

Bilateral Temporomandibular Joint Pain as the First and Only Symptom of Ischemic Cardiac Disease: A Case Report

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Pain of ischemic and non-ischemic cardiac disease can be referred to the craniofacial region. Also, in 6% of patients, craniofacial pain can be the first and only and symptom of cardiac ischemia. Missed diagnoses of these cases may lead to unnecessary dental treatment and a significant number of deaths in patients with atypical symptoms of coronary disease. Therefore the aim of this report, was to present a 48-year-old man with a chief complaint of severe bilateral pain in the temporomandibular joint who was referred to us for evaluation of a suspected temporomandibular disorder. Clinical and radiological examinations we did not find any origin for his pain. The patient was referred for cardiological evaluation (exercise test, electrocardiography, laboratory tests and coronary angiography) and was diagnosed with angina pectoris. The patient had no previous history of heart disease or chest pain. In conclusion, awareness of this symptomatology can be useful for diagnosis of coronary insufficiency and timely treatment. Therefore, cardiac disease should be considered in the differential diagnosis of orofacial pain. (*Chang Gung Med J 2011;34(6 Suppl):1-3*)

Key words: temporomandibular joint, angina pectoris, pain

Complaints of pain in the neck, shoulder, arm and orofacial region have been reported in patients with cardiac disease.^(1,2) Also, cardiac pain may present as a toothache in rare instances.⁽¹⁾

Therefore, missed diagnoses of these cases may lead to unnecessary dental treatment and a significant number of deaths in patients with atypical symptoms of coronary disease.^(3,5) The rate of missed diagnosis of acute myocardial infarction has been reported to range between 2% and 27% in developed countries.^(4,6)

It is noted that a lack of ST deviation on an electrocardiogram (ECG) and no chest pain are the main predisposing factors for a missed diagnosis.⁽⁶⁾

The aim of this study was to present a 48-year-old man without any other typical symptoms, such as chest pain, who had a chief complaint of bilateral

temporomandibular joint (TMJ) pain with a cardiac disease origin.

CASE REPORT

A 48-year-old man with a chief complaint of severe bilateral sharp pain in the TMJ region for 4 months was referred to an oral and maxillofacial surgeon for evaluation of a suspected TMJ disorder.

The pain was paroxysmal and occurred after physical activities and emotional changes such as anger. The patient reported that the pain was not associated with maximum mouth opening and food ingestion.

A detailed medical history was obtained before intra- and extraoral examinations. The patient reported no history of systemic disease such as hyperten-

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sion or diabetes mellitus. However he had a car accident several years ago.

On routine physical examination, the patient's blood pressure and pulse rate were 130/80 mm Hg and 78 beats per minute, respectively. Likewise, evaluation of other sources of referral pain to the craniofacial regions such as the ear, sinuses, and neck and an intraoral examination showed no evidence of abnormalities.

Also, clinical and radiological assessments of the TMJ did not show any abnormalities. Because of the nature and pattern of the pain, we thought that it may have been related to other causes such as cardiac disease. Therefore, the patient was referred for cardiac evaluation. An exercise test was performed according to the Bruce protocol, and in the fourth minute of test the patient developed cardiac ischemia which was associated with 2 mm S-T depression on the ECG.

His blood tests showed the following: total cholesterol 317 mg/dl, triglycerides 230 mg/dl, low-density lipoprotein 227 mg/dl, creatine phosphokinase 346 U/L, creatine phosphokinase-myocardial band 48 U/L and positive C-reactive protein: 3.0 mg/L.

Also transthoracic echocardiography and coronary angiography were done. The angiogram showed severe obstruction of the circumflex coronary artery, right coronary artery and left anterior descending coronary artery, so, a diagnosis of three vessel disease was made. The patient had coronary artery bypass graft surgery. At present (after 7 months post-operatively) the patient is free of angina and facial pain.

DISCUSSION

It is noted that angina pectoris may radiate to the head and neck.^(7,8) Greenlund et al demonstrated that public recognition of craniofacial pain as a symptom of cardiac ischemia is low.⁽⁹⁾ Chukwuemeka et al also reported a case of facial pain with a non-ischemic cardiac origin.⁽¹⁰⁾

These patients were first referred to a dentist for evaluation of suspected orofacial disorders.⁽³⁾ In a prospective multicenter study, Kreiner et al showed that 38% of patients with cardiac ischemia experienced pain in the craniofacial region and craniofacial pain was the sole symptom in 6% of patients. The most common sites of craniofacial pain were the

upper part of the throat (82%), left mandible (45%), right mandible (41%), left TMJ/ear region (18%) and left/right TMJ region (15.5%).⁽¹¹⁾

It is important to know that these areas are typical for referred pain of odontogenic origin. Referred odontogenic pain rarely crosses the midline, but facial pain with a cardiac origin is mostly bilateral.^(12,13)

In our case the patient had bilateral pain in the TMJ region as the sole symptom of cardiac ischemia. This is in agreement with Kreiner et al's and De Oliveira Franco et al's reports.^(11,14)

It has been reported that the orofacial pain of cardiac origin is more common in women than men.^(8,10,13)

Also, Kreiner showed one of 6 patients with coronary artery disease experienced referred pain in the mandible and one of 14 patients had referral pain in the ear and TMJ regions.⁽¹¹⁾ Referral pain from cardiac origin to the ear and TMJ regions has also been reported by other researchers.⁽¹⁵⁻¹⁹⁾

The mechanism for this referral pain remains unclear but in a review of the clinical and physiological literature, Myers demonstrated that stimulation of a cardiac branch of the left vagus nerve has a key role in mediating this pain.⁽²⁾

Some researchers such as Herlitz et al and Canto et al found that patients who had cardiac ischemia but never experienced chest pain had a risk of death two to eight times greater than patients with chest pain.^(5,20) Also, Herlitz et al reported that in cases of suspected acute myocardial infarction, the one year mortality rate for patients with symptoms other than chest pain was nearly twice that of patients with chest pain.⁽²⁰⁾

Conclusion

Awareness of this symptomatology can be useful for diagnosis of coronary insufficiency and timely treatment because in one study, one in three patients with ischemic heart disease but no chest pain developed an acute myocardial infarction.⁽¹¹⁾

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