Facial pain due to calcification in periodontoid tissue: Crowned dens syndrome

Chungnam National University Hospital,
Department of Anaesthesiology & Pain Medicine, Daejeon, Korea.
JH Park, YJ Kim, YK Ko, YH Kim.

INTRODUCTION

Crowned dens syndrome (CDS) is a cause of neck pain characterized by calcium deposition in the periodontoid tissues. Clinical features of the syndrome are acute onset of neck pain and headache with fever.

Computed tomographic (CT) imaging is necessary for diagnosis. The prognosis of CDS is excellent. Symptoms disappear within several weeks and calcifications may be absorbed. We report a case of CDS with acute onset of severe neck pain, facial pain, and pharyngeal pain provoked by swallowing.

CASE

A 48-year-old woman presented to our pain clinic reporting right neck and right facial and pharyngeal pain with acute onset one week earlier. There was no history of trauma or medical illness. Six days earlier, she had been referred to a general hospital for treatment owing to fever and elevated inflammatory markers on tests performed at a local clinic.

When the patient first visited our clinic, her blood pressure was 115/62 mmHg, heart rate was 72/min, and body temperature was 37.9°C. She reported neck pain and facial and pharyngeal pain characterized as electric-like shooting, prickling, and burning pain aggravated by swallowing. She had no sensory changes or motor weakness. Under the suspicion of glossopharyngeal neuralgia, the patient was given a right glossopharyngeal nerve block with 1% lidocaine 50 mg and betamethasone 2 mg. She also received oral gabapentin 900 mg per day, a combination of tramadol 18.75 mg/acetaminophen 162.5 mg twice a day, and nortriptyline 5 mg at night. For differential diagnosis with tumors or anatomical abnormalities, facial CT was planned, with follow-up one week later.

At the second visit one week later, facial CT showed a 1.3 cm calcified mass near the odontoid process and right C1-2 facet joint (Fig. 1).

The diagnosis of CDS was made with radiologic findings of periodontoid calcification and clinical findings of acute onset of severe neck pain with fever. Cervical magnetic resonance imaging (MRI) was performed to confirm involvement of the nerve root and thecal sac, and to rule out malignancies. Cervical MRI showed a T2-dark signal intensity calcified mass, 1.3 cm, near the right C1-2 facet joint, with compression of the right C2 nerve root and thecal sac (Fig. 2).

At that time, the patient reported an improvement in pain of 80-90% since the glossopharyngeal nerve block, and she had no fever. Accordingly, no additional blood tests were performed. However, the right occipital pain persisted. Occipital compartment block was therefore performed with 1% lidocaine 50 mg and betamethasone 2 mg.

At the third visit a week later, the occipital pain was resolved. The patient was able to continue pain-free without medication, with no further sequelae.

Figure 1. Coronal (A), axial (B) and sagittal (C) CT scan. Arrow: calcified mass in right posterolateral aspect of odontoid process at level of C1-2.

Figure 2. Axial (A) and sagittal (B) T2 MRI. Arrow: T2-dark signal intensity calcified mass, 1.3 cm, near right C1-2 facet joint, with compression of right C2 nerve root and thecal sac.