

## Multiple Hypercementosis: Report of a Rare Presentation

Hamed Mortazavi<sup>1</sup>, Parvin Parvaie<sup>2</sup>

<sup>1</sup>Associate professor, Department of Oral and Maxillofacial Medicine, School of Dentistry, Shahid Beheshti University of Medical Sciences, Tehran, Iran

<sup>2</sup>Resident, Department of Oral and Maxillofacial Medicine, School of Dentistry, Shahid Beheshti University of Medical Sciences, Tehran, Iran

*Received 5 February 2016 and Accepted 6 April 2016*

### Abstract

Hypercementosis is identified by an excessive, non-neoplastic deposition of radicular cementum and is mostly presented as a solitary lesion or in rare cases as a multiple type. It usually occurs in the premolar and molar region of mandible with no sex predilection. In this paper, we reported a 57-year-old female patient with multiple radiopaque lesions affecting right maxillary second premolar and molar teeth. The periapical and orthopantomograph radiographs showed club shaped roots surrounded by a normal periodontal ligament space and lamina dura. Her right maxillary teeth were free of caries and dental restorations and electric pulp test revealed that all of them had vital pulp. Finally, based on clinical and radiographic findings, the diagnosis of multiple hypercementosis was carried out. In conclusion, hypercementosis, although rare, should be considered in differential diagnosis of multiple separate radiopacities in the jaws .

**Key words:** Hypercementosis, lamina dura, cementum hyperplasia.

### Introduction

Hypercementosis was first described by Gardner and Goldstein in 1931 as an excessive growth of tooth cementum. Radiographically, this condition is seen as a deposition of radicular cementum which can involve a single or several teeth (1).

In a study on 22000 patients carried out by Warriar and Vinayachandran (2), hypercementosis was detected in 1.7% of cases. Mandible (mostly premolar and molar regions) was more affected than maxilla and most of the lesions were unilateral; however, bilateral involvement was not uncommon.

The main etiologic factor for hypercementosis is not clear. In most cases, it is presented as an idiopathic or age-related phenomenon (1, 3). Furthermore, local factors such as trauma, inflammation and changes in masticatory function have been suggested to be risk factors for hypercementosis (2, 3).

Generalized or multiple hypercementosis is not very common and systemic or hereditary disorders are likely to be etiological factors. The relationship between hypercementosis and Paget's disease, hyperthyroidism, rheumatic fever, rheumatoid arthritis, acromegaly, calcinosis and vitamin A deficiency has been documented in previous studies (2).

In contrast, Napier Sousa et al. (3) and Basdra et al. (4) reported multiple hypercementosis in patients with no history of systemic or hereditary problems. Radiographically, hypercementosis is presented as an excessive buildup of cementum around all or part of a root (1). The outline is usually smooth but in some cases, it can be irregular. Continuity of the lamina dura and PDL space is observed around the lesion (1-3).

Hypercementosis most commonly appears with no clinical signs or symptoms and needs no treatment (2). However, in accompanying conditions such as a periapical inflammatory lesion, treatment may be

---

Mortazavi H, Parvaie P. Multiple Hypercementosis: Report of a Rare Presentation. J Dent Mater Tech 2016; 5(3): 158-60.

necessary. Surgical excision is also indicated in unusual cases (2).

The aim of this paper was to report a case of multiple hypercementosis, affecting the right maxillary second premolar and molar teeth in a 57-year-old female. In this case, a rare form of hypercementosis is presented both in terms of number (multiple vs. solitary) and location (maxilla vs. mandible).

### Case Report

A 57-year-old female patient was referred to the Department of Oral Medicine, Dental School, Shahid Beheshti University of Medical Sciences, Tehran, Iran; with chief complaint of tooth pain in the left upper quadrant. The patient did not have any medical problems or history of medication. Oral examination showed missing of the maxillary and mandibular teeth #13, #14, #27, #28, #34, #35, #36, #37, #38, #44, #45, #46, #47, #48 and she was not wearing partial denture in mandibular edentulous region. No intra oral swelling or expansion was present, except for #12 and #24. Her remaining teeth were free of caries. The periapical and orthopantomograph radiographs showed an interesting appearance of the roots of the maxillary right second premolar and molars with gross thickening and blunting of roots as a result of a fairly symmetrical deposition of a radiopaque material on their surfaces (Fig 1). The thickening of the root was surrounded by a radiolucent periodontal ligament space with an adjacent intact lamina dura (Fig 2). Her right maxillary teeth were free of caries and dental restorations and electric pulp test revealed that all of them had vital pulp. All of the remaining teeth had a positive response to pulp testing except for the left maxillary second premolar which had deep caries. In all, clinical and radiologic signs were consistent with hypercementosis. To rule out the presence of systemic disorders, serial estimation of alkaline phosphatase, T<sub>3</sub>, T<sub>4</sub>, TSH (thyroid stimulating hormone), RF (rheumatoid factor) and ANA (antinuclear antibody) levels were investigated which were all normal. Since the patient did not have any signs or symptoms of hypercementosis in the affected sites, no treatment was carried out; however, the patient was informed about the lesion and its characteristics.

### Discussion

Excessive cementum deposition occurs in a wide range of neoplastic and non-neoplastic conditions such as benign cementoblastoma, cementifying fibroma, periapical cemental dysplasia, florid cemento-osseous dysplasia, hypercementosis and other benign fibro-osseous lesions of periodontal ligament origin (2).

