

AMYLOIDOSIS IS A RARE DISEASE BUT STILL A FREQUENT CAUSE OF MACROGLOSSIA

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ABSTRACT

Amyloidosis is consider as rare disease with low incidence but it frequently associated with macroglossia and in some cases it may cause swelling in the neck region which can presents as midline swelling. The objective of this presentation is to make oral physician aware of the effects of amyloidosis especially in the head and neck region and to consider amyloidosis in differential diagnosis of macroglossia and midline swelling in neck region.

KEY WORDS: Amyloidosis, Macroglossia, Tongue

Amyloidosis is a condition that can be defined as an idiopathic, extracellular deposition of fibrillar proteins I tissues, which, if extensive, can interfere with normal function and ultimately lead to death if vital organs are affected(Carla R. Penner et al 2006).These proteinous deposits have characteristic green birefringence under polarized light and with light microscopy amyloid appears as an eosinophilic amorphous substance. Incidence of amyloidosis is 8 per 1 million person per year(Kyle RA et al 1975)(Kristen S.Fahrner2004) Clinical type of amyloidosis varies with biochemical composition of amyloid fibril protein and its pathogenesis . Amyloid deposition can be systemic or localized.

Currently 3 known forms of amyloidosis are consider –

- (1) Primary systemic amyloidosis with no systemic cause
- (2) Systemic amyloidosis with some systemic cause
- (3) Localized form

CASE

A 58 years old female patient, presented to department of Oral Medicine & Radiology, Faculty of Dental Sciences, IMS, BHU, Varanasi with chief complaint of enlarged tongue and a swelling in neck region since past one year. As stated by the patient she was apparently asymptomatic 1.5 year back when she noticed slight enlargement of tongue

which gradually enlarges to present size. Patient had difficulty in swallowing, chewing and also had difficulty in speech due to enlarge tongue (Fig 1).



Fig.1:Showing the enlarge tongue

Patient also complained of swelling in neck region which was started approximately 8 month back. It was insidious in onset and gradually enlarged to the present size involving bilateral submandibular and submental region(Fig 2A &2B). On inspection patient had enlarged upper and lower lip with exophytic lesions on the left commissure region of mouth. Patient also had purpuric papules in periorbital areas, a ruptured blister was seen on left side of cheek(Fig3&4).



Fig. 2(A&B): Showing the bilateral swelling



Fig.3



Fig.4

Fig 3&4: Showing the periorbital purpura along with exophytic bullous lesion on left Commisure of mouth, and Ruptured blister on left cheek

General physical examination revealed pallor and a bilateral submandibular and submental swelling which was firm in consistency (fig-2A&B), separate from the thickened tongue. It was mildly sensitive to palpation. Skin over the swelling was normal.

Tongue was significantly enlarged which was diffuse from base to tip with smooth texture with crenated borders without any lump (fig.1).

On the basis of considerable physical examination and history, the provisional diagnosis of amyloidosis was made. A wide differential diagnosis that should be considered in patient presenting with generalized macroglossia which includes – tuberculosis, lymphangioma, hypothyroidism, acromegaly, lingual infarction caused by giant cell arteritis, idiopathic muscular hypertrophy and Beckwith-Wiedeman syndrome and for localized macroglossia includes fibroma, lipoma, granular cell tumor, sarcoma and salivary gland tumors.

For bilateral neck swelling differential diagnosis should include thyroglossal cyst, delphian lymph nodes, salivary gland swellings etc.

Laboratory investigations of patient revealed mild anemia (10.8) with raised ESR. Renal and liver parameters were normal. There was significant symmetrical enlargement of tongue on CT scan.

Based on this multiple myeloma, histiocytosis and hyperparathyroidism were considered. Bence-Jones proteins in urine were negative. Levels of T3, T4, TSH in blood were within normal ranges (T3:0.72, T4: 6.56, TSH: 3.40). Bone scan was normal. Antinuclear antibodies were also negative. Based on this a final diagnosis of amyloidosis was made.

Patient was subjected to tongue biopsy. The histopathology results were consistent with amyloidosis.

The patient was not willing for surgical

treatment and was even unwilling to medications. In spite of this we prescribed her corticosteroids and an alkylating agent (Melphalan) to reduce her symptoms. Whether she took the medications or not is not known to us and was lost for follow up.

DISCUSSION

Amyloidosis is an idiopathic, extracellular deposition of fibrillar proteins (Carla R. Penner et al 2006). Even though Rokitansky 1st described the process in 1842, Virchow named it amyloid. Amyloid is actually structureless translucent material which transmits colour of underlying tissue (Merlini et al 2004)(Kerner MM et al 1995). Three known forms of amyloidosis is considered (1) Primary systemic amyloidosis is a systemic condition with no known systemic underlying cause. Also known as AL (amyloid light chain) type amyloidosis. Some literatures say that most of these types are associated with plasma cell dyscrasia which includes – Waldenström's macroglobulinemia and multiple myeloma. Oral manifestations are most common with this type and occur in approx 40% cases

which include macroglossia and nodular masses in lips & submandibular salivary gland usually secondary to primary amyloidosis. Patient with macroglossia, tongue loses its elasticity and become stiff cause difficulty in speech, chewing, swallowing and ability to close the mouth which causes constant drooling. In later stages protrusion of tongue out of oral cavity may occur & finally may result obstructive sleep apnoea. (2) Systemic amyloidosis which occur with other underlying chronic medical illnesses as tuberculosis, rheumatoid arthritis etc. Renal and cardiac diseases are seen in both primary and secondary amyloidosis.

(3) Localized form of amyloidosis which occurs without any evidence of systemic involvement or underlying disease. It is a rarest form of amyloidosis with larynx being most common site in head and neck region.(Haraguchi H et al 1997) (Eric T et al 2006), Oral manifestations are rare with second and third type of amyloidosis.

The symptomatology reflects organ involvement and most patients report weakness,

fatigue or weight loss. Other common presenting symptoms include ankle edema, dyspnea, paraesthesias, light headness and syncope. The most common physical findings are hepatosplenomegaly, edema, macroglossia, hypotension and purpura. The most significantly involved organs are the kidneys and heart; failure of which are two leading cause of death. Our patient came with chief complaint of tongue enlargement and swelling in neck region. Radiologically, a tongue wider than 50mm and each genioglossus wider than 11mm is said to be macroglossia.

Cutaneous amyloid lesion can also associated with systemic disease with mainly AL type of amyloidosis. 40% patient shows cutaneous lesions. Cutaneous type of amyloidosis are thought to be arises in coincidentally with chronic infections, noninfectious inflammatory diseases and tumors. Purpura is most common cutaneous manifestation of amyloidosis. Cutaneous lesions shows a variety of clinical presentations and usually follows intracutaneous ,hemorrhage due to amyoid infarction of blood vessels wall. Lesions most commonly presents as waxy or purpuric papules, nodules or plaques particularly In the periorbital and intertriginous areas (Sirohi B et al 2004)(Heinritz H et al 1994) (Raymond AK et al 1992).

Diagnosis of amyloidosis can be made with biopsy. Histologic examination of biopsy specimen is commonest and confirmatory method for diagnosis. In suspected cases of systemic amyloidosis renal biopsy provide best detection rate.

Gingival and skin biopsy has poor result. Currently fine needle aspiration of subcutaneous abdominal fat followed by congo red staining & polarizing microscopic examination for confirmation has become an acceptable, simple and useful technique with excellent result. Criteria for diagnosis include eosinophilic extracellular deposits of protein fibril is that exhibit apple green birefringence on polarized light microscopy when stained with congo red.

Treatment for localized amyloidosis is primarily surgery and in some cases surgical reduction of the tongue or tracheostomy may be indicated If simply observed they will have a slowly progressive growth pattern with associated increase morbidity. Repeated surgery may be indicated in residual or multifocal disease. Treatment of systemic amyloidois is directed towards the affected organs and the specific type of amyloidosis. In our case, surgery was not done due to morbidity associated with the procedure and patient unwillingness to undergo any sort of treatment. Patient was started with oral steroids and alkylating agents (melphalan) but as she was unwilling for any sort of treatment was lost for follow up.

Prognosis for patient of amyloidosis depends on extent of organ involvement. Primary amyloidosis have poorest prognosis among all types of amyloidosis. General prognosis of a patient with this condition is poor if left untreated with median survival of 1-2 years.

CONCLUSION

Tongue enlargement in amyloidosis is consider as a common manifestation but in rare instances it can also be associated with neck swelling which may present as a midline swelling. So oral health care providers must be aware of various presentations associated with amyloidosis . An extensive workup to differentiate systemic and localized amyloidosis is required to treat underlying inflammatory or infectious disease. Current therapies involving alkylating agents and steroids have poor response rates. The effect of treatment is difficult to estimate and further research needs to be focused on this aspect.

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