

More about pain in the neck: thyroid cartilage and mastoid process syndromes

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Abstract

Eight patients with cervical pain were examined. The only positive finding was an impressive tenderness over the thyroid cartilage (in seven patients) or over the area of the insertion of the sternocleidomastoid muscle to the mastoid process (in one patient). The diagnosis of thyroid cartilage syndrome and mastoid process syndrome were suggested and the patients were treated with oral and topical non-steroidal anti-inflammatory drugs (NSAIDs) which reduced the symptoms. These syndromes are rare. The thyroid cartilage syndrome has been previously reported only once in the literature and this is the first report on the mastoid process syndrome. These syndromes, although rare, should be included in the list of causes for cervical pain and better recognition of the syndromes will save patients from undergoing unnecessary investigation and inappropriate treatment.

Key words: Pain; neck, Thyroid cartilage; Mastoid

Introduction

Cervical pain is a common complaint in ENT clinics. Thyroid cartilage syndrome is an extremely rare cause for cervical pain, and has been reported only once in the literature (Kunachak, 1995). We present our experience in treating seven patients suffering from that syndrome and another cervical pain syndrome which we call mastoid process syndrome, that has not been reported before.

Patients and methods

Seven patients complaining of cervical pain and sore throat with tenderness over the thyroid cartilage have been examined during the last three years. They were five women and two men, ranging in age from 15 years to 43 years (mean age-31 years). The complaints are summarized in Table I and the duration of the symptoms varied from 12 days to three months (average 24 days).

The only positive finding on physical examination in all patients was an impressive point of tenderness of the thyroid cartilage. In four patients the tenderness was localized on the right thyroid ala and in the other three it was in the midline. Examination of the pharynx, larynx, thyroid gland and the head and neck were unremarkable.

TABLE I
COMPLAINTS OF THE PATIENTS

Symptoms	Number of patients
Cervical pain	7
Throat pain	5
Pain in the hypopharynx	1
Aggravation by swallowing	2
Referred pain to the shoulder	1

Prior to examination, all patients had received a course of antibiotic therapy without relief of pain. Throat culture from five patients was normal as were X-rays of the neck in four, thyroid scan in two, a blood count and ESR in five and thyroid hormone and TSH levels in three patients.

Following a review of the results, a diagnosis of thyroid cartilage syndrome was made and the patients were offered treatment with NSAIDs. A combination of both oral Abitren (diclofenac sodium) 100 mg once a day, and Voltaren Emulgel three times a day as ointment for topical application over the point of tenderness in the neck was taken for 10 days.

Results

Complete symptomatic relief was obtained in six patients and partial relief was obtained in one after a course of NSAID therapy. No patient complained of side effects and at a follow-up of between five months to two and a half years, there was no recurrence.

Case history

A 25-year-old woman complained about three weeks duration of left upper cervical pain, especially behind and below the left ear. The pain was aggravated when extending the head and moving the head and the neck. The only positive finding on examination was a localized tenderness over the area of the insertion of the sternocleidomastoid muscle to the mastoid process in the left side without swelling erythema or fluctuation. The rest of the mastoid process as well as the rest of the neck and the left ear were normal. There was no evidence for cervical lymphadenopathy. Prior to the examination in our clinic, the patient had already received a course of antibiotic therapy which did not ease the symptoms. X-ray of the neck which had also been performed prior to our

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examination was normal. The patient was treated with a combination of both oral Abitren (diclofenac sodium) 100 mg once a day, and Voltaren Emulgel three times a day as ointment for topical application over the point of tenderness in the neck for 10 days with a complete symptomatic relief and without any recurrence in a follow-up of 10 months. We decided to call that pain syndrome mastoid process syndrome.

Discussion

Thyroid cartilage syndrome is an extremely rare syndrome reported only once previously (Kunachak, 1995). That syndrome belongs to a group of cervical pain syndromes which also includes the common and not enough recognized hyoid bone syndrome (Brown, 1954; Kopstein, 1975; Ernest and Salter, 1991; Robinson *et al.*, 1994), and the extremely rare cricoid cartilage syndrome (Kunachak, 1995). These pain syndromes are characterized by a tenderness typically localized over these anatomical sites without any other evidence of pathology in the head and neck.

Patients suffering from thyroid cartilage syndrome complain about pain that may radiate from the thyroid cartilage to all the head and neck area and may be aggravated by swallowing, phonation, and respiration. However, the only positive sign on physical examination is a tenderness typically localized over the thyroid cartilage (Kunachak, 1995).

The diagnosis of thyroid cartilage syndrome is made by demonstrating the specific finding of tenderness over the cartilage, and by excluding any other local pathology in the head and neck. Although the syndrome mimics many other pathologies in the head and neck it can be differentiated by careful history and a physical examination and a careful palpation of the thyroid cartilage which elicits severe pain.

Blood count, ESR, thyroid hormone level, and TSH are all normal in all the patients as well as the throat culture, X-ray of the neck, thyroid scan, and CT scan of the neck. Many patients have had one, if not more, courses of antibiotic therapy without any relief of their symptoms.

It seems likely that various factors may be involved in the aetiology of the thyroid cartilage syndrome. It is believed that the symptoms are due to tendinitis or tendinosis of one of the tendons of the muscles attached to that anatomical structure (Kunachak, 1995). This hypothesis is supported by the fact that a number of muscles are attached to the thyroid cartilage, and it moves numerous times during deglutination, respiration and phonation. The mobility of the thyroid cartilage results in excess strain on the attached muscles which brings about various degrees of inflammation or degenerative changes at the point of muscle insertion to it with possible insertion tendinitis or tendinosis occurring as a result (Kunachak, 1995). A histopathological evidence for that hypothesis was provided by Ernest and Salter in 1991 in a patient with hyoid bone syndrome.

In the only previous report about thyroid cartilage syndrome (Kunachak, 1995), the patients were treated by triamcinolone acetonide injections which relieved the pain. Steroid injections are the second line therapy for insertion tendinitis in orthopaedic patients (Day *et al.*, 1983; Packer, 1988). We decided to treat our patients suffering from thyroid cartilage syndrome with the most common and first drug of choice for insertion tendinitis – the NSAID (Day *et al.*, 1983; Packer, 1988), obtaining a good symptomatic relief.

In the mastoid process syndrome case reported here the patient's clinical picture is identical to those of other cervical pain syndromes, but it is located at the region of the insertion of the sternocleidomastoid muscle to the mastoid process.

Insertion tendinitis may also occur in the sternocleidomastoid muscle causing the pain syndrome. Relief of the pain and the tenderness after treating the patient with the first and the most common drug of choice for tendinitis – NSAID supports our assumption. We have decided to call that cervical pain syndrome mastoid process syndrome, and to our knowledge, this is the first report of it.

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