Amyloidosis presenting in the head and neck: a report of two cases

Introduction

Amyloidosis describes a heterogeneous group of diseases caused by abnormal protein folding and accumulation in tissues, progressing to organ failure. The exact pathogenesis is unclear. Systemic amyloidosis has a poor prognosis and mean survival rate of 40 months. Most cases of head and neck amyloidosis are the localized type and may involve the tongue, larynx, pharynx, salivary glands, orbit or sinuses.

This article reports two cases: a 41-year-old woman who presented with a chronic tongue ulcer, and a 62-year-old man who presented with a 3-month duration of right-sided submental swelling. Both were confirmed to have localized amyloidosis.

A diagnosis of amyloidosis requires prompt investigation to identify any systemic involvement. Investigations, urgent haematology referral and involvement of the National Amyloidosis Centre are discussed. Communication between multidisciplinary teams is essential.

Discussion

Amyloidosis can broadly be classified as systemic or localized. Chronic inflammation, cell dyscrasias and autoimmune diseases can precipitate amyloidosis (Pietruszewska et al, 2014). AL amyloidosis is the most common type of systemic amyloidosis often with underlying clonal dyscrasias of plasma cells. Systemic amyloidosis affecting the head and neck most commonly involves the tongue (Kerner et al, 2005).

Amyloid A protein is linked to Hodgkin's disease and chronic inflammatory diseases, such as rheumatoid arthritis and Crohn's disease (Van der Waal et al, 2002).

Localized amyloidosis has excellent prognosis with no increased systemic risk (Fahrner et al, 2004). Evidence supports monoclonal plasma cells producing local, structurally abnormal immunoglobulins, which are amyloidogenic (Ma et al, 2005).

Tongue involvement commonly presents as a firm or rubbery diffuse macroglossia

Mrs Laura Thorbury *is Dental Core Trainee in Oral Medicine and Oral & Maxillofacial Pathology and* **Dr Kevin Ryan** *is Specialist Registrar in Oral Medicine in the Oral Medicine Unit, and* **Mrs Lisette Martin** *is Specialist Registrar in Oral Medicine in the Unit of Oral & Maxillofacial Pathology, Charles Clifford Dental Hospital, Sheffield,* **Dr Keith Hunter** *is Reader and Honorary Consultant in the Academic Unit of Oral & Maxillofacial Pathology, University of Sheffield, Sheffield and* **Dr Anne M Hegarty** *is Consultant in Oral Medicine in the Oral Medicine Unit, Charles Clifford Dental Hospital, Sheffield S10 2SZ*

Correspondence to: Dr AM Hegarty (anne.hegarty@sth.nhs.uk)

Case Report 1

A 41-year-old woman was referred from primary dental care regarding a persistent, painful ulcer on the left lateral tongue, present intermittently for 12 months. Sharp teeth and restorations were polished but the ulcer persisted. She had an underactive thyroid and mild asthma, and was a non-smoker who rarely drank alcohol.

On examination there was no cervical lymphadenopathy. Intra-orally, there was a superficial 1.5 cm soft erythematous patch and whitening present on the left lateral tongue (*Figure 1*).

An incisional biopsy of the lesion was undertaken. Histopathology confirmed an extensive plasma cell infiltrate in the underlying connective tissue and deposits of amorphous eosinophilic material in deeper tissue. Congo red staining confirmed the presence of amyloid deposits (*Figure 2*).

Management included an urgent referral to haematology and numerous investigations to exclude systemic involvement. Bone marrow aspirate tested negative for amyloid, blood and urine testing proved negative and a skeletal survey and whole body positron emission tomography scan were normal. The National Amyloidosis Centre confirmed localized amyloidosis of the tongue which was surgically excised.

Case Report 2

A 62-year-old man was referred for assessment of a persistent, non-painful neck swelling, of 3 months duration, with no obvious local or systemic cause. He was fit and well, but smoked 25 cigarettes daily and drank 28 units of alcohol weekly.

Extra-oral examination revealed a 1.5 cm firm lump in the right submental region and enlarged anterior chain cervical lymph nodes bilaterally. Intra-orally, no mucosal lesions were noted. Periodontal disease was present but the dentition was otherwise sound.

