FIBRO-SARCOMA OF LEFT CLAVICLE AT STERNAL END: EXCISION: DEATH FROM SUPPURATION SPREADING DOWN THE ANTERIOR MEDIASTINUM.

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L., a male, aged 23, was sent to me by Mr. Guthrie Rankin, of Warwick, for a suspicious swelling at the inner end of the left clavicle.

The patient's history showed that he had felt pain and uneasiness at the sternal end of the clavicle for about twelve months. The pain had extended up the neck and into the arm, producing a numb feeling there, but in the early days there was no swelling of the affected part. About ten weeks before I saw him a small swelling appeared, and, thinking that the bone was "out," he consulted a bonesetter, and, not getting relief, placed himself under medical care.

On admission to the General Hospital on April 4th, 1889, there was a pyriform enlargement, with its base inwards, occupying the sternal end of the left clavicle for about 3 inches. The skin was freely movable over the tumour, which was non-pulsatile, hard to the touch, nodular in places as though cartilaginous, and free from tenderness. The sterno-clavicular joint was more movable than on the opposite side, and, when the fingers were pressed deeply into the neck behind the growth, it was found to encroach more on the deep and posterior structures than appeared from the front view. The skin of the face and neck was dusky, but the large veins were not dilated, nor was there any murmur in any of the adjacent vessels. A feeling of suffocation was complained of occasionally, but no difficulty had arisen in swallowing. There was no history of syphilis, nor anything to suggest that the patient had suffered from it. The viscera all appeared healthy.

The diagnosis was sarcoma of very moderate malignancy, probably central in origin, and on April 12th I removed it as follows: Two skin incisions were made at right angles to each other, one about 3 inches long in the middle line of the neck, extending slightly on to the upper part of the sternum, the second commencing at the lower end of this, and running horizontally outwards to a little beyond the coracoid process. Keeping as close to the under surface of the skin as was possible without button-holing it, a triangular flap was dissected upwards, so as to freely expose the growth and adjacent parts of the clavicle.

An aneurysm needle was worked carefully round the clavicle, just inside the coracoid process, and a silk ligature, threaded through it, was used to pull a chain saw round the bone, which was then divided. The pectoralis major was then cut through a little distance from its clavicular origin, the sterno-mastoid was next similarly treated, and the divided end of the bone being forcibly elevated the subclavius muscle, the rhomboid, capsular, and interclavicular ligaments, and the fibro-cartilage were all divided. Although of course numerous large and important vessels were more or less distinctly seen, only the external jugular vein and some unnamed arteries required ligaturing. The flap of skin was replaced, and free drainage was provided at the inner angle of the wound.

April 13th. Since the operation vomiting has been persistent. The discharge from the wound had drained freely, and the skin, though somewhat blue at the edge, is all living. Temperature 102.5°; pulse 120; respiration 40.

April 14th. Vomiting has ceased for some hours, but the patient has been very restless. The wound looks well; the discharge is abundant, odourless, and serous in character. Severe pain is felt over left chest, where friction is heard, but the breath sounds are not distinctly altered, and there is no marked dullness. Temperature 102°; pulse 146; respiration, 54.

April 15th. Still very restless, with great pain in the left side and in the epigastrium. The area of friction has extended widely.

Face cyanosed. Temperature 101°; pulse 150; respirations 50. Death the next day.

At the necropsy the condition of the wound was carefully investigated. It contained a little blood but no pus, and the granulations looked healthy. The deep muscles and fascia were undisturbed; the pleura was not exposed; the phrenic, pneumogastric, and sympathetic nerves presented no evidence of any change, and the large vessels were uninjured. On opening the chest, a layer of lymph was found extending all over the anterior mediastinum. There was no patent communication between this and the wound, such as might have been produced by pulling the parts about severely at the operation; but evidently the inflammatory mischief had spread downwards in the loose tissue under the sterno-hyoid and thyroid muscles. In each pleural cavity lymph was found in considerable quantity, and some ounces of turbid fluid on each side also. There were no secondary growths.

The specimen shows that the tumour originated in the centre of the bone at the sternal end. It is very firm, on section looking almost fibrous, and microscopic examination shows that it is made up of fibrous tissue, with small spindle cells, varying in amount in different places, but sufficient to place the tumour amongst the sarcomas of low degree of malignancy.

Examination of the bone where it was divided shows, I think, that at the point of section the bone is healthy. My reasons for removing only part of the clavicle were that I regarded the tumour as one of low degree in malignancy, and I was anxious to leave the deltoid undisturbed if possible, and to preserve the rounded outline of the shoulder.

The difficulty of the operation was not as considerable as I had anticipated from the published accounts of similar cases. It was very disheartening that a fatal termination should follow upon a case in which so little disturbance of the deeper parts had been made, in which the inflammatory products drained away well, and especially in which the nature of the tumour justified one in anticipating freedom from recurrence.

The inflammatory extension into the mediastinum was, I think, greatly assisted by the violent efforts of vomiting induced by chloroform and by the extreme restlessness of the patient.

There is a tendency to take a very gloomy view of excision of the clavicle for malignant growths, partly from dread of the difficulties of the operation and of the immediate mortality, partly because recurrence seems probable owing to the impossibility, from the nature of the surroundings, of going really wide of the disease. The truth is, we are in want of accurate information on these points.

I have been able to collect notes of twenty-four cases in which the whole or a considerable part of the clavicle has been removed for tumour. Most of these were probably cases of sarcoma, two were cases of secondary carcinoma, the primary growths being unrecognised at the time of operation; one is described as a primary alveolar soft carcinoma, and a few remain in which the description of the tumour is so meagre that one can only guess from the clinical history in such cases that the tumours were malignant.

Of these 24 patients, 6 died within five weeks of the excision, but in 2 of them, Nos. 2 and 5 in the following table, the fatal result cannot be placed to the discredit of the operation:—