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A case of sialolithiasis that mimicked temporomandibular joint disorder

Discomfort of the cheek area has many differential diagnoses, including myalgia, neuralgia, presence of a neoplasm, and inflammatory processes such as odontogenic infection, sinusitis, and salivary gland disorder.¹ A 54-year-old patient without systemic disease experienced pain in the left facial area for a few months after having a meal. He stated that the pain subsided spontaneously after resting for a while. Due to the loss of the lower right posterior teeth, he preferred to chew on the left side. He had visited a local clinic for treatment when myalgia of the left masseter muscle was diagnosed, and received extracorporeal shock wave therapy (ESWT) for his left masseter muscle. He reported improvement in his discomfort after the therapy. However, after three ESWT sessions, he noted swelling and redness in the left cheek (Fig. 1A). He then visited the Temporomandibular Joint Clinic in Kaohsiung Medical University Hospital for further treatment. In extraoral examination, a 2.0 cm × 2.0 cm, smooth, fluctuating, erythematous swelling was noted on the left cheek. Intraoral examination revealed pus discharge from the left parotid papilla (Fig. 1B). Radiographically, the temporomandibular joint view showed flattening of the bilateral condyles and normal joint function (Fig. 1C). Computed tomography showed an enlarged and diffusely enhanced left parotid gland with calcification (maximum diameter, 0.8 cm; Fig. 1D). A clinical diagnosis of sialolithiasis of the left parotid gland was made, and surgical exploration of the left parotid gland with removal of the calculi was performed. During admission, the sialolith was automatically discharged from the parotid duct before surgery (Fig. 1E). In the 1-month follow-up after the exhaustion of the sialolith, the discomfort of his left cheek had completely subsided.

Sialolith is defined as the presence of a calculus within the salivary gland or its excretory system, and 80% of cases develop in the submandibular gland.² Major gland sialoliths

may be symptomatic or asymptomatic, and the most common symptoms are pain and swelling of the affected gland, especially during meals. Treatment strategies for sialoliths include gentle massage, increased fluid intake for discharging the stone, extracorporeal shock wave lithotripsy (ESWL), and surgical removal of larger sialoliths.² ESWL is a new non-invasive therapeutic modality that is effective, safe, and convenient.³ ESWL can be used for the removal of moderately sized stones (<7 mm) located within the gland itself or in the parotid duct.³ The pressure pulses of the shock wave release shearing forces and cavitation energy causes disintegration of the calculi. The pulses of shock-wave energy in ESWL are delivered at a frequency of 120 Hz, and the number of shocks provided per session can be up to 5000. Alternatively, ESWL is effective in the treatment of trismus and myogenous temporomandibular disorder.^{4,5} For ESWL, the device is connected to an applicator that is 15 mm in diameter, and 1000–1500 shocks are induced at 8 Hz frequency. The shock waves can induce angiogenesis, regeneration of the cartilage, inhibition of inflammatory cytokine secretion, and generation of an analgesic effect.⁴ In conclusion, the clinical symptoms of sialolithiasis may mimic those of myalgia. The pain associated with provocation testing of the masticatory muscles may yield a diagnosis of myalgia. However, when using this test, it may be difficult to differentiate the pain related to a sialolithiasis adjacent to the masticator space. Detailed clinical and radiographic examinations are required for an accurate diagnosis and proper treatment. The therapeutic methods for myalgia include intraoral appliances, pharmacotherapy, psychological therapy, physical therapy, and acupuncture. On the other hand, surgical removal is the most common treatment for sialoliths. ESWL may serve as an alternative therapeutic modality for moderate-sized sialoliths in the parotid duct.

<https://doi.org/10.1016/j.jfma.2022.02.013>

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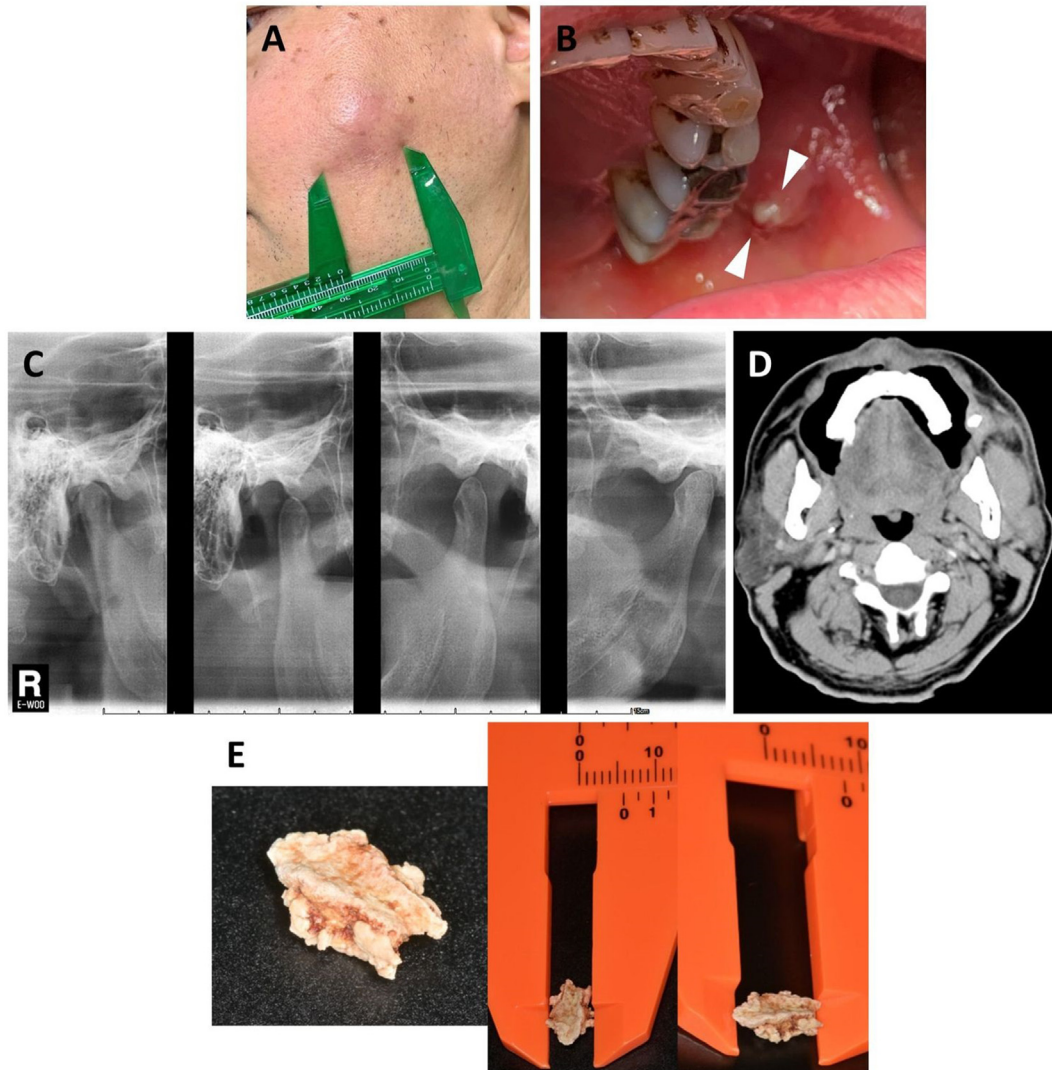


Figure 1 (A) A 2.0 cm × 2.0 cm, smooth, fluctuating, erythematous swelling over the left cheek. (B) Pus discharge from the left parotid papilla (arrow heads). (C) Radiograph of the bilateral temporomandibular joint (TMJ) shows flattening of bilateral condyles and normal joint function. (D) Computed tomography scan showing a Stensen's duct stone on the left side resulting in obstructive sialadenitis and abscess formation in the left parotid gland and duct, associated with left masseter myositis and regional cheek cellulitis. (E) Automatically discharged sialolith measuring 0.8 cm × 0.6 cm × 0.4 cm.

Role of the funding source

The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.

Declaration of competing interest

The authors have no conflicts of interest relevant to this article.

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30 November 2021