Nonionic contrast media induced sialadenitis following coronary angiography

Koroner anjiyografi sonrası noniyonik kontrast maddeye bağlı sialadenit gelişmesi

Doğan Erdoğan, Hakan Güllü, Mustafa Çalışkan, Taner Ulus, Haldun Müderrisoğlu

Department of Cardiology, Faculty of Medicine, Başkent University, Turkey

Introduction

Sialadenitis is a rare complication occurring secondary to administration of iodinated contrast medium. So far, there have been approximately 30 case reports in literature presenting contrast induced sialadenitis. Iodide-induced sialadenitis has been described following a variety of procedures performed using iodinated contrast media (1); however, to our knowledge, there are few case reports describing sialadenitis following coronary angiography (2-4). Contrary to suppurative sialadenitis, it generally results from surgical and other invasive procedures; aseptic sialadenitis can develop because of contrast media involving iodide, and does not require specific treatment. We describe a patient who developed non-ionic contrast media induced sialadenitis following coronary angiography.

Case report

A 56-year-old man with no history of coronary artery disease presented with unstable angina pectoris. The patient had no diabetes mellitus, hypertension, renal and/or any other systemic disease, but he was a smoker for 30 years. He had never been administered any iodide derivative contrast medium. Coronary angiography and left ventriculography were performed using just 80 cc Iopromid (Ultravist 300, Schering AG, Germany): a nonionic low-osmolar contrast medium containing approximately 300 mg/mL iodide. Coronary angiogram revealed normal coronary arteries with the exception of 80% narrowing in the second diagonal artery. Therefore, the patient was treated medically. Just 20 hours after angiography, the patient complained of bilateral painful swelling locating submandibular region. On physical examination, the patient was afebrile, his heart rate was 72 bpm, blood pressure was 130/80 mm Hg, he had bilaterally palpable, enlarged, mildly tender masses in the submandibular region, consistent with enlarged submandibular salivary glands (Fig. 1). Physical examination also revealed mildly enlarged bilateral parotid glands. There was no erythema, ulcer, and/or abscess in both oral and oropharyngeal mucosa. Examination of his other systems was unremarkable. The patient had no leukocytosis, and his high sensitive C-reactive protein was in normal range. On the basis of clinic presentation, contrast-induced acute sialadenitis was suspected. Accordingly, the patient was treated with an anti-inflammatory analgesic (Tenoksikam, 40 mg per day). The treatment led to complete resolution of submandibular glands swelling within 48 hours. On follow-up, sialadenitis has not repeated, and he is currently being well.

Discussion

Sialadenitis is a rare complication of iodinated contrast media following intravenous administration. The first case of contrast media induced sialadenitis has been reported in 1956 (5). Up to date, there have been approximately 30 subsequent reported cases in the literature. The majority of these cases followed intravenous administration of ionic-contrast medium during intraveonus pyelography. To our knowledge, there are only 3 cases of non-ionic contrast media induced sialadenitis. The frequency of iodide-induced sialadenitis is not clear. A large series of the adverse effects of intravenous contrast media from Japan (Japanese Committee Report on 337 647 cases) have noted that adverse drug reactions to ionic and nonionic contrast are about 12 % and 3 %, respectively; however, no cases of sialadenitis have been reported in that study (6). The mechanism leading to sialadenitis after administration of iodinated contrast media is not well known; however, either idiosyncratic reaction against iodine or toxic amount of iodine deposition is possibly responsible for this clinic circumstance. It is known that serum iodine concentration clearly raises and iodine accumulates in salivary glands after administration of iodinated contrast medium. The risk of development of sialadenitis following administration of iodinated contrast media is directly associated with serum iodide concentrations; therefore, renal insufficiency and high dose iodide loading are predisposing factors (7). In fact, the majority of previously reported cases are either accompanied by severe renal failure or repeated exposure to iodinated contrast media.

