An asymptomatic orthodontic bracket in the mandibular alveolar bone region

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DESCRIPTION

Orthodontic appliances have a propensity towards loosening, dislodgement or displacement into the surrounding hard and soft tissues. Ingestion or aspiration of orthodontic materials such as brackets, archwires, elastic separators and parts of complex orthodontic appliances have been described in dental literature. Orthodontic brackets have been found lodged in the upper lip,¹ lost in the airway² and dislodged in the soft tissues overlying a sagittal split osteotomy site.³ However, in dental literature, there seems to be no report of an orthodontic bracket displaced into an intraosseous area. We describe a case concerning a 26-year-old woman who reported to a private clinic with a request to resume orthodontic therapy after a 6-month period of discontinued treatment. A standard orthopantomograph (OPG) and lateral cephalogram of the patient were obtained which showed an intriguing presence of what appeared to be an orthodontic bracket in the osseous area corresponding to the mandibular left first-premolar region (figure 1). The bracket was not visible but was palpable from the outside and there were no clinical and radiographic signs suggestive of inflammation, infection or suppuration.

Because foreign bodies are associated with prolonged inflammation and risk of infection, the bracket was retrieved by 'guttering' the bone around it after raising a full thickness mucoperiosteal flap. Intraoperatively, the stainless steel bracket was found fenestrating through the buccal cortical plate at the level of the middle thirds of the adjacent root surfaces (figure 2). In this subject, the brackets were

Figure 2 The stainless steel bracket surrounded by granulation tissue was found fenestrating through the buccal cortical plate.

bonded at the beginning of treatment and the orthodontic extractions were performed at a later date. It can be theorised that the actual displacement event might have happened when a loose bracket dropped into the extraction socket. A practitioner's goal is to prevent the occurrence of this significant problem thus avoiding the unpleasant medical and medicolegal consequences of retained foreign bodies.

Learning points

- ▶ Brackets can displace or dislodge into adjacent anatomical regions and the alveolar bone is not an exception.
- ▶ Asymptomatic presentation of a foreign body is not uncommon, and an impromptu inventory of appliances during every visit might potentially identify missing components.
- ▶ Surgical removal might be warranted to prevent prolonged inflammation, risk of infection and allergic reactions.
- ▶ If encountered, a careful examination should be