A neck ultrasound scan confirmed two abnormal anterior chain cervical lymph nodes in both size and shape. An ultrasound-guided core biopsy revealed hypocellular, eosinophilic, amorphous material throughout, with occasional spindle-type cells, lymphoid cells and well-formed blood vessels. Positive Congo red staining confirmed amyloidosis (*Figure 3*).

An urgent referral to haematology was arranged. Urine electrophoresis was normal, erythrocyte sedimentation rate and serum free lambda light chains were raised, IgM monoclonal immunoglobulin was present and a skeletal survey showed degenerative changes but no lytic lesions. Bone marrow aspirate highlighted a light disease load of lymphoplasmacytic lymphoma, raising suspicion of lymphoma. A bone marrow biopsy and radionuclide imaging at the National Amyloidosis Centre were negative for amyloid. In light of biopsy-confirmed amyloidosis of the cervical lymph node, and based on the negative radionuclide imaging and lack of signs or symptoms of organ dysfunction that could be related to systemic amyloidosis, a diagnosis of localized amyloidosis was made. Regular reviews take place.

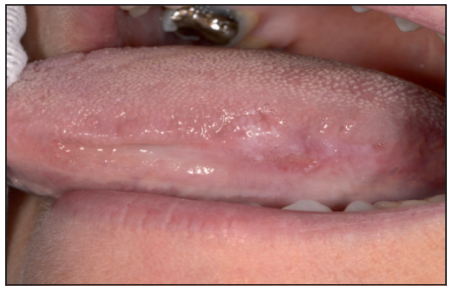

Figure 1. Lesion on the left lateral tongue.

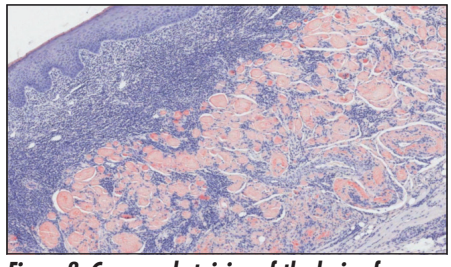

Figure 2. Congo red staining of the lesion from Figure 1.

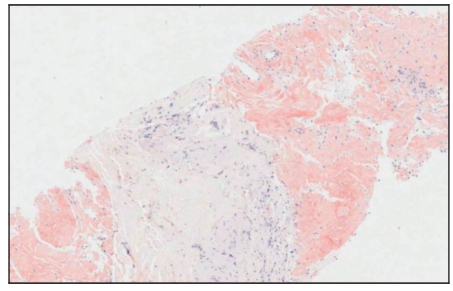

Figure 3. Congo red staining of lymph node core biopsy.

(Van der Waal et al, 2002) unlike that seen in case 1. Clinical presentation cannot be used to differentiate local from systemic disease (O'Reilly et al, 2013).

Excluding the larynx, amyloidosis of the head and neck is often associated with underlying malignancy (Penner and Muller, 2006). Few cases of localized tongue amyloidosis are reported in the literature (O'Reilly et al, 2013).

Localized amyloidosis of the head and neck is treated with conservative surgical resection, with possible radiotherapy. The main risk is local recurrence; close follow-up is required.

Chemotherapy, stem cell transplant and organ transplantation aid management of systemic involvement. However, the median survival has been reported at 40 months (Wechalekar et al, 2008).

The second case is unusual as only three cases of localized cervical lymph node amyloidosis are documented (Seccia et al, 2010). Management of localized lymph node amyloidosis is guided by the degree of lymph node enlargement. Significant enlargement necessitates surgical excision (Clevens et al, 1994) and regular review.

The National Amyloidosis Centre, London, plays a crucial role in diagnostics, imaging, staging, management and monitoring of patients across the UK.

Conclusions

Doctors and dentists should be aware of the varied presentation of amyloidosis. Although rare, consideration in the differential diagnosis of tongue and neck lesions is required. Thorough extra-oral and intra-oral examination is essential. Specialist opinion is sought when no obvious dental or medical cause is found.

Both these cases highlight the need for close multidisciplinary interaction to attain a definitive diagnosis, ensuring optimum patient care. BJHM

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LEARNING POINTS

- Amyloidosis should be considered as a differential diagnosis in head and neck lesions.
- A wide range of clinical presentations, investigations and clinical implications exist.
- Localized amyloidosis of the tongue is rare.
- Clinicians should understand the importance of necessary urgent referrals.
- Careful patient follow up is required.