Case report

Severe complication following the excision of a lipoma from the supraclavicular fossa.

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Abstract

A 34 year old man was operated of excision of a lipoma located in the right supraclavicular fossa. The lipoma was completely excised, but the patient, after recovering the complete range of motion of the shoulder, had been complained of fatigue and moderate pain in abduction and elevation of the shoulder over 90 degrees. The diagnosis was trapezius palsy, consequent to the iatrogenic neurotmesis of the spinal accessory nerve, which caused an evident scapular diskinesis. The present case teaches that lipoma excision is not always a simple operation, and great attention to noble structures must be paid.

Key Words: lipoma; shoulder; outcomes; trapezius palsy; diskinesis.
Introduction

Lipoma is a common benign tumor caused by an overgrowth of fat cells. It can grow anywhere in the body where there are fat cells. About one in 100 people develops a lipoma in his life. It is unusual to develop more than one or two lipomas, unless you have a rare inherited condition called familial multiple lipomatosis, which causes lipomas to develop all over the body. It is essential to make a differential diagnosis with liposarcoma. MR, possibly with contrast medium, is usually sufficient for the right diagnosis. If lipoma is confirmed, the tumor must be excised only in case of symptoms, like pain or neurovascular impairment, due to nerve or vessel compression.

The present case is relative to a lipoma of the supraclavicular fossa, whose excision caused a severe diskitis of the shoulder.

Case report

A 34 year old man was diagnosed with lipoma after clinical and MR assessment. He had been complained of a mass of increasing size on the right supraclavicular fossa. Tranquilized by the family doctor and by an ecographic exam on the benignity of the lesion, after about one year from the time the patient firstly noticed the mass, he was submitted to an orthopaedic examination because of the onset of symptoms as persistent moderate pain and sensation of electricity at the manual palpation. The orthopaedic surgeon prescribed a magnetic resonance, that confirmed the nature of the mass (lipoma). Then, the physician decided to operate the patient.

The operation consisted in the excision of the mass. The surgical report was the following: supraclavicular approach, gently enucleation of the tumor with its capsule. The histologic examination showed a tissue with the typical feature of a lipoma, without any malignant cells.

The patient started the rehabilitation a week after the operation. Passive and active kinesitherapy allowed the patient to recover the complete range of motion of the shoulder in about 15 days, without difficulties. In the following 12 months, the patient had been complaining of fatigue and slight pain in laterally abducing and flecting the shoulder over 90 degrees. The family doctor and the orthopaedic surgeon underestimated the problem.

He came to the shoulder specialist of the Orthopaedic Clinics of Perugia after about one year from surgery. The physical examination showed a wide depression in the supraclavicular fossa (fig. 1). The kinematics of the right scapula was clearly altered, with a winging scapula, as a sign of deficiency of the trapezius (fig. 2).

The electromyography showed a neurotmesis of the right spinal accessory nerve. Because of the condition of the nerve and the long time from the surgery, we did not give indication for surgical neurolysis.

An intense and prolonged physiotherapy, with continuous mobilization of the scapula, allowed the patient to better control his shoulder and a better kinematics of the scapula. At present, pain is reduced, but the function of the joint is not normal.

Discussion

Lipomas are common tumors that are not rarely located around the shoulder joint. The indication for surgery should be given only in case of compression of the adjacent anatomical structures, which can cause symptoms like pain or neurovascular impairment. In general, the surgical excision of a lipoma is considered technically simple. This is not always true. In fact, within and adjacent to the mass, important structures can be present. In the described case, the lipoma has likely been excised with a portion of the upper anterior part of the trapezius and the sternocleidomastoid muscles, both innerved by the spinal accessory nerve. The origin of the upper trapezius is from the external occipital protuberance, the medial third of the superior nuchal line, the ligamentum nuchae, and the spinous process of C7. The insertion is at the lateral third of the clavicle and the medial aspect of the acromion process of the scapula. The innervation is competence of the Spinal Accessory
Cranial XI nerve and the ventral Rami C2-C4. The primary action of the upper trapezius are the upward rotation and the elevation of the scapula.

In the case reported in this paper, the surgeon should have isolated the Accessory nerve, in order to avoid the malfunctioning of the scapula caused by its accidental dissection.

The most frequent cause for iatrogenic accessory nerve injury are the lymph nodes biopsies (1). Seror et al (2) reported a series of 35 cases of unilateral trapezius palsy. In total, 35 cases had a medical origin: neuralgic amyotrophy (nr 22), idiopathic unilateral trapezius palsy (nr 5), regional neck radiotherapy for different conditions (nr 2), facioscapulohumeral dystrophy (nr 4), abnormal loop of the jugular vein (nr 1), or basilar impression (nr 1). Other etiologies were neck surgery (nr 16), cervicofacial lift (nr 2), or trauma (nr 1). Macaluso et al (3) underlined as the spinal accessory nerve injuries are often missed. The systematic review by McGarvey et al (4) on intra-operative monitoring of the spinal accessory nerve, concluded that only three articles met the inclusion criteria of the review. Two of these included studies suggesting that intra-operative nerve monitoring shows greater specificity than sensitivity in predicting post-operative shoulder dysfunction. Only one study, with a small sample size, assessed intra-operative nerve monitoring in neck dissection patients.

Surgical technique for management of spinal accessory nerve injuries are reported (5, 6), but, in the present case, surgery was excluded.

Conclusion

Surgical excision of lipomas is not always a simple procedure. Every case has to be well studied, in order to plan the correct surgical procedure.

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HUMAN AND ANIMAL RIGHT: For this type of study is not required any statement relating to studies on humans and animals. All patients gave the informed consent prior being included into the study. All procedures involving human participants were in accordance with the 1964 Helsinki declaration and its later amendments.

References

Figures

**Fig. 1.** The inspection of the right shoulder, at one year from surgery, showed an “empty” supraspinous fossa.
Fig. 2: The abduction of the right shoulder over 90 degrees showed an evident scapular diskinesis (scapular winging)