

CASE REPORT

Haematoma of the buccal space in an edentulous patient – a case report

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Abstract

Background: Oral swellings can be attributed to various causes, both odontogenic and non-odontogenic in nature. This paper will discuss a buccal swelling caused by a haematoma.

Case presentation: A 76-year-old edentulous male patient presented to a dental student outreach clinic with a three-day history of a right-sided facial swelling. No dental cause could be confirmed and so the patient was referred to the local secondary oral surgery department. The patient was examined, and an ultrasound of the swelling was arranged on the same day. The swelling was aspirated, and a haematoma was deemed the likely cause. After aspiration and a course of antibiotics, the swelling reduced rapidly. Blood tests were undertaken, and no underlying cause could be identified.

Conclusions: Although uncommon, haematoma should be considered within differential diagnoses when dental pathology has been ruled out. A course of antibiotics is indicated where symptoms appear consistent with a systemic infection and timely referral to local dental hospital services is recommended. Blood tests should be requested to identify any undiagnosed coagulopathies or platelet abnormalities and liaison with local haematology services if resolution is not achieved would be appropriate.

KEY WORDS

buccal space, case report, dental, edentulous, facial swelling, Haematoma, idiopathic

INTRODUCTION

Swellings in and around the mouth can be attributed to various causes. Most commonly, they relate to dental pathology such as abscesses and cysts and, less commonly, odontogenic tumours. They can also be related to soft tissues (epulides), hard tissues (tori), non-odontogenic tumours, salivary glands and ducts or trauma.

Causes of acquired facial swellings can be categorised by numerous surgical sieves, such as *VITAMIN CDE* (vascular, infective, inflammatory, trauma, autoimmune,

metabolic, idiopathic, iatrogenic, neoplastic, congenital, degenerative, endocrine).

A haematoma can be defined as a solid mass of clotted blood within the tissues. It occurs due to localised bleeding out with blood vessels. Common causes of haematoma development relevant for dental professionals may include formation after surgical procedures, or secondary to trauma. Traumatic haematomas can be caused iatrogenically by dentists delivering local anaesthetic as an infiltration or a block, or by the patient due to self-inflicted injuries (cheek/lip biting) or more serious injuries such as falls or inter-personal

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violence.^{1,2} Although often non-concerning, occasionally these haematomas can have major consequences.³

Most cases of idiopathic, or spontaneous, haematoma formation described in literature, particularly in and around the oral cavity, are secondary to an underlying cause, such as undiagnosed coagulopathies or trauma.

Patients can have an increased risk of bleeding due to underlying coagulopathy, liver dysfunction or anticoagulant or antiplatelet medications. Risk factors for haematoma include alcoholism, bleeding disorders and thrombocytopenia. The Scottish Dental Clinical Effectiveness Programme (SDCEP) provides comprehensive, NICE-accredited guidance in managing patients at increased risk of bleeding due to medication, as well as a simple flow chart and brief guidance document.⁴⁻⁶ In all other cases, General Dental Practitioners should liaise with the patient's Haematologist, Hepatologist or other medical professional, where appropriate.

In some cases, the cause of haematoma is more difficult to identify and may be termed idiopathic. True idiopathic haematomas are rare. Here, we present such a case, which the authors believe to be the first reported in literature.

CASE PRESENTATION

A 76-year-old man from the West of Scotland was triaged over the phone in a final-year student outreach clinic, before attending for an in-person consultation later the same day. The patient presented complaining of a new swelling in the right side of his face, centred in his cheek, but with the edges of the swelling radiating towards the ear and the angle of the mandible. This had arisen over the past three days and had been gradually increasing in size.

Medically, the patient suffered from hypertension, hypercholesterolaemia, osteoarthritis and chronic lower back neuralgia. His medications include Ramipril, Bendroflumethiazide, Simvastatin, Gabapentin and Co-codamol. The patient was unaware of having any allergies.

The patient was edentulous and had had complete dentures for the past 50 years. His denture hygiene was adequate, and he regularly cleaned his mouth. He had not required any recent dental treatment.

The patient is an ex-smoker, having stopped smoking approximately 10 years ago. He had smoked five to six cigars per day for around 40 years (approximately 40 pack years). Upon initial consultation, the patient described consuming a couple of 'drams' a few nights per week. Upon further investigation, it transpired this was in reality between three and four self-poured spirit measures most nights each week. After consultation with his General Medical Practitioner (GMP), it was evident that the patient would consume approximately 21–28 units of alcohol per week and had done for some time. The patient is now retired but was previously engineer and lived at home with his wife.

