

CASE REPORT

Bilateral platysma dystonia

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ABSTRACT

Platysma dystonia is an involuntary movement of platysma muscle. It is a rare form of dystonia. In this case report, we would like to report a good result of peripheral nerve denervation for bilateral platysma dystonia case. A 58-years-old woman presented with an 8-years history of involuntary jerking movement of her bilateral platysma muscles. Oral medication was not effective. Microsurgical denervation of the facial nerves and its terminal branches to the platysma muscles were performed. Immediately after surgery, the patient showed considerable improvement. There were no complications. Selective peripheral denervation is useful for dystonia of the platysma muscles.

Key words: Facial nerve, platysma dystonia, selective peripheral nerve denervation

Introduction

Platysma dystonia is a rare form of focal dystonia. No articles about specific focal platysma dystonia and selective peripheral dystonia for this case were found. Some clinical reports explain about good results of nerve denervation for focal dystonia.^[1-4]

Here, a case report is described of a focal platysma dystonia patient with involuntary jerking movements of her bilateral platysma muscles that were treated with selective bilateral peripheral denervation of the cervical branch of the facial nerve.

Case Report

A 58-year-old woman was presented to this department with involuntary jerking movements of her bilateral platysma muscles [Figure 1]. The patient had normal laboratory test result, euthyroid and never used psychotropic drugs before, that can cause tardive dystonia or cervical dystonia induced by that drugs. Oral medication was administered for 8 years and already performed botox local injection for many times, but had not been effective.

Anatomy

The platysma muscle is a broad and thin superficial muscle that overlaps the sternocleidomastoid muscle spreading from the upper pectoral and deltoid regions.^[5]

Functions of the platysma muscle are to wrinkle the surface of the skin of the neck in an oblique direction, to depress the lower jaw, and to pull down the lower lip and angle of the mouth in the expression of melancholy, i.e., grimacing.^[6,7]

In this condition of dystonia, the platysma muscles make involuntary jerking movements that are uncontrollable by the patient.

Motor branch of the platysma comes from cervicofacial division of the facial nerve. The proximal of platysma branch arrives from approximately 1.8 cm lateral from angulus of mandible. In this site, facial nerve divided into mandibular branches and platysma branches. Platysma branches innervate the platysma muscle from under the muscle. It is more superficial than the retromandibular veins, facial veins, and the facial artery.^[8,9]

Cervical dystonia was mainly treated effectively with selective peripheral denervation, and task-specific focal dystonia of the hand (writer's cramp) was effectively alleviated by stereotactic ventro-oral thalamotomy. Generalized dystonia

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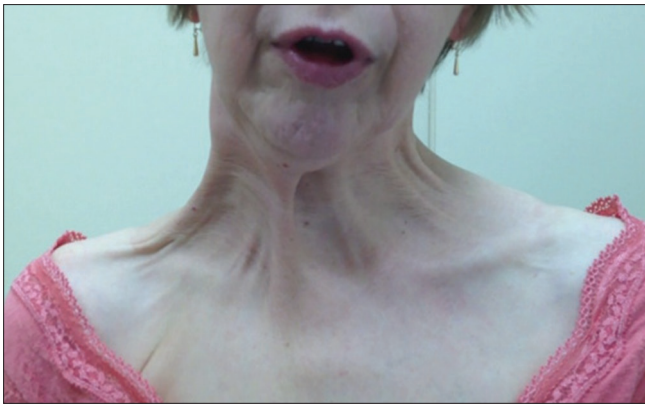


Figure 1: Bilateral platysma dystonia with involuntary jerk movement, worst on right side



Figure 2: Clinical outcome, 4 days after operation



Figure 3: Skin incision, 2 cm in length, 1 cm below mandibulae angle

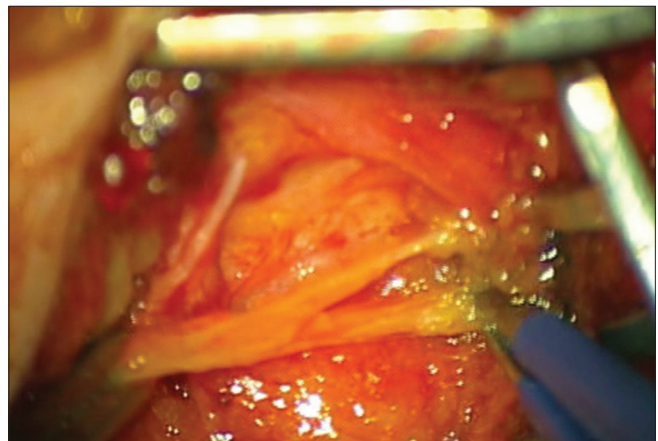


Figure 4a: Coagulation platysma branch of the facial nerve

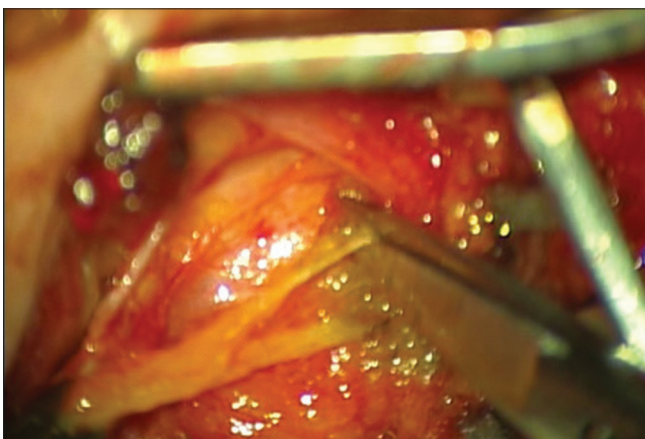


Figure 4b: Cutting platysma branch of the facial nerve using scissor

was improved with deep brain stimulation of the globus pallidus interna.^[1]

In this case, we performed bilateral selective nerve denervation for bilateral focal platysma dystonia, and immediately after surgery, the patient showed considerable

improvement. There were no complications. The platysma did not have any involuntary jerking movements again, and was already controlled by the patient, with 4 days follow-up [Figure 2].

Surgical steps

The patient was operated on under general anesthesia in the supine position. Muscle relaxant was not used to enable monitoring of intraoperative contraction of the platysma muscles.

We did not use local infiltration anesthesia or vasoconstrictors to avoid the relaxant effect of the anesthetic drug from the local infiltration injection. A skin incision 2 cm in length was made 1 cm below the angulus mandibulae [Figure 3]. The subcutaneous tissue was dissected microscopically. And platysma muscles dissected with blunt dissection carefully.

The facial nerve that innervated the platysma muscles was identified with monopolar electrical stimulation (Medtronic test stimulator model 3625 with 25 pulses per second, 200 micro seconds pulse width, 10 to 1 volts). Voltage was decreased gradually from 10 volts to 1 volt to find the nerve and to avoid the spread of stimulator electricity.

The platysma motor branch remained superficial to the retromandibular and facial veins and to the facial artery. The facial nerve innervated the platysma muscles under the muscle. Before it branches to the platysma, it has branches that innervated other muscles in the mandibular area and it was preserved carefully.

Under an operative microscope, the facial nerve that innervated the platysma muscles was cut by bipolar coagulation and scissors [Figure 4a and b]. The nerve stimulator was used again to make sure that there were no nerves that innervated the platysma muscles bilaterally. The operating wound was sutured by absorbable suture, layer by layer, and a liquid bonding agent was used to close the skin.

Conclusion

Selective peripheral denervation is useful for dystonia of the platysma muscle.

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Conflicts of interest

There are no conflicts of interest.

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