

Nifedipine induced acute submandibular swelling on the Maternity Unit.

Authors: Skelly JR, Halder S

Nuffield Department of Anaesthesia, John Radcliffe Hospital, Oxford University Hospitals NHS Foundation Trust



Oxford University Hospitals
NHS Foundation Trust

Introduction

Sialadenitis is characterised by inflammation and enlargement of the salivary glands and can cause acute airway compromise. Several non-iatrogenic conditions such as bacterial and viral infections, Sjögren's syndrome, ductal obstruction by stones, tumours or duct stricture are known to cause sialadenitis but iatrogenic causes are rare. Drug-induced salivary gland swelling has been described with the administration of antihypertensive medications (1). Although numerous reports of drug-induced parotitis exist, this is not a common phenomenon and is rarely associated with antihypertensive agents. In the majority of cases, side effects are minor. Patients may complain of minor pain and distress, but airway patency is not threatened, nor are reflexes such as swallowing or coughing impaired in the vast majority of reports (2). However serious implications have been recorded with cases of complete airway occlusion having been described (3). The last description of Nifedipine-induced parotitis was in 1986 (4). This was in a male patient and without airway compromise. Herein we describe a novel case of nifedipine-induced submandibular sialadenitis causing airway compromise in the maternity setting.

Case Report

A nulliparous asylum seeker with no significant medical history presented at 28 weeks gestation with sudden onset severe vomiting and upper back pain, radiating to the epigastrium. She was hypertensive with proteinuria and dark coloured urine, indicative of haemolysis. She subsequently experienced an eclamptic seizure. A diagnosis of HELLP syndrome was made and treatment commenced. The decision was made to transfer to theatre for immediate caesarean delivery, under general anaesthetic due to deranged clotting. Bloods showed a precipitous drop in both haemoglobin and platelets, significantly deranged renal and hepatic markers.

Over the subsequent 24hrs she became anuric and was transferred to Intensive Treatment Unit (ITU) where her acute kidney injury (AKI) was deemed secondary to acute tubular necrosis. Haemodialysis was commenced on postoperative day three. She was admitted to ITU for six nights and then transferred back to the maternity unit. On the morning of postoperative day seven, she was noted to have acute onset of painful submandibular swelling which limited mouth opening to 2cm and severely reduced neck extension. On examination, there was no stridor or features of either pulmonary or peripheral oedema. The patient's vital signs were stable and she could converse in full sentences. Urgent review was carried out by the otolaryngology, maxillofacial and intensivist care services. Nasoendocopy showed oedematous swelling from the level of the nasopharynx to the epiglottis. circumferential, more left-sided. 50% reduction in airway cross-section area throughout the oropharynx but with no epiglottis swelling or impact on the glottic opening (Figure 1a). Steroids were administered and haemodialysis initiated. The patient was transferred to ITU where swelling reduced significantly over the subsequent hour. On review of her medications, the possibility of submandibular swelling related directly to nifedipine was raised. Labetalol was subsequently introduced as an anti-hypertensive agent.

