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A Case of Long-Term Hip Pain Improved by Dental Treatment

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Abstract

A female patient in her 40s had experienced left hip joint pain for approximately 8 years and was previously diagnosed with adult Still's disease. Her symptoms fluctuated, resulting in 10 hospitalizations over this period. Medical management included symptomatic treatment with steroids and biologics. A physician later diagnosed epiphyseal necrosis and recommended total hip replacement surgery. During a dental examination, a sharp protrusion on the buccal side of her left upper second molar was identified. Following its removal and polishing, her left hip pain rapidly resolved, and she regained the ability to run for the first time in several years. The patient continued routine follow-up medical care for approximately 5 years; as she reported no further symptoms, additional follow-up was deemed unnecessary.

Keywords

Mucous Membrane, Tooth Formation, Hip Joint Pain, Adult Still's Disease

1. Introduction

Previous research supports a close relationship between dental health and overall systemic health. In various clinical cases, symptoms such as lower back pain, stiff shoulders, and hip joint dysfunction have been linked to dental conditions [1]-[5]. Other studies have shown that the oral conditions, especially occlusion, are closely associated with other parts of the body, e.g. body posture, temporomandibular disorder, cervicobrachial issues [6]-[9]. Cases in which a buccal side protrusion of a tooth irritated the buccal mucosa have been reported to result in the onset of lower back pain [2] or hip joint pain [5]. This report presents a case in which a protrusion of the buccal surface of a molar tooth irritated the buccal mucosa, leading to hip joint pain.

2. Case Report

2.1. Subject and Method

A female patient in her 40s had been suffering from left hip joint pain for approximately 8 years and had been diagnosed with adult Still's disease. Her symptoms repeatedly worsened and improved, resulting in 10 hospitalizations over this period, with the longest stay lasting approximately 3 months. Medical treatment consisted of symptomatic therapy with steroids and biologics. A medical doctor recommended total hip replacement surgery because the epiphysis of her left hip joint was determined to be necrotic.

2.2. Research Method

The patient experienced pain in her left hip joint while walking and was unable to walk steadily. She showed severe pain during left hip adduction (Figure 1) and during the Straight Leg Raising (SLR) test, with her left leg able to be raised approximately 70˚ (Figure 2). Dental examination revealed a protrusion on the buccal surface of the left upper second molar, which was subsequently removed and polished (Figure 3).

Figure 1. Before dental treatment, the patient experienced severe pain during hip adduction.

Figure 2. Before dental treatment, the patient's left leg could be raised approximately 70˚ during the SLR test.

Figure 3. Dental examination revealed a protrusion on the buccal surface of the left upper second molar, which was subsequently removed and polished.

3. Results

Immediately after dental treatment, pain during hip adduction decreased. The patient's left leg could be raised approximately 90˚ during the SLR test (Figure 4). Hip pain while walking resolved, and she became able to run. She continued follow-up medical care for approximately 5 years. Medical follow-up was discontinued because the patient remained asymptomatic for a prolonged period. Hip joint replacement surgery was avoided.

Figure 4. After dental treatment, the patient's left leg could be raised approximately 90˚ during the SLR test.

The experiment described in this case can be viewed at the following link:
Dental treatment for adult Still's disease
https://www.youtube.com/watch?v=HOL-Fd6AKfw (last accessed 11/1/2025).

4. Discussion

This case describes a female patient diagnosed with adult Still's disease who had experienced left hip joint pain for approximately 8 years. During this period, she was hospitalized 10 times, received ongoing drug therapy, and was recommended

left hip joint replacement surgery. Evidence suggests that unpleasant stimulation of the buccal mucosa from teeth can restrict joint range of motion and cause pain throughout the body [2] [5]. Smoothing out protrusions on the buccal side of the left upper second molar should be considered when such protrusions cause abnormal irritation of the oral mucosa and induce systemic symptoms, including hip joint pain. In this case, the patient's symptoms improved rapidly shortly after dental treatment. The trigeminal nerve, the largest of the 12 cranial nerves, is located near the oral cavity. It has been hypothesized that negative stimulation of this region can adversely affect the brain [10], potentially resulting in dysfunction of the hip joint. Magnetic resonance imaging of this patient revealed a white opacity in the left femoral head, leading to a diagnosis of epiphyseal necrosis and a recommendation for total hip replacement surgery. The patient had previously been diagnosed with adult Still's disease, a febrile disorder of unknown etiology characterized by typical spiking fever, evanescent rash, and involvement of multiple organs. Because this disease lacks specific clinical, laboratory, and histological features, physicians often struggle to make a definite diagnosis [11]. The author of this report proposes that chronic dental irritation may produce symptoms of this adult Still's disease. However, as a single case report, a causal relationship between the dental treatment and symptom resolution is limited. The proposed mechanism involving the trigeminal nerve is speculative; therefore, further neurophysiological research is required. Future studies should promote greater cooperation between dental and medical professionals to investigate how abnormal stimulation of the oral mucosa can lead to systemic symptoms, including hip joint pain.

5. Conclusion

This case report describes a middle-aged woman with long-term hip joint pain, which was alleviated by smoothing out a protrusion on the buccal side of her molar. Her symptoms are believed to have resulted from abnormal stimulation of the buccal mucosa. As the underlying mechanisms of this condition remain unclear, further research is warranted.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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