



Swelling of the submandibular glands after administration of low-osmolarity contrast agent: Ultrasound findings

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KEYWORDS

Iodine mumps;
Ultrasound;
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Contrast media.

Abstract Swelling of the salivary glands occurring after injection of iodine based contrast agent is a rare late adverse reaction. Only a few cases in the literature report such diagnostic findings. We present our color Doppler ultrasound findings in a case of swelling of both submandibular glands occurring after administration of iodinated contrast agent.

Sommario L'ingrandimento delle ghiandole salivari dopo iniezione di mezzo di contrasto iodato è una rara reazione avversa tardiva. In letteratura sono pochi i casi in cui vengono riportati i reperti diagnostici. In questo lavoro viene presentato un caso di tumefazione di entrambe le ghiandole sottomandibolari avvenuta dopo somministrazione di mezzo di contrasto iodato, studiato con esame eco-color-Doppler.

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Introduction

Swelling of the salivary glands occurring after administration of iodinated contrast agent is a rare late adverse reaction which Anglo-Saxon authors call "iodide mumps" [1]. The cause of this reaction is unclear, but the most probable hypothesis is that it is caused by accumulation of iodide in the ductal system of the salivary glands with consequent inflammatory swelling of the glands. In this

report we present ultrasound (US) findings obtained in a patient who presented swelling of both submandibular glands 18 h after administration of contrast agent in connection with a chest CT examination.

Presentation of the case

A 77-year-old woman underwent chest CT using contrast agent (120 mL Ultravist 370, 2.5 mL/s, Schering) because of a suspicious mass in the lung. Her biochemical values were not significantly altered (azotaemia 34 mg/dL, serum creatinine level 0.50 mg/dL and normal leucocyte formula). There were no immediate allergic reactions at the time of the examination.

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About 18 h after the examination, the patient arrived at the Emergency Department because her neck was clearly swollen. Clinical examination revealed a painful swelling of both submandibular glands which felt solid on palpation.

US examination using a 10 MHz linear probe (Esaote, Genoa, Italy) showed significant swelling of both submandibular glands with lobular structures well-defined by hypoechoic septa (Fig. 1a) and surrounded by thin layers of peripheral fluid collection (Fig. 1b) and some dilated ducts (Fig. 2). Color Doppler US evaluation showed increased vascularity (Fig. 3) but this finding was not compatible with acute infectious sialadenitis as color-velocity based findings were normal. The parotid glands were not swollen. The patient was prescribed cortisone therapy: injections of 4 mg Bentelan (Sigma Tau) for 2 days. At follow-up examination after 48 h, clinical symptoms had substantially regressed

and US findings were normal in both glands (Fig. 4). Ethical approval for this study was granted by the Medical Research Ethics Committee of our Institute, and informed consent was obtained from all patients.

Discussion

Iodide sialadenitis is referred to as a rare late reaction to intravascular administration of iodine containing contrast material leading to abnormal swelling of the salivary glands. Allergic reactions to the use of contrast agent are defined as late when onset is minimum 30 min after CT examination. In a prospective study, Yoshikawa reported 8% late reactions [2] while acute reactions are estimated to account for 3.8%.

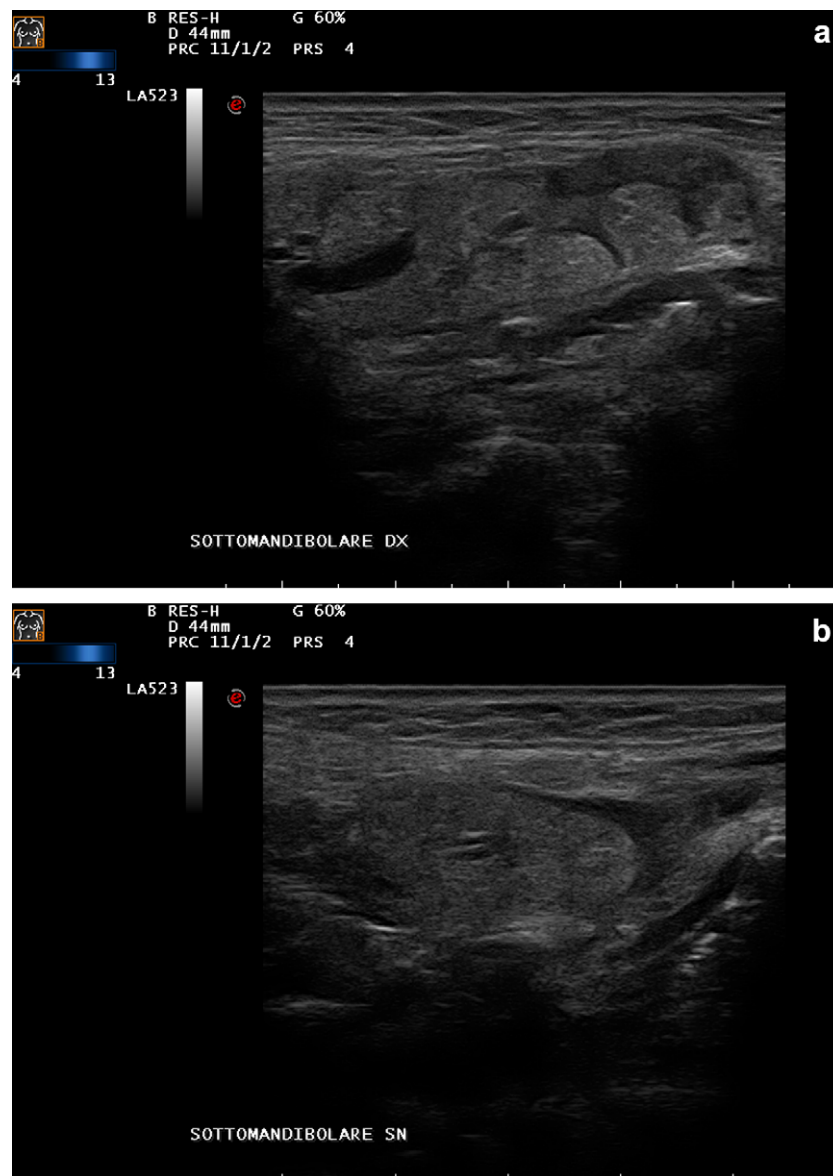


Fig. 1 Swelling of the submandibular gland with the lobules of the gland defined by hypoechoic septa (a) and surrounded by peripheral fluid collection (b).

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