Figure 1. CT Neck

A. Sagittal View



B. Coronal View

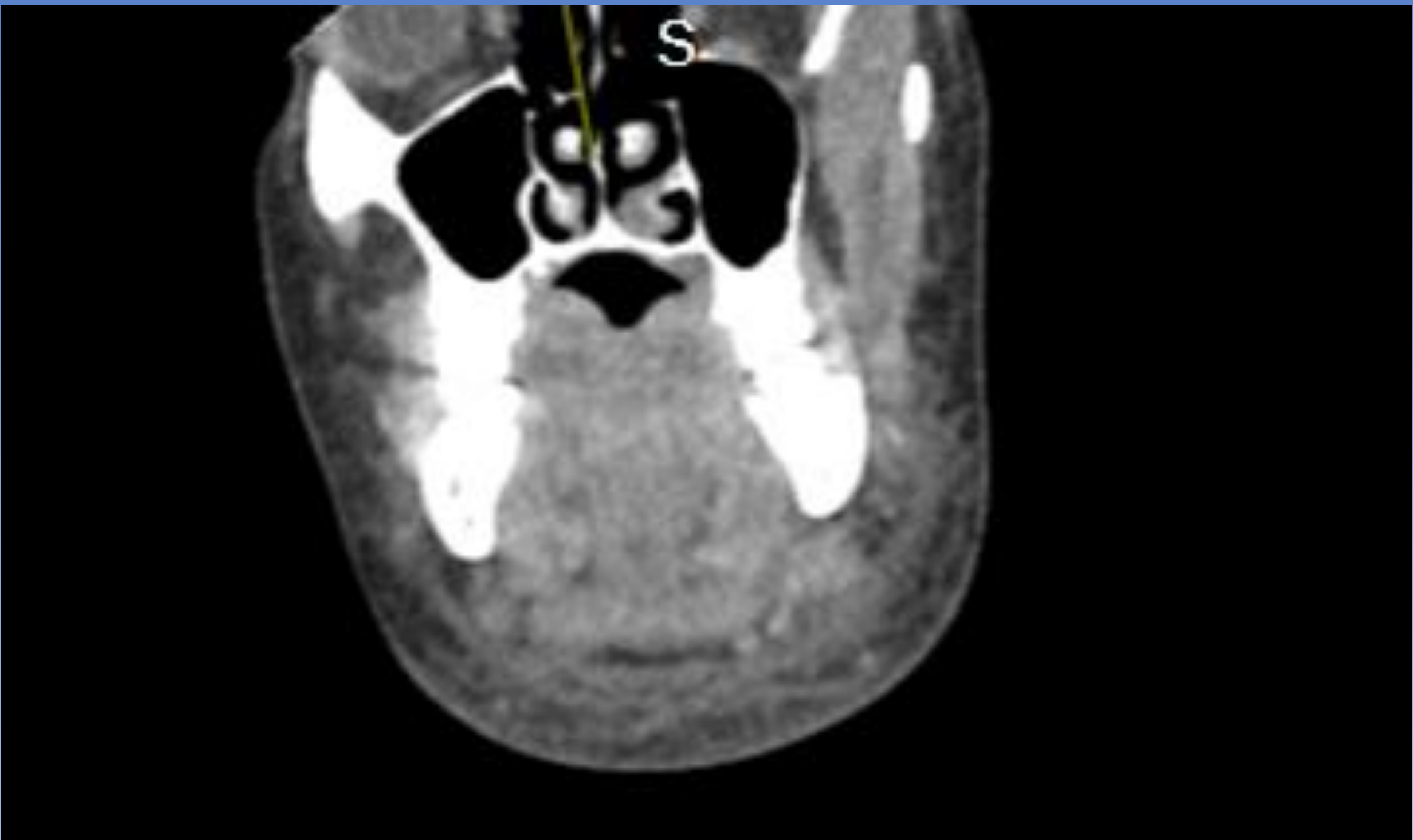


Figure 1. CT Neck: No evidence of deep neck collection or enhancing lesion. Generalised soft tissue swelling within the oropharynx with narrowing but no critical stenosis of the airway. There are multiple reactive lymph nodes along the bilateral anterior cervical chain. Subcutaneous oedema along the floor of the mouth with minor swelling of the salivary glands.

Discussion

Based on our knowledge, it is the first report of submandibular swelling due to Nifedipine in a postpartum patient. Calcium channel blocker induced submandibular swelling may be due to inhibition of salivary secretions and subsequent sialadenitis. The underlying mechanism of this adverse drug reaction is not clear. However, Calcium antagonists are known to inhibit resting saliva secretion by inhibiting intracellular calcium ion infusion (5). Our patient had a haemodialysis dependent AKI, and resolution occurred with haemodialysis, we suggest that this adverse drug reaction may be a concentration-dependent phenomenon. Steroids had also been administered.

This is an uncommon, but possibly life-threatening, side effect of a medication used frequently in the maternity setting and which must be recognised in the emergency scenario.

References

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