

A Case Series of Surgical Repositioning in Managing Inverted Impacted Incisors of Young Patients

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Introduction: Management of inverted impacted incisors in growing patients is a great challenge to clinicians. Conventional treatment options include combined surgical exposure and orthodontics, extraction with prosthetic replacement and extraction with tooth auto-transplantation. All the above modalities are associated with multiple surgical and/or periodontal procedures, complicated orthodontic mechanics, additional restorative need, compromised esthetics and lengthy treatment. Surgical repositioning, or trans-alveolar auto-transplantation, of the inverted incisor has been reported to greatly simplify the treatment. The purpose of the report is to present the long-term follow-up results of the surgical repositioning approach.

Case report: A case series of sixteen inverted impacted maxillary incisors were treated by eight operators. All the teeth except one had root dilaceration. After adequate space was created, the involved incisor was uncovered and surgically repositioned in correct direction with semi-erupted position. One to four months after the surgery, fixed orthodontic appliance was used to bring the incisor into proper alignment. Clinical and radiographic evaluations were performed at scheduled follow-ups. The average age at the time of surgery is 9Y9M. The follow-up period averaged 5Y4M, with range from 6M to 18Y11M. Nine subjects received the surgical procedure under local anesthesia and seven were under general anesthesia. All impacted incisors were successfully aligned with good periodontal conditions. One subject after being absent for three years, returned with severe caries and periodontal destruction of the tooth, which later resulted in tooth loss. Pulp canal obliterations were noted in 44% of the treated incisors. Three out of all treated incisors received endodontic treatment. 75% of the repositioned incisors showed continuing root development.

Discussion: The advantages of surgical repositioning approach include only one surgical procedure at one surgical site are required, immediate esthetic and compliance improvement, simple and short orthodontic therapy as compared to other modalities. The disadvantages include medium sensitive of surgical technique, risk of interfering root development and risk of pulp vitality.

Conclusion: The present report showed consistent and successful results of surgical repositioning could be obtained from multiple operators. The surgical repositioning modality may serve as an option of treating difficult impacted incisors in growing patients.