

with the certainty of removing all the disease, and preventing its reproduction.

Gentlemen, I do not wish to exaggerate the danger of amputation in contiguity, and still less of that in continuity, but still this danger is certainly greater than that of the ablation to which I give the preference. The slight excavation which I made so as to pass beyond the limits of the disease, and to the usefulness of which I called attention in 1861,<sup>1</sup> appears to me quite sufficient to protect the patient from a relapse. At least in none of the eight persons upon whom I have operated in this way has the growth returned, and even if it should return once, I feel convinced that if the patient had reached the age of 25 or 26 years at the time of the second operation, another return would not take place, the age which predisposes to this kind of production having been passed.

### LECTURE III.

#### NON-SPECIFIC EPIPHYSARY EXOSTOSIS OF YOUTH OR EXOSTOSIS OF DEVELOPMENT.

Description of the disease—Incurability by internal treatment—Operation useless, because the tumour is indolent and without danger, and will cease to grow after adolescence—Surgical intervention reserved for some exceptional cases.

GENTLEMEN: As we finished the visit this morning we were stopped by a young man, 19 years old, whose father came to ask my advice about a tumour situated upon the inferior and internal portion of his son's right knee. The tumour first appeared when the boy was 16 years old, it has grown little by little without causing any pain, but now that it has reached the size of a lady apple the young man and his parents begin to worry about it, and wish to know if it cannot be removed. You saw that the tumour was round, slightly knobbed, and so hard that there was no doubt about its being formed of bone. The skin that covers it is normally soft and movable. Seizing it with one hand, and fixing the leg solidly with the other, I recognized that the tumour was tightly adherent to and confounded with the inner tuberosity of the tibia.

Consequently I did not hesitate to pronounce the diagnosis exostosis, and you heard me add, exostosis of adolescence. By that I wished you to understand that there are developed in adolescents exostoses which are not due to a specific cause, but which are purely local lesions unaccompanied either by pains or marked functional troubles,

<sup>1</sup> Bulletin de la Soc. de Chirurgie, June 12, 1861.

and which will not disappear under the influence of a general treatment.

You often see in the surgical wards, and you will hereafter meet with in practice, patients bearing tertiary syphilitic exostoses. Sometimes they are young people, but more often they are adults, and in any case the diagnosis indicates at once the existence of a general cause, syphilis, under the influence of which the lesion has been produced, and behind this cause the possibility of a disappearance under the influence of an appropriate treatment.

On the other hand, you will often hear me call your attention to bony swellings which I call *hyperostoses*. I shall tell you that these hyperostoses sometimes follow osteitis of infancy or of youth, but in such a case last throughout the patient's life, and become from time to time the seat of fresh inflammatory action, and even of necrosis. I shall further show you that these hyperostoses may form on adults, especially after a fracture.

But in the case of this young man you see there has been no intervention either of the syphilitic cause or of an antecedent osteitis. We have here a very circumscribed, indolent, bony swelling, which is due to no appreciable cause, and which can be explained only by an aberration or excess of bony development at certain points of the skeleton, at the time when the system is working to complete this latter, an aberration comparable to that which causes the formation at the same age of sub-ungual exostosis and naso-pharyngeal polyps. Only, while in this case the production is exclusively bony, you remember that in sub-ungual exostosis it is osteo-fibrous, and in the naso-pharyngeal polyps exclusively fibrous.

I said that you would meet with analogous cases in your practice. You will find them oftener upon the lower than the upper limbs, and in the neighbourhood of the extremities rather than upon the body of the bone. In this connection I accept willingly the opinion uttered by M. Broca<sup>1</sup> before the Société de Chirurgie upon the origin of these exostoses in the border of the epiphysary cartilage, and more often upon the side than in front or behind, and with him I give them the name of epiphysary exostoses. But I should like to be sure that my learned colleague had had the occasion, which I, for my part, have not had, to verify the fact upon the cadaver. On some subjects you find many at a time. In a case presented by M. Marjolin<sup>2</sup> to the Société de Chirurgie, there were a great many of them, and they were symmetrical, that is, they occupied the same place and had the same size on the right and on the left. It is true that this was a child six years old; but although this lesion is generally seen during youth, yet like the other lesions of this age it sometimes occurs in children.

When the father asked me repeatedly what I thought should be done for the tumour, you heard me answer, "Nothing." The exostosis causes no functional trouble, no pain; if there were any chance that we might cause it to disappear by inoffensive external or internal

<sup>1</sup> Broca, Gazette des Hôpitaux, 1865, p. 295.

<sup>2</sup> Marjolin, Gazette des Hôpitaux, 1864, p. 344.

treatment, we would make the attempt, for it is disagreeable for any one, and especially for a young man, to bear a deformity. But we know and we have warned the patient that the tumour will not disappear under the influence of drugs, and that it may even increase a little until the skeleton is completed, that is, until the end of adolescence. Consequently I prescribed only some precautions in the hope of preventing too great growth. I advised him to avoid long walks and fatigue, and to cover the upper portion of the leg with cotton and duck, so as to protect the exostosis from external violence, or at least to diminish its effect.

Gentlemen, observe that we could get a radical cure only by a cutting operation. This operation, which would consist in dissecting back the skin, uncovering the base of the tumour, and removing it with a chain-saw or gouge, would certainly not be difficult of execution. But it would inevitably be followed by suppuration, for the wound would be too large to permit immediate union; the suppuration would undoubtedly attack the bone itself, and the patient would have to run the risk of an acute suppurative osteo-myelitis, the danger of which disease I shall often have to point out to you.

At the beginning of my studies, in 1834, I saw Professor Roux remove by an operation of this kind an epiphysary exostosis of the lower portion of the femur of a strong, handsome young man 18 years old. Suppurative osteo-myelitis of the femur set in, and was complicated by pyæmia, which carried off the patient at the end of twenty days. Roux had performed the operation because he thought the tumour would grow until it caused intolerable pain and annoyance.

To-day surgeons ought to know that—the period of adolescence ended—tumours of this kind remain stationary, and, as a rule, cause no trouble in the functions of the affected part.

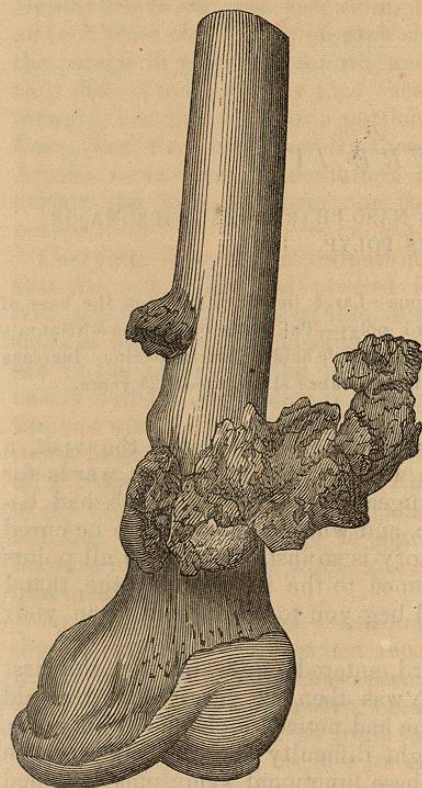
There are, however, exceptions. M. Broca has reported the case of a young man, 20 years old, whose exostosis was complicated by a cyst developed about it. This cyst grew so large that the surgeon thought an operation necessary, and removed both it and the bony tumour successfully. I think that perhaps in such a case puncture of the cyst, followed by an injection of the tincture of iodine, without touching the exostosis, might be sufficient. I should not be willing to remove the latter unless it interfered notably with the action of the muscles.

An English surgeon, M. Coote,<sup>1</sup> was led to operate by special reasons which, in any case where they should present themselves, would be a precise indication for surgical intervention. The patient, 26 years old, had had for many years an exostosis of the transverse process of the seventh cervical vertebra. The tumour, which was only as large as a good-sized nut, projected above the clavicle, pushed the subclavian artery forward, and forced upward and compressed the nerves of the brachial plexus. Hence numbness and coldness of the hand and fingers, and pain along the arm and in the shoulder. Removal of the tumour, which was, of course, difficult in this region, caused the disappearance of all these functional troubles.

<sup>1</sup> Coote, *Union Médicale*, 1861, tome xii. p. 188.

In 1857, at the Hôpital Cochin, I saw a still rarer exception. The patient, 51 years old, had had, since the age of 15 or 16, an exostosis upon the inner portion of the left femur. (Figs. 1 and 2.) It had

Fig. 1.



Arched exostosis of femur—broken.

Fig. 2.



Fragments in place.

never given him any trouble, when one day he was knocked down by a wagon, the wheel of which, passing over his thigh, fractured the exostosis. Its anatomical disposition was very unusual. Instead of a single implantation, which is habitual, it had two: the lower one very large, the upper one smaller. It had thus the form of a loop or of a large zygomatic arch.

The weight of the wagon caused a comminuted fracture of this exostosis, detaching it from its insertions, and at the same time a contused wound, which made the fracture compound.

Suppuration was abundant; the patient fell promptly into a dangerous hectic condition; I amputated through the thigh about the thirtieth day, and the patient was carried off by pyæmia.

With the exception then of such cases as these, fix in your minds this fact, that epiphysary or developmental exostoses may remain

without causing any inconvenience, that they cease to grow when adolescence ends, and that their removal offers dangers to which it is absolutely contra-indicated to expose the patient when the tumour is indolent and inoffensive.

#### LECTURE IV.

##### SUFFOCATING AND REBELLIOUS NASO-PHARYNGEAL FIBROMA OR FIBROUS POLYP.

Hemorrhagic and suffocating form of fibroma—Large implantation upon the base of the skull—Signification of the word polyp—Palliative operations—Nélaton's operation—Cauterization by electrolysis—Nitric acid—Chloride of zinc—Increase—Exophthalmia, hemiplegia, their disappearance at the age of 25 years.

GENTLEMEN: We have just seen, as we completed the visit, a young man, 23 years old, whom I have treated in our wards for nearly two years for a naso-pharyngeal fibrous polyp which had become suffocating and hemorrhagic, and who appears now to be cured of this serious affection. His history is so instructive from all points of view, and especially with reference to the influence of age, that I wish to relate it to you again, and beg you to engrave it upon your minds.

This young man, Joseph Pellard, entered our wards for the first time the 21st of April, 1869. He was then 22 years old. He told us that since the age of 16 or 17 he had noticed a change in his voice, which had grown nasal, and a slight difficulty in breathing through his nose. During several years these functional symptoms troubled him so little that he paid no attention to them and consulted no one.

At about the age of 20 he bled frequently from the nose; but although the nasal tone had increased, and respiration through the nostrils was impossible, he was still able to live without treatment. After some time the epistaxes became more frequent, though not very abundant; each time the respiration became more embarrassed, and deglutition was difficult. The patient was then obliged to consult a physician, who sent him to me for the surgical treatment which he considered necessary.

The day we examined the patient for the first time, we found that he was large, well formed, and did not have the pale look of anæmic subjects, which proved that the quantity of blood lost had not been considerable. What struck us most was the frequency of his respirations, and the snoring sound which accompanied them. Questioned upon this point, the patient said he did not generally feel choked, but he was short of breath when walking, and for that reason could

neither walk fast nor run. He added that on two occasions, without apparent cause, he had had short attacks of suffocation. His face was not deformed.

In order to examine the nostrils and nasal fossæ, I placed the patient before a window, introduced successively into each nostril Duplay's bivalve nasal speculum, and saw, at about three-quarters of an inch from the nostril, on each side, a round reddish body. I told the patient to close the mouth and make a forcible expiration, and thus discovered not only that these round bodies were not pushed forward, but also that not a particle of air escaped through the nasal fossæ, and that consequently these latter were entirely obstructed. At the same time, I mentioned that the intra-nasal tumours had neither the flattened form nor the pinkish-gray colour of mucous polyps.

Carrying, then, my investigation into the pharynx, I saw at once that the soft palate was pressed forward. I tried to press it back with my finger but was unable to do so, finding resistance upon the sides as well as in the median line. Then depressing the tongue, I saw in the middle of the pharynx a round reddish body extending nearly half an inch below the edge of the palate, and evidently continuous with the resisting body above it. Finally, passing the right index finger beyond the palate, I felt that this fleshy body occupied all the upper or nasal portion of the pharynx. I could pass the end of my finger between it and the wall on the right side, but not on the left, but it was impossible to get behind, or above, or to move it, because it occupied the whole space, and seemed to be fixed upon the first cervical vertebra.

By these physical and functional symptoms, I recognized one of those tumours so well studied recently by Professor Nélaton, which we know by the name of naso-pharyngeal polyps.

It was not a mucous polyp, because, in the first place, polyps of that kind do not ordinarily reach such a size, secondly, because it was redder, and above all, because its consistency was firmer. All these points are characteristic of fibrous polyps.

The size of the tumour might have given rise to the idea of its being a cancer, and its resistance to the remedies employed during eighteen months might afterwards have confirmed this idea. But there was no ulceration; now, cancer of the nasal, buccal, and pharyngeal cavities, hardly reaches this size, and does not last so long without ulcerating. On the other hand, cancer, especially cancer that progresses slowly (this tumour was at least five years old), is very rare at this age.

Finally, M. Nélaton's researches have taught us two things which ought to be utilized in the diagnosis. The first is that naso-pharyngeal fibrous growths are seen especially upon young people, and the second is that they are seen almost exclusively upon boys and not upon girls.

The cases which I have met are entirely confirmative of these two opinions. I have seen naso-pharyngeal fibromas only upon adoles-