

Contrast Induced Sialadenitis: A Benign Reaction

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Introduction:

Contrast-induced sialadenitis or “Iodine mumps” is a rare, likely inflammatory, reaction typically characterized by bilateral submandibular swelling developing minutes to days following exposure to IV or oral iodinated contrast agents. The reaction does not directly involve the airway, and no deaths or long-term sequelae have been documented in the literature; making the use of anti-inflammatory agents, such as steroids, controversial. On average, neck swelling resolves within four days of onset. However, recurrence with future exposures to iodine has been reported. In this report we present a case of a woman quickly developing submandibular swelling following contrast administration.

Case Description:

A 67 year-old female, with past medical history of stage IIIB adenocarcinoma of lung, presented with acute onset of shortness of breath. Her initial exam was notable for normal head and neck exam and she was at her baseline oxygen need. She underwent evaluation with pulmonary computed tomography angiography, which was negative for pulmonary embolism. Twelve hours following the scan, the patient developed bilateral submandibular swelling without any oral or perioral swelling and no evidence of airway compromise. On exam at that point she had severe bilateral submandibular swelling. A presumed diagnosis of contrast-induced sialadenitis was made. She had received diphenhydramine without improvement, but was observed without further pharmacological intervention. Her swelling began to decrease around 24 hours later and completely resolved within 48 hours.

Discussion:

The exact pathophysiology of iodide mumps is not fully known but is thought to be a delayed inflammatory reaction due to iodine accumulation in the salivary glands. Due to this, it is more commonly, though not exclusively, seen in patients with kidney disease likely secondary to delayed clearance of iodine from the blood stream. The diagnosis of contrast-induced sialadenitis can be made clinically, as with our patient; however, ultrasonography is helpful for difficult diagnoses. Ultrasonography of patients with iodine mumps can reveal dilated ducts, despite lack of stones or obvious obstruction. Additionally, peripheral fluid accumulation and central hyperemia is often noted. Of note, these ultrasound changes resolve as the patient improves clinically. This pattern indicates that accumulation of iodine within the ducts is an important predisposing factor to the reaction. The accumulated iodine then leads to an inflammatory reaction, leading to fluid collection and increased blood flow into the glands. Prompt diagnosis of this reaction and awareness of its resolution with supportive care in our patient can prevent unnecessary workup and treatment in similar cases. Additionally, due to the benign nature of the reaction, it is important to remember that patients like ours with a history of contrast-induced sialadenitis can be given iodine-containing products in the future, when it is indicated. Premedication with steroids and antihistamines is unnecessary in these instances, as it has not been proven to decrease incidence or severity of recurrent reaction.

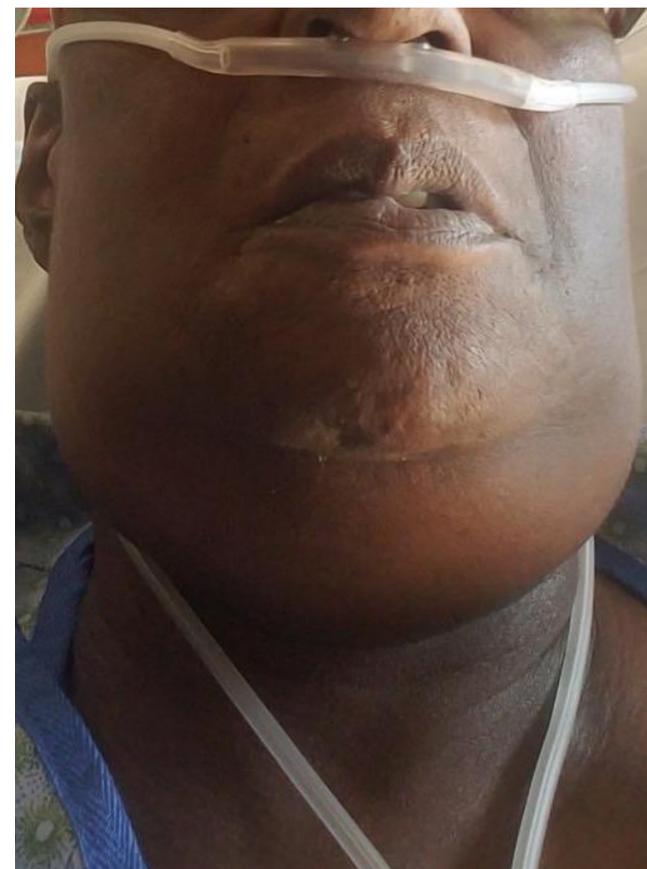


Figure 1. Our patient around 20 hours after the exposure. The patient initially complained of neck changes around 8 hours earlier. Swelling had then gradually worsened for a few hours to represent the image above. She improved the following day and had complete resolution by day 3

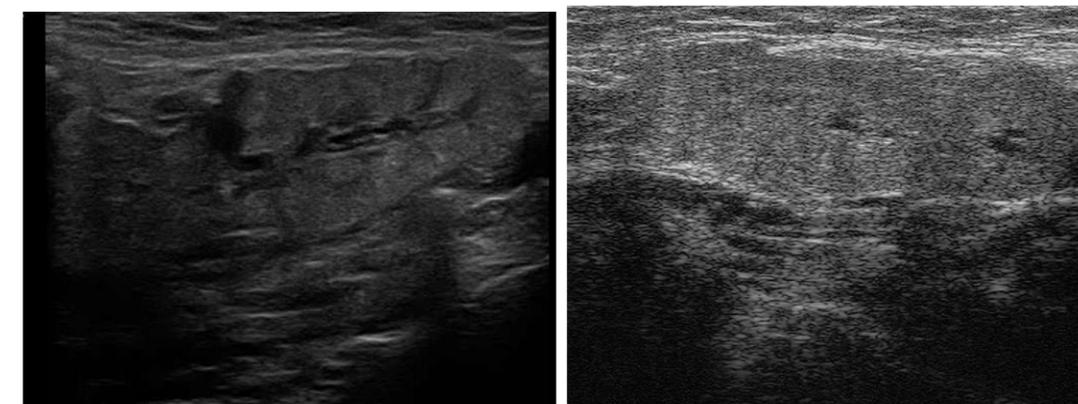


Figure 2. Example ultrasound pictures of an affected patient's submandibular glands with dilated distal ducts (on the left) versus normal architecture several days later following resolution of symptoms (on the right).

References:

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