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Short communication

Hyoid bone syndrome masquerading as temporomandibular joint dysfunction

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Abstract

Hyoid bone syndrome is a type of cervicofacial pain that is caused by degeneration of the greater cornu of the hyoid at the attachment of the stylohyoid ligament. We report four patients who presented with deep-seated, dull, aching, temporomandibular (TMJ) pain that radiated from the greater cornu of the hyoid bone and did not respond to conservative management. Diagnostic tests included a local anaesthetic block and digital palpation of the greater cornu of the hyoid bone. All four patients responded well to methylprednisolone 40 mg/ml at the greater cornu of the hyoid bone, which resulted in complete resolution of their symptoms. No patients developed postoperative complications. Oral and maxillofacial surgeons involved in the treatment of orofacial pain should consider this less documented condition in their differential diagnosis when treating temporomandibular disorders.

Keywords: Facial pain; Steroids; Hyoid bone

Introduction

Hyoid bone syndrome, first described in 1954, is caused by inflammation of the attachment of stylohyoid ligament and middle pharyngeal constrictor to the hyoid bone.[1] It may be seen in conjunction with Eagle syndrome, or as a sequel of injuries to the hyoid. Insertion tendinitis of the other muscular attachments as a result of trauma or whiplash may also contribute. The pain originates at the greater cornu of the hyoid, and radiates to the temporal region, temporomandibular joint (TMJ), mandible, face, and ear superiorly, and to the side of the neck and clavicle inferiorly.[2] The pattern of distribution of the pain is similar to that of dysfunction of the TMJ, which makes them difficult to differentiate so that such patients are often misdiagnosed and possibly wrongly treated.

Case reports

Insertion tendinitis of the hyoid bone is common, but is usually not taken into consideration in clinical practice because of misdiagnosis and the absence of clinical studies. All four of our patients presented with deep, dull pain in the TMJ that radiated from the greater cornu of the hyoid bone. The pain increased during movement of the mandible, turning of the neck, and swallowing. In addition, examination of the neck showed tenderness overlying the greater cornu of the hyoid bone on the affected side.[3] The diagnosis was established in all four cases by injecting local anaesthetic 2 ml into the greater cornua of the hyoid.[2]

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Fig. 1. Injection of methylprednisolone over the greater cornu of the hyoid bone.

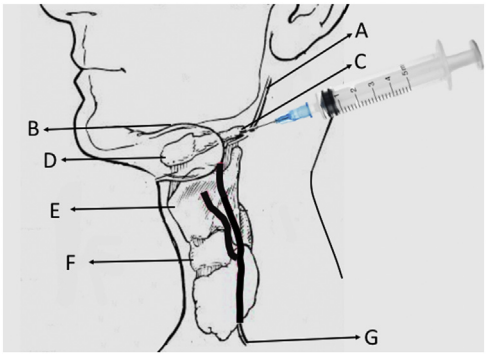

Fig. 2. Diagram of the injection site. A = superior laryngeal nerve; B = palpating thumb; C = greater cornu; D = hyoid bone; E = thyroid cartilage; F = cricoid cartilage; and G = recurrent laryngeal nerve.

The definitive treatment for hyoid bone syndrome is hemihyoidectomy (often reserved for medically refractory cases) or injection of steroid at the greater cornu. All our patients responded well to injections of methylprednisolone 40 mg/ml. Two patients had immediate spontaneous remission of symptoms, whereas the other two required an additional two doses for complete resolution. The injection is given by palpating the greater cornu of the hyoid an inch inferior to the angle of the mandible on the affected side.[4] Gentle pressure is applied on the contralateral side to make giving the injection easier. Contact with the hyoid is usually achieved at a depth of 1–1.5 cm from the surface of the skin. Using a 22 gauge needle, methylprednisolone 0.5 ml is infiltrated into the area of maximum tenderness, just overlying the middle of the greater cornu of the hyoid (Figs. 1 and 2). The bone can be felt with the tip of the needle, which should then be withdrawn a fraction to allow comfortable infiltration.

Discussion

Hyoid bone syndrome mimics many other conditions of the head and neck, but can be differentiated by taking a careful history and in particular from careful palpation of the hyoid bone. The differential diagnoses include temporal tendinitis, glossopharyngeal neuralgia, Eagle syndrome, and superior laryngeal neuralgia.[2] Similarly, tumours of the larynx, hypopharynx, and anterior triangle of the neck may cause symptoms identical to those of hyoid syndrome.

Because of its vague clinical presentation and symptoms similar to those of TMJ dysfunction, palpation of the hyoid bone should be incorporated in the clinical examination of disorders of the TMJ. To prevent misdiagnosis and over treatment it should also be considered in the differential diagnosis of patients who present with pain in the TMJ. While a blind injection technique used around the greater cornu is usually part of diagnosis and treatment with minimal complications, ultrasound can be a useful adjunct to improve the accuracy of the local anaesthetic injection.

Ethics statement/confirmation of patients' permission

Ethics permission was obtained from the Institutional Ethics Committee. The patients gave permission for publication of photographs.

Conflict of interest

We have no conflicts of interest.

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