Extra-orally, there was a noticeable swelling on the right-hand side of the patients face, extending from below the pre-auricular region to just above the angle of the mandible.



FIGURE 1 Right-sided OPT radiograph taken to rule out dental pathology. Image of edentulous right maxilla and mandible and surrounding peri-oral anatomy, with no dental pathology evident

The skin was normal in appearance. Intra-orally, a firm 20–25 mm round swelling was evident on the right buccal mucosa. The lesion was fluctuant, not tethered and exquisitely tender to palpation; however, the surface of the oral mucosa was intact and normal in colour. There was no history of trauma, and no signs of trauma, such as cheek biting or denture trauma, were present.

The differential diagnoses included pathology of the parotid gland or accessory parotid gland, (parotitis or a sialolith); however, this was considered unlikely due to the swelling being distinctly lower than the opening of the parotid duct. Dental pathology was also ruled out due to the patient being edentulous and due to the swelling being localised to the buccal space, rather than radiating from the sulcus. Advice was sought from Oral Medicine and Oral Surgery consultants in the Glasgow Dental Hospital. It was agreed that there was likely infection present and therefore a five-day course of Amoxicillin (500 mg TDS) and Metronidazole (400 mg TDS) was appropriate. An urgent electronic referral was also made to Oral Surgery for further investigation.

The patient attended the Oral Surgery clinic two days later. At this appointment, parotid pathology was ruled out clinically, as a normal flow of saliva could be palpated from the duct. An orthopantomogram (OPT) radiograph was requested which definitively rule out dental pathology, such as an abscess due to a buried retained root (Figure 1). An ultrasound scan was undertaken by a consultant in Dental and Maxillofacial Radiology (DMFR) to assess the lesion and to exclude any accessory parotid pathology (Figures 2 and 3). This was undertaken on the same day and immediately reported.

The ultrasound report described a well-defined mass in the right cheek which was either intramuscular or just displacing the masseter. The mass measured 24 mm in

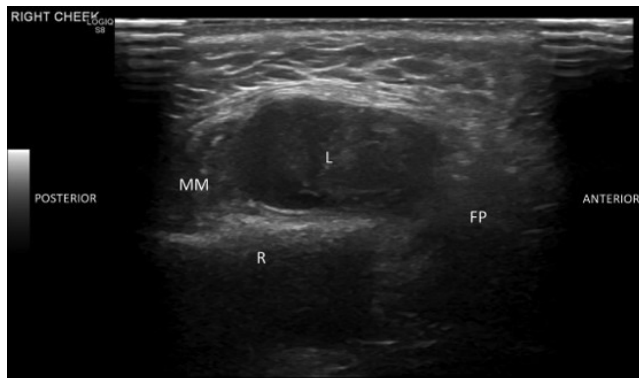


FIGURE 2 Ultrasound image of the transverse right cheek showing the lesion positioned anterior to the main body of the masseter muscle (MM), superficial to the mandibular ramus (R) and posterior to the buccal fat pad (FP)

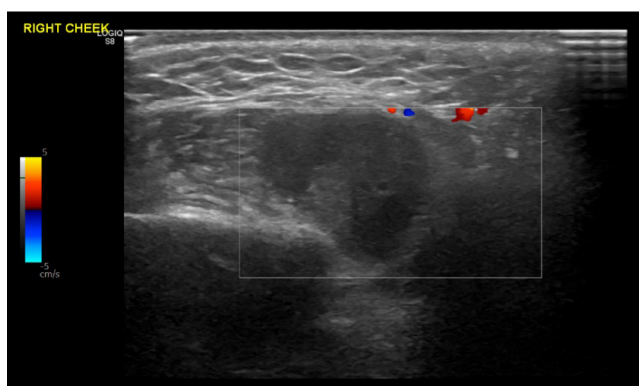


FIGURE 3 Doppler ultrasound image of the transverse right cheek demonstrating no measurable vascularity of the lesion

maximum diameter and was primarily hypoechoic but with multiple non-mobile, hyperechoic regions. There was no measurable vascularity within the mass or peripherally, no identifiable breach in the underlying mandibular cortical bone, no tracts extending to the skin and no lymphadenopathy in neck levels I-IV. The right submandibular and superficial parotid salivary glands were both unremarkable.

There was further discussion between the Oral Surgery team and DMFR consultant due to the unusual appearance, and tentative differential diagnoses included a suppurative lymph node or a haemorrhagic lesion. Although a metastatic lymph node could not be excluded, it would be unusual for this to be so exquisitely painful. A recommendation of an aspirate was provided in the first instance, with urgent CT with contrast indicated if this did not clarify the nature of the mass.

An aspirate was then undertaken, and the lesion began to deflate immediately. A clinical diagnosis of a haematoma was made, due to the colour and consistency of the blood collected within the syringe. In total, 5 ml of blood was aspirated.

Blood tests were requested to be undertaken the following day by the patient's GMP. Blood tests requested included a Full Blood Count (FBC), Liver Function Test (LFT), Urea

and Electrolytes (U&E), Non-Fasting Blood Glucose, Clotting Factors II, V, VII, VIII, IX, X, XI, XII and a Coagulation Screen. This blood work was then reported, with the majority of results falling within reference range. LFTs and Glucose were mildly deranged initially, and any results that fell out with reference range were repeated, with no results remaining abnormal. A sample of the aspirate was sent to Microbiology for analysis. No bacteria were identified; however, white cells were present.

It was agreed that the patient would be followed up over the phone within a week, with a formal review appointment arranged for six weeks. Upon initial review, the lesion appears to have completely resolved; however, the patient will be closely monitored for the next year.

DISCUSSION AND CONCLUSIONS

In the literature, a number of cases of spontaneous sublingual haematoma have been described; however, as mentioned, we believe this to be the first case of true idiopathic haematoma in the buccal space described in the literature.⁷

A haematoma of the buccal space is typically only considered if there is evidence of local trauma or underlying anomalies with blood coagulation or platelet count. Gabapentin is known to cause low platelet levels, via inhibition of platelet aggregation; however, this is uncommon and cannot be attributed as the cause in this case due to the platelet numbers being within reference range.⁸

Haematoma formation is one of the most common complications associated with local anaesthetic administration for inferior alveolar nerve blocks (IDBs), along with anaesthesia failure or prolongation, facial palsy and trismus.⁹ Failure and complication rates in IDBs are reported to be as high as 37–47%.¹⁰ Haematoma formation during IDBs can be prevented by aspirating to ensure the needle is extravascular, ensuring no blood is aspirated into the syringe.¹¹

For patients presenting with haematomas with no history of trauma, including iatrogenic trauma, it is appropriate to undertake a systematic enquiry into the haematological health of the patient, including questions on persistent bleeding after injury (including internal bleeding and haematoma formation) and alcohol consumption. It is now well known that dentists have an important role to play in terms of alcohol consumption advice and brief interventions, as well as liaison with appropriate healthcare colleagues.^{12,13} Just as dentists routinely ask patients about smoking and provide smoking cessation advice, so too should we be delivering information on alcohol consumption and signpost patients to appropriate services to help with reducing alcohol consumption. The Scottish Government guidelines for alcohol consumption are 14 units over three or more days, with at least two alcohol-free days per week. There are multiple tools that can be utilised within primary care to provide brief interventions. Tobacco and alcohol use are known to be synergistic risk factors for oral cancer and with oral cancer rates on the rise in Scotland, dentists have a key role to play in reducing alcohol consumption of patients.¹⁴

The multidisciplinary involvement of specialists and GMPs for these cases are important, particularly if there are no resources for bloods to be taken within primary care. In this case, blood work was required to rule out any underlying liver dysfunction (LFTs), platelet abnormalities (FBC), coagulopathy (Coagulation and Clotting Factors Screen); however, further blood work such as Gamma-GT tests may have been applicable.

LEARNING POINTS

1. Consider haematoma as a diagnosis even if unlikely in the absence of obvious trauma, if dental pathology has been ruled out and ask appropriate questions
2. Consider antibiotics if infection is suspected and no immediate management can be undertaken – but use sparingly and always try to treat the cause first
3. Maintain good relationships with local secondary/tertiary services
4. Assess a patient's medical history for bleeding risk and manage as appropriate
5. Undertake alcohol consumption questions and ask about alcohol dependence and if the patient would like some help with this
6. Consider requesting blood work, particularly in patients who may have a high alcohol intake to assess liver function and clotting abnormalities (including a Gamma-GT test)

AUTHOR CONTRIBUTION STATEMENT

RM and SA devised and drafted the manuscript. FRM and NH provided specialist input and guidance. All authors were involved in the direct clinical care of the patient and all authors reviewed the manuscript before submission.

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CONFLICT OF INTEREST

No conflicts of interest have been declared by the authors.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no datasets were generated or analysed during the current study.

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