The presence or absence of lesion continuity with the root cementum and detection of a radiolucent periodontal rim as well as the quantity of mineralization are the most important radiographic indicators for differentiation of peri-radicular radiopaque lesions (5). Moreover, clinical signs and symptoms are important in diagnosis (6).



**Figure 1.** Fairly symmetrical deposition of radiopaque material on root surfaces of right maxillary second premolar and molars



**Figure 2.** Thickening of the root surrounded by a radiolucent periodontal membrane space with an adjacent intact lamina dura

We reported a case with unusual multiple cementum deposition with no cortical perforation or enlargement. On the other hand, in the radiographic examination, a thin radiolucent region of uniform width was observed at the lesion borders. She did not have any medical problems or clinical symptoms at the lesion site. In all, available evidences signify a diagnosis of multiple hypercementosis. The reason why laboratory tests were carried out was to rule out the presence of systemic disorders. For instance, in Paget's disease, serum alkaline phosphatase levels are markedly elevated while in hyperthyroidism, the level of serum TSH is reduced and free serum T<sub>3</sub> and T<sub>4</sub> levels are elevated. In rheumatoid arthritis, serum levels of ANA and RF are elevated (7).

Warrier and Vinayachandran (2), Napier Sousa et al. (3) and Zustin and Friedrich (5) reported cases of hypercementosis with 60, 45 and 59 years old

respectively, similar age range with our 57 year old patient and all of them were in consonance with the expected age in the literatures showing that hypercementosis is an age related phenomenon (3). Our reported case was female and corroborating our study, Leider and Garbarino (8), Zhou et al (1), Napier Sousa et al. (3) and Zustin and Friedrich (5) reported hypercementosis in female patients; however, Warriar and Vinayachandran (2) reported hypercementosis in a male patient. In the literature, there was no emphasis on sex predilection for hypercementosis (7-9). In this paper, hypercementosis was reported in the posterior maxillary region similar to the area Suter et al (6) had reported in their case. However, most researchers have stated that hypercementosis usually occurs in maxillary and mandibular premolar teeth (8). Our case had multiple hypercementosis similar to the reports by Warriar and Vinayachandran (2) and Suter et al (6). Most researchers agree that the majority of cases of hypercementosis involve only one or two teeth (8). Zhou et al. (1) reported a case of hypercementosis in the right mandibular second premolar and first molar due to chronic periodontitis as an etiological factor.

Jeddy et al. (9) reported a case of single hypercementosis in a 24-year-old male patient in the right maxillary third molar in form of multiple cemental spikes without any radiographic evidence. In their case, the noted tooth had no antagonist tooth, likewise our patient. In teeth with no antagonist tooth, hypercementosis usually appears at the apical third of the roots with nodular thickening and occurs as an effort to maintain the width of periodontal ligament and to compensate for tooth accelerated eruption (9).

Since our patient had no certain systemic etiologic factors, the mechanism of nodular cementum formation in the posterior right maxillary quadrant in this patient cannot be described in simple terms and therefore assumed to be idiopathic or senile in nature.

### Conclusion

This phenomenon should be considered in the differential diagnosis of multiple separate radiopaque lesions in maxilla and mandible.

### Corresponding Author:

Parvin Parvaie  
 Department of Oral Medicine, Dental School,  
 Shahid Beheshti University of Medical,  
 Sciences, Daneshjoo Blvd, Chamran highway, Tehran, Iran  
 Email:Parvin.parvaie@yahoo.com  
 Contact Phone Number: +989153625057  
 Fax number: +98-21-22403194

### References

1. Zhou J, Zhao YF, Xia CY, Jiang L. Periodontitis with hypercementosis: report of a case and discussion of possible aetiologic factors. *Aust Dent J* 2012; 57(4): 511–514.
2. Warriar SA, Vinayachandran D. Irregular Periapical Radiopacity in Mandibular Premolars and Molars. *Case Rep Dent* 2014; e1-e3
3. Napier Souza L, Monteiro Lima Junior S, Garcia Santos Pimenta FJ, Rodrigues Antunes Souza AC, Santiago Gomez R. Atypical hypercementosis versus cementoblastoma. *Dentomaxillofac Radiol* 2004; 33(4): 267–270.
4. Basdra EK, Stellzig A, Komposch G. Generalized hypercementosis in a young female patient. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 1997; 83(4): 418-419.
5. Zustin J, Friedrich RE. Hypercementosis and Odontogenic Epithelial Hyperplasia Associated with a Tooth Root Remnant Mimicking a Neoplasm. A Case Report. *In Vivo* 2010; 24(4): 571-574.
6. Suter VG, Reichart PA, Bosshardt DD, Bornstein MM. Atypical hard tissue formation around multiple teeth. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2011; 111(2): 138–145.
7. Neville BW, Damm DD, Allen CM, Bouquot JE. *Oral and Maxillofacial Pathology*. 3rd ed. St. Louis: Elsevier Inc, 2009.
8. Leider AS, Garbarino VE. Generalized hypercementosis. *Oral surg Oral Med Oral Pathol* 1987; 63 (3):375-380.
9. Jeddy N, TR, CK, RS, Prabakar R. Localized Multiple Cemental Excrescences: A Rare Presentation of Hypercementosis. *J Clin Diagn Res* 2014; 8(5): 16-17.