Case Report:

Repositioning of pathological migrated teeth following periodontal surgery in chronic periodontitis: Case Series

Dr Anand N. Wankhede, Dr Girish P. Bhutada, Dr. Arshad J. Sayed, Dr. Deepti R. Gattani

1 Post Graduate Student, Department of Periodontology, Swargiya Dadasaheb Kalmegh Smruti Dental College and Hospital, Nagpur, Maharashtra, India
2 Reader, Department Of Periodontology, Swargiya Dadasaheb Kalmegh Smruti Dental College and Hospital, Nagpur
3 Dean and H.O.D, Department of Periodontology, Swargiya Dadasaheb Kalmegh Smruti Dental College and Hospital, Nagpur, Maharashtra, India
4 Professor, Department of Periodontology, Swargiya Dadasaheb Kalmegh Smruti Dental College and Hospital, Nagpur.

Corresponding author: E-Mail id: wankhedeanand@yahoo.co.in

Abstract:
Pathological tooth migration is a characteristic sign observed in many cases of periodontitis. Migrated teeth move and rotated in any direction, but as a rule they drift away from area of most severe periodontal direction. This paper reports the cases of repositioning of pathological migrated teeth following periodontal flap surgery in chronic periodontitis.

Key words: Tooth migration, Chronic Periodontitis, Periodontal flap surgery

Introduction
Pathological tooth migration (PTM) has been defined as a tooth displacement that results when the balance among the factors which maintain physiologic tooth position is disturbed by periodontal disease. It is a common complication of moderate to severe periodontitis & is often the motivation for patients to seek periodontal therapy. Prevalence of PTM among periodontal patients has been reported to range from 30.3% to 55.8%. The disruption of equilibrium in tooth position may be caused by several etiologic factors. These include periodontal attachment loss, pressure from inflamed tissues, occlusal factors, oral habits such as tongue thrusting and bruxism, loss of teeth without replacement, gingival enlargement and iatrogenic factors, variety of oral habits, periodontal inflammation & eruptive forces also influence tooth position. Treatment for pathologic tooth migration can be divided into four categories which includes: 1) Extraction & replacement of migrated teeth when migration is very severe, 2) spontaneous correction of the early stages of PTM following periodontal therapy, 3) limited or adjunctive orthodontic therapy, and 4) conventional orthodontic treatment.

Case report 1.
A 20 year girl reported to department of Periodontology with the chief complaint of increasing gap in her upper back region of teeth since 6 months. She had no history of past dental treatment. Clinically gingiva was inflamed with generalized bleeding on probing. On average pocket depth was 5 mm except with 15, 16 in which pocket depth of 8 mm was found (Fig.1). Radiographically vertical bone loss around 15, 16 with no sign of periapical infection (Fig.2). Affected tooth was migrated mesially and facially (Fig.3).
Complete scaling and root planing was performed. This was followed by oral hygiene instruction to the patient. Patient was recalled after four weeks of complete non-surgical treatment for reevaluation. After reevaluation, average pocket depth was 3 mm with no sign of bleeding on probing except with 15, 16 (residual pocket depth was 6 mm). The patient was then scheduled for periodontal surgery with 15, 16. Full thickness flap was reflected with 15, 16, 17 with crevicular incision. Angular defect was found between 15, 16. After scaling and root planing, debridement was done. It was 2 and half walled defect so bone grafting (Decalcified freeze-Dried bone allograft) has been done in between 15, 16. (Fig. 4, Fig. 5)

After 10 days patient was called for suture removal, healing following surgery was uneventful. The patient was placed on maintenance phase and was recalled for follow-up after 1, 2, 4 months. Drifting was seen after 1 month in distal direction of 16 (Fig. 6) and 8 weeks post-operatively 15 came into contact with 16. From which there was no further drifting was noticed (Fig. 7, Fig. 8, Fig. 9) & pocket was reduced to 3 mm.

**Case report 2.**

The patient, 25 year old female was reported to department of Periodontology with chief complaint of bleeding from gums since 4 months. On oral examination, localized gingival enlargement with 31, 32, 33, 41, 42, 43 was seen with average pocket depth of 6 mm. Radiographic evaluation showed horizontal bone with no sign of periapical infection.

Non-surgical treatment plan was similar to the one described for the previous case. After 4 weeks of non-surgical treatment, reevaluation was done. Average residual pockets with 31, 32, 33, 41, 42 was 5 mm (Fig. 10, Fig. 11). Periodontal flap surgery was done with 31, 32, 33, 41, 42, similar to case 1 without bone grafting. The drifting of 32 was observed distally & rotated after 4 weeks, drifting was continued for 8 weeks until canine came into the contact (Fig. 12, Fig. 13, Fig. 14). After 7 months follow-up, there were no further changes in tooth position (Fig. 15, 16).

**Discussion.**

Periodontitis appears to be a major factor in bone destruction around the tooth which can cause pathological tooth migration. The position of the tooth depends on the health and height of the periodontal tissue and on the forces exerted upon the tooth. Non-surgical therapy which includes scaling and root planing causes reduction in edema and inflammation of the soft tissues. With this healthy collagen fibers replace the inflamed tissue and establish the normal equilibrium of forces, leading to reactive movement of migrated tooth to its original position. However repositioning of migrated teeth following periodontal surgery can be seen. “Spontaneous” repositioning after surgical procedure occurred during the first 4 to 8 weeks post-operatively. This is in accordance with studies on repair and healing of connective tissue following periodontal surgery.

**Conclusion:**

In the present case, repositioning of teeth in both cases could be occurred due to reduction of edema and inflammation, followed by healing and repair of connective tissue and transspetal fibers after periodontal flap surgery.
References: