

# Recordando la parotiditis en la era del SARS-CoV-2

## *Remembering Parotitis in SARS-CoV-2 era*

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### ABSTRACT

New 2019-Coronavirus (SARS-CoV-2) pandemic is presenting daily diagnostic challenges to emergency departments (ED) doctors, especially as an increasing number of atypical clinical presentations have been reported, including acute sialadenitis (most of parotid).

We present a case of a 46-year-old obese caucasian woman, with no relevant medical history, that presented in ED with complaints suggesting parotitis, with normal laboratory tests, at first with no virus isolation, confirmed by computed tomography. One week later, anosmia and dysgeusia were notice, and SARS-CoV-2 was tested and confirmed.

Authors want to alert that SARS-CoV-2 should be excluded as parotitis etiology, highly important, especially in this pandemic phase, as a way of transmission control.

**Keywords:** Parotitis; SARS-CoV-2.

**Palabras clave:** Parotiditis; SARS-CoV-2

### INTRODUCTION

The New 2019-Coronavirus (SARS-CoV-2) and its world-wide pandemic is presenting daily diagnostic challenges to emergency departments (ED) doctors, especially in regard to atypical clinical presentations.

An increasing number of atypical clinical presentations have been reported, mostly gastrointestinal, dermatological and neurologic manifestations<sup>1</sup>. More recently, atypical orofacial manifestations where also been reported, including oral ulcerative and vesiculobullous lesions and acute sialadenitis (most of parotid)<sup>2-4</sup>.

### CLINICAL CASE

A 46-year-old obese Caucasian woman, with no relevant medical history, presented in the ED with sudden right mandibular pain and local facial and neck swelling. She had no other systemic complaints (fever, cough, anosmia, dysgeusia, fatigue, myalgias or headache).

On examination the patient had stable vital signs, body temperature of 36,5°C, with discrete right-sided preauricular, submandibular and face swelling. She presented a palpable induration at mandibular angle with no erythema or purulent drainage from Stenson's duct.

Laboratory tests were normal, with negative respiratory viruses, most usually responsible for parotitis (negative mono-spot test for Epstein-Barr virus and negative PCR for enteroviruses, influenza, parainfluenza and coxsackie viruses).

Computed tomography (Image 1) showed swelling of the right parotid gland, suggestive of acute parotitis. These inflammatory alterations extended through the inferior planes of the parotid locus with reactionary inflammatory ganglia. No lithiasis was detected by this method.

At first, we thought it was a case of parotitis secondary to duct obstruction and treated it with anti-inflammatory and

beta-lactam antibiotic to prevent bacterial co-infection.

The patient got better until one week later, when the pain intensified again and anosmia and dysgeusia were notice. Polymerase chain reaction (PCR) for SARS-CoV-2 on nasopharyngeal swab was then performed and it was positive.

The patient recovered of all symptoms in five days.

### DISCUSSION

Acute parotitis is an inflammatory and infectious process of the parotid gland. It can be associated with immune suppression states (such as diabetes and alcoholism), autoimmune diseases (such as Sjogren's syndrome or sarcoidosis), deficient oral hygiene, hyposalivation after medication (antidepressants), post-surgical dehydration and obstructions due to sialolithiasis, tumors or foreign body<sup>5</sup>.

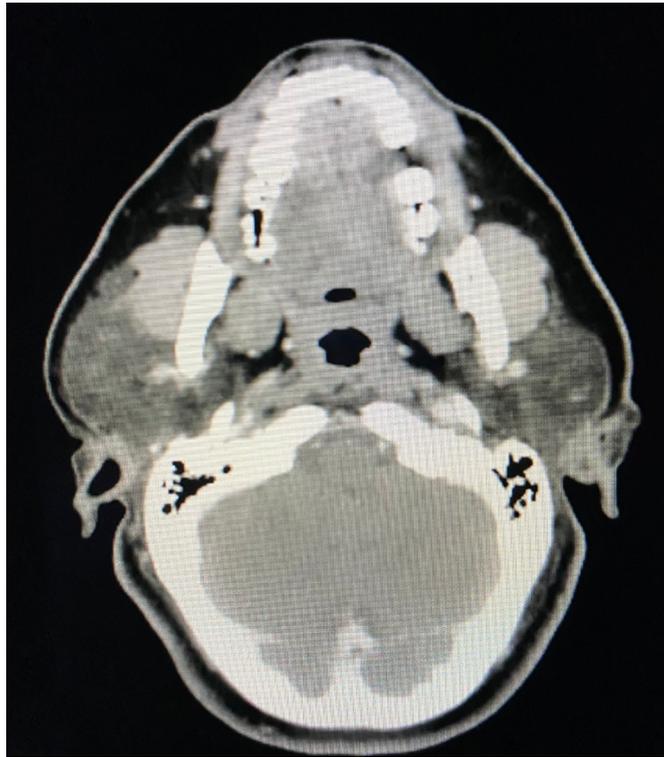
The viral inflammation of parotid gland causing its enlargement, might block the main gland duct (Stenson's duct), leading to saliva retention and parotid tissue inflammation. The clinical diagnosis may be confirmed by gland ultrasound, contrast-enhanced computed tomography or even magnetic resonance<sup>5</sup>.

Regarding infectious etiologies, we must remember the most common viruses which cause parotitis: paramyxovirus for epidemic parotitis and enteroviruses, influenza, parainfluenza, coxsackie, Epstein-Barr-virus, herpes and even human immunodeficiency viruses for isolated cases<sup>4,5</sup>.

Capaccio et al. reported the first case of parotitis in the context of SARS-CoV-2 infection. Acute parotitis can be the first clinical sign of the new coronavirus, followed by other symptoms such as fever, myalgia, hyposmia and ageusia. In most cases, these manifestations resolve within a few days after diagnosis<sup>2-4</sup>.

SARS-CoV-2 uses angiotensin-converting enzyme 2 (ACE2)

Figure 1.



receptors to infect cells, and these receptors are highly expressed in salivary glands, what is believed to be the cause of potential targeting of SARS-CoV-2 to parotid<sup>2,3</sup>. Corroborating this, other studies reported xerostomia in a large proportion of patients with COVID-19<sup>2</sup>.

The majority of parotitis resolves spontaneously evolving without recurrence or complication. The indicated treatment is symptomatic using analgesics and anti-inflammatory, such as acetaminophen or ibuprofen, local heat application, gentle glandular massage and oral hydration<sup>5</sup>. Parotitis has a relatively favorable prognosis for all forms and normally it is the underlying disease which determines the prognosis. Early otolaryngology consult should be advised<sup>5</sup>.

In conclusion, the authors want to alert all clinicians that SARS-CoV-2 should be always excluded as etiology of multiple orofacial conditions, particularly parotitis. This is of high importance, especially in this pandemic phase, with a view of a transmission control, but also in the future, we must not forget this virus as a cause of parotitis, frequently seen in our ED.

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