Address for Correspondence: Doğan Erdoğan, MD, Baskent Universitesi Konya Uygulama ve Arastırma Merkezi, Hoca Cihan Mahallesi, Saray Caddesi, No:1 Selcuklu, Konya, Turkey Telephone: +90 3322570606 ext: 2111 Fax: +90 3322476886 E-mail: aydoganer@yahoo.com

Chuen et al. (8) reported a case of iodide mumps following peripheral arterial angioplasty. Few cases of sialadenitis following coronary angiography have been described in literature. Ben-Ami et al. (3) recently described two cases. The first case that had chronic renal failure, had developed bilateral sialadenitis of the parotid glands five days after coronary angiography and left ventriculography with ionic contrast media. The second case, who had normal serum creatinine levels, complained of submandibular pain one day after coronary intervention, and physical examination revealed bilateral submandibular swelling and tenderness. Only Kalaria et al. (2) have described a 63-year-old woman with end stage renal failure on hemodialysis with bilateral submandibular sialadenitis induced by non-ionic low-osmolar contrast agent following coronary angiography. Since our case has no predisposition to contrast media induced sialadenitis such as diabetes mellitus, hypertension, renal and/or any other systemic disease we consider our case is worth of consideration. Additionally, our case is a representative of rarely seen non-ionic low-osmolar contrast media induced sialadenitis. In his coronary angiography and left ventriculography we used only 80 ml of non-ionic low-osmolar contrast media containing approximately 300 mg/mL iodide, and he had not been administered any contrast media for any reason before the coronary angiography.

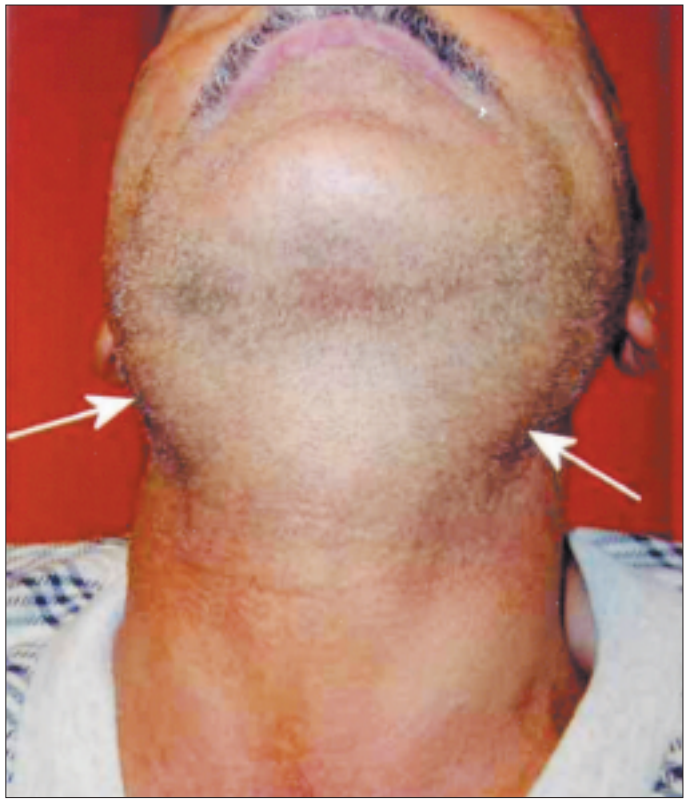

Figure 1. Bilateral diffuse submandibular gland swelling 20 hours after coronary angiography

The treatment of iodide-induced sialadenitis is different from suppurative sialadenitis. Suppurative sialadenitis should be absolutely treated with antibiotics and often requires surgical drainage; however, iodide induced sialadenitis generally resolves after supportive treatment alone. Antihistamines, anti-inflammatory drugs, and corticosteroids have been used to treat iodide-induced sialadenitis, but there is no controlled study establishing effectiveness of these drugs. Our patient has taken tenoksikam 40 mg a day, a non-steroidal anti-inflammatory drug, and this treatment led to complete resolution of submandibular glands swelling within 48 hours.

In conclusion, though sialadenitis is a rare complication occurring secondary to administration of iodinated contrast medium, physicians who use iodide-based contrast media, even it is non-ionic and low-osmolar, should be aware of iodide-induced sialadenitis as a potential complication.

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