

An interesting post endoscopy occurrence

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Abstract

It is important to be aware of certain rare but benign occurrences that follow endoscopic procedures. This would help to manage the case accordingly, with minimal investigations and interventions.

Key words

Dilatation, endoscopy, swelling

Introduction

Routine diagnostic upper gastrointestinal (GI) endoscopies are generally daycare procedures, and mostly uneventful. In case of therapeutic procedures, one is careful to exercise caution. Sometimes, though, certain benign events occur that may seem worrisome if prior awareness of the entity does not exist.

Here, we present a case report of post endoscopic esophageal stricture dilatation bilateral neck swelling.

Case Report

A 52-year-old female had been regularly visiting our hospital for sessions of endoscopic dilatation for a past corrosive esophageal stricture sustained a few years ago. The last dilatation was carried out a year ago. The patient had developed worsening symptoms of dysphagia since the past 1-month.

On examination, she was well-preserved, with no abnormal findings.

She was posted for endoscopic dilatation the following morning. Endoscopy was performed under sedation using

propofol and glycopyrrolate. A stricture was seen 20 cm from the incisors. A guidewire was passed across the stricture and graded dilatation done under fluoroscopic guidance using Savary-Gilliard dilators 7, 9, and 11 mm. Post-dilatation scopy showed a raw area at 20–22 cm; the rest of the esophagus and stomach were normal. The entire procedure was uneventful, with no coughing.

On reviewing the patient half an hour post procedure, it was seen that she had developed painless bilateral swelling over the maxillary and mandibular areas. On palpation, there was no warmth, tenderness or crepitus. There were no signs of subcutaneous emphysema over the neck and chest. The swellings were confirmed to be bilateral parotid and submandibular glandular enlargement [Figure 1].

The patient was managed conservatively. She was allowed liquids 4 h after the procedure. The swelling spontaneously decreased in size by almost 70–80% over the next 12–14 h. An incidental value of serum amylase sent about 4 h after the procedure was raised (668 U/L; normal <120 U/L) [Figure 2].

The next morning, the patient was comfortable, on a semi-solid diet, with near regression of the swelling.

Discussion

Acute and chronic swelling of the salivary glands occurs in various disorders including mumps, postoperative parotitis,

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Figure 1: Immediate post endoscopy showing symmetrical parotid and submaxillary gland swelling

amyloidosis, tuberculosis, autoimmune disorders, and malignancies.

Noninflammatory parotid enlargement is seen in association with malnutrition, obesity, and liver disease.^[1,2]

Swelling of the salivary glands after general anesthesia, bronchoscopy, or upper GI endoscopy is a rare event.^[3-7] The usually involved glands are the parotid and the submaxillary glands. While the etiology is unclear, several mechanisms have been proposed. These transitory swellings seem to be related to retention of secretions causing a blockage of the salivary ducts.^[4-6,8,9] Dehydration may result in thick secretions and predispose to salivary duct occlusion. Parasympathetic stimulation during esophageal intubation, resulting in parotid vasodilation, and enlargement, has also been implicated.^[6]

Reilly (1970) *et al.* concluded that the most probable incriminating factors could be the use of anticholinergic drugs, neuromuscular blocking agents, and straining while Matsuki *et al.* also considered coughing and straining as an etiology. However, these features have not been demonstrable or reproducible consistently. Slaughter and Boyce (1969) considered the possibility of mechanical occlusion of the duct orifices during endoscopy.^[10,14]

Blackford (1944) and Bonchek felt that a reflex arc with afferent stimuli arising in the mouth or pharynx and an abnormally intense efferent response mediated through the facial or glossopharyngeal nerves led to vasodilatation and swelling of salivary glands.^[6,7,13]

The origin of the reflex arc below the level of the epiglottis could explain the rarity of the condition in dentistry and anesthesia maintained by mask and pharyngeal airway.

Instrumentation stimulates an unusually powerful reflex arc resulting in hyperemia of the glands.^[14]



Figure 2: Fourteen hours post endoscopy showing near regression of salivary gland swellings

Other theories include retrograde passage of air due to a loss of muscle tone around Stenson's duct, retention of secretions causing a blockage of the salivary ducts, dehydration, and head positioning during the procedure.^[6,9,15,16] Management of this condition is conservative, with a resolution of the swelling over a few hours to a few days.^[8,14]

Our patient was well hydrated prior to the procedure, and it was performed under sedation using propofol and glycopyrrolate, the latter being anticholinergic in action. This might have been the possible mechanism of parotid swelling in our case.

Conclusion

Salivary gland swelling after upper GI endoscopy is a benign self-resolving event. Awareness of this entity is useful, as it helps to avoid unnecessary anxiety and investigations.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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