trouble from hæmorrhage.

No difficulty occurred in the after treatment. The jaw united well and a rapid recovery followed.

The drawings (Plate V) give a good idea of the appearance of the growth, both on its surface and in section. It will be seen that the mammillated patch occupies an area larger than a crown-piece, and that its growths are at least a quarter of an inch in height. The tumour itself, as seen in section, was almost globular, and measured two and a half inches across. It completely replaced the substance of the tongue, with the exception of a portion about three fourths of an inch in length at its tip. The posterior two thirds of the growth showed a greyish fibrous structure, which was divided into loculi by white bands. The anterior part was red, not so hard, and much more vascular; but obscurely divided in like manner into lobes. On its surface the growth was everywhere bounded by a tolerably well-marked layer of fibrous tissue. On its surface in many parts, especially in front, were seen what looked like the cut ends of small muscular bundles. There were no cysts, and nothing that was conclusively erectile. The muscular bundles of the front part were inseparably attached to the growth.

One half of the tumour was sent to the College of Surgeons, where it was examined by Mr. Eve, the pathological curator, who also obtained the assistance of Dr. Klein. The other half was examined independently by my eldest son, who had the valuable assistance of Mr. Rickman Godlee in inspecting the microscopic sections. These observers all agreed in reporting that the growth was of the connective-tissue type, and probably a round-celled or lympho-sarcoma. Here and there in its substance muscular fibres, atrophied by pressure, could be demonstrated. A tendency to the development of well-formed fibrous tissue was a strongly characterised feature. The enclosed loculi were of very various sizes and contained cells, which had rela-

tively large nuclei and an ill-defined cell substance. Between the cells a fine reticular tissue was seen in parts.

The much enlarged papillæ were infiltrated with cells, not apparently differing from those in the alveoli beneath.

Between the papillæ in some of the fissures the deep epithelial cells had much enlarged and undergone granular degeneration. Everywhere there was a sharp line of separation between epithelium and corium. (Pl. VII.)

It will be well before attempting to discuss the clinical relationships of this case to give its termination, and also to cite any evidence which can be obtained from the records of other cases more or less resembling it.

After his recovery my patient, who was a gentleman of great pluck, at once returned to his medical studies at Belfast. From time to time I heard of his being quite well, and two years after the operation I heard that he was intending to present himself for examination at our London College, and that I should then have an opportunity of seeing him and hearing how well he could make himself understood. About six months later, however, I had the disappointment of being informed of his death. A growth had very rapidly sprouted up in the floor of his mouth and had in a short time brought about the fatal event, partly by pressure and partly by hæmorrhage. I did not hear of the recurrence until after his death, and there was no post-mortem. I believe that there was no evidence of gland disease.

I am not able to produce either from the records of other surgeons or from my own experience, any case which is an exact parallel to the one which has been described. The following cases, however, in a fragmentary way, some from one aspect, and some from another, seem to throw light upon its probable nature. We may note that we have to deal with a tumour which invaded the substance of the organ in which it was placed; which

began in very early life ; which was attended by coarse mammillation of the surface ; which continued to grow painlessly and very slowly through a long series of years ; which never produced gland disease ; which recurred locally after removal, and which under the microscope presented the characters of an infiltrating lympho-sarcoma, with dilatation of blood-vessels.

The first case to which I shall refer is that of a child, aged three, in whom a mammillated growth on the posterior part of the tongue had been present from birth. It had caused no inconvenience but was slowly increasing. I excised it by means of the cautery, and the child, I believe, remains well. It did not go deeply into the substance of the tongue.¹ The method of removal destroyed the specimen for microscopic purposes.

Specimen 1067A in the Museum of the College of Surgeons is the tongue of an infant in whom similar conditions, but on a much larger scale, were present. It was shown by Dr. Hickman, in 1869, at the Pathological Society, and is described in vol. xx of the 'Transactions.' The infant was born with a mammillated tumour on the left side of the dorsum of its tongue as big as a plum stone. It was sessile and extended from the line of the circumvallate papillæ back to the epiglottis. Owing to its peculiar position, rather than its size, it caused death by suffocation within sixteen hours of birth. A committee appointed by the Society reported that it consisted of hypertrophied gland follicles and ducts with an intervening matrix of nucleated connective tissue. Its blood-vessels were large and numerous, but there was no definite erectile tissue.

Mr. Liston has recorded a case in which he operated on a lad, aged nineteen, for a tumour of the tongue which had been present from birth. In some respects this case resembles the ordinary macroglossia of young children, but in others it differs from it, and is suggestive rather of

¹ I possess a coloured sketch illustrating this case. It was produced at the Society's meeting.

a nævoid mole. The tongue filled the mouth and projected over the lips. It was elastic and compressible and its surface was crossed by large venous trunks. The papillæ over it were much enlarged, and granular points were numerous. There was an ulcerated fissure near its centre which frequently bled. Mr. Liston tied the lingual arteries and then ligatured the whole tongue. Unfortunately the patient died of pyæmia.

My next case (Plate VI) is clearly very like Mr. Liston's excepting as to size. Its subject was, when I first saw him in 1872, a lad of twelve. He is now a porter at Woking Junction aged twenty-four, and in good health. The state of his tongue has not materially changed. The portrait shows considerable hypertrophic enlargement of the organ chiefly of its left half, and the surface is covered with mammillated and granular points, just such as Mr. Liston described, and such as were present in the case which is the chief subject of this paper. Some of them were vascular, like parts of a venous nævus. The condition had been noticed soon after birth and it increased somewhat in growth. He was sent to the London Hospital from Farnham when he was twelve, because it had increased somewhat, and with a view to operation. I kept him under observation a few weeks and finding that the condition caused the boy no inconvenience whatever I deferred any interference. My decision has been justified by the fact that he has got no worse. This case seems to differ from that which my paper chiefly concerns in that there is no tendency to continued growth in the substance of the organ. It is very possible, however, that this tendency may yet declare itself.¹

The next case was a child under the care of Mr. Waren Tay in the London Hospital. The tumour was congenital and deeply placed in the substance of the left half of the

¹ The man who is the subject of this case attended the meeting for inspection. Further examination made it certain that although, as may be seen in Plate VI, the growth appears to involve both halves, it is really limited to the left, and only encroaches on the right by bulging over.

tongue, bulging both below and on the dorsum. The tip of the tongue was free, there was no papillary hypertrophy, and the tumour, although partly solid, consisted chiefly of cysts. I believe the child died after an operation for its removal.

Closely parallel to this, and presenting also features of similarity to my own, is a case which I find narrated by my friend Dr. George Brady, of Sunderland, in the 'Medical Times and Gazette' for 1867. An infant had, at birth, a bluish looking tumour under and in its tongue, which was taken for a cyst. It was punctured freely, and almost fatal bleeding followed. At the age of fourteen Dr. Brady attempted the removal of the tumour, which was then a softish solid. It was sought to excise the growth from under the tongue without removal of the latter, but the tumour was so ill-defined and the bleeding was such that the operation was not perfectly completed. The boy, however, recovered and at the end of several years was still well and without any new growth.

A case which has been recorded, in excellent detail, by Mr. Henry Arnott, in the 'Pathological Transactions' (vol. xxiii), well illustrates the combination of congenital hypertrophy of various different structures in the same organ. The infant was fourteen months old when he was operated on by Mr. Simon in St. Thomas's Hospital. The tongue was of very great size and lolled out between the stretched lips. It had been large from birth and had hindered sucking. The child died of pneumonia three weeks after removal, by the *écraseur*, of the greater part of the tongue. Mr. Arnott records that "there were present, first, a *nævroid* affection of the blood-vessels; secondly, a thickening and induration caused by a long-continued sub-inflammatory state; and thirdly, a general enlargement of the lymphatics. Rather large irregular spaces, with very thin walls, and mostly with no visible contents, were met with in every section. Some of these spaces were filled with blood, but for the most part they contained only clear fluid with a few vesicular bodies—swollen

epithelial cells—in contact with their walls, possibly dilated lymphatics.”

In none of the cases which I have quoted, excepting my own, was there any proof of the presence of any solid growth which might deserve the name of lympho-sarcoma. In Mr. Brady's case the growth was solid and very possibly of this nature; but it was not so diagnosed, and in Mr. Liston's we have no microscopic examination at all. In several of the others we must remember that the child died after operation in early life and thus no opportunity was afforded for the further developments which took place in mine. The only recorded example of sarcoma, so diagnosed, which I have been able to find, is one published by Professor Jacobi, of New York, and quoted, with valuable criticism and additional facts, by Mr. Butlin in his 'College Lectures.' In this instance the tumour was the size of a hazel-nut at birth, and as big as a walnut when, at three months old, it was removed. It was a firm, rounded, elastic mass, deeply furrowed on its surface. Its section was uniform, excepting that in its centre was a small cyst. Its external portions contained muscular tissue, but its chief structure was that of a spindle-celled sarcoma. There were some round-cells, but not much intercellular substance. The child in this instance was well five months after the operation but nothing more is known of it.

The last case which I shall quote is one published by Mr. Folker, of Hanley. In it a large solid tumour which had been growing for twenty years was successfully removed from the tongue of an adult man. It was “diagnosed as fibrous.”

The cases which I have adduced justify, I think, the conclusion that my case ought to rank as one of a group in which hypertrophic structures, present in the tongue at the time of birth, subsequently take on a more or less erratic development. These congenital excesses are probably analogous to moles and nævi of the skin; and in the tongue, as proved in several cases, dilatation of blood-

vessels and of lymphatics is a conspicuous element in the growth. We know that moles of the skin often show vascular as well as papillary and fibrous hypertrophy. All the structures, in irregular proportions in different cases, are involved much as we have noted in the series which I have this evening produced. Moles and nævoid moles of the skin sometimes take on growth tendency, and this may happen at any period of life, and sometimes, as is well known, melanotic sarcoma may occur in them. In some rare instances fibroid hypertrophy in moles shows a definite tendency to recur. I once removed for a young lady a huge pigmented and papillary mole which grew on the pubes and involved the labium. It was impossible to remove the whole. A tendency to subsequent growth was most definite, and second and third operations were required. The subcutaneous fibroid hypertrophy produced a dense hard mass an inch and a half in thickness. The pathological processes displayed in this case were probably very similar to those which occurred in the tongue in the case which I have had the honour to bring before the Society.

In conclusion a few words may be said as to the surgical aspects of the case. It might, perhaps, have been better, as regards the prospects of immunity, if I had operated when the patient first came under my notice. My reasons for delay were, that the growth had already attained such a size that the operation must of necessity be a very formidable one, and that as it seemed highly probable that the tumour was innocent so it was wise to put off the danger as long as possible. Guided by our experience in this instance, I should certainly in any similar case—in which a tumour in the tongue, however apparently innocent, was steadily growing, however slowly—be inclined to advise an early removal. It may be doubted, however, whether a patient in whom such a growth caused neither pain nor inconvenience and had been present for years, would be inclined to submit early to an operation involving the loss of the entire tongue. Such

would have been the conditions under which any surgeon who saw this case before I did would have had to advise.

(For report of the discussion on this paper, see 'Proceedings of the Royal Medical and Chirurgical Society,' New Series, vol. i, p. 458.

DESCRIPTION OF PLATES V, VI, AND VII.

(On a Case of very large Lympho-sarcomatous Tumour of the Tongue, by JONATHAN HUTCHINSON, F.R.S.)

PLATE V.

Case of Lympho-sarcomatous Tumour (see p. 311).

FIG. 1.—The tongue, after removal, seen from before.

FIG. 2.—The same seen from the side.

FIG. 3.—A longitudinal section of the tongue from tip to base.

PLATE VI.

Case of Congenital Unilateral Hypertrophy of Tongue (see p. 317).
(A papillary, lymphatic, and nævoid mole.)

PLATE VII.

Microscopical Sections from Tongue, figured in Plate V.
(Drawn by Mr. J. Hutchinson, jun.)

FIG. 1.—Section of the surface of the tongue made through part of two of the large “papillæ” which covered it. The epithelial layer was everywhere well defined, and here presents nothing abnormal; the subjacent layer is very vascular and somewhat infiltrated with lymphoid cells, whilst towards the lower part these show a tendency to be arranged in irregular alveoli.

a. Horny layer.

b. Rete mucosum.

c. Vessels.

d. Deep part beginning to show an alveolar arrangement.

FIG. 2.—A section characteristic of the great mass of the tumour, showing large rounded alveoli filled with lymphoid cells of uniform size, enclosed by bands of fibrous tissue and intersected by finer strands of the latter.

Fig. 1.

Fig. 2.

Fig. 3.

E. E. Burgess del.

Lympho sarcoma of tongue.

Miniern Bros. Chromo lith.

Congenital unilateral Hypertrophy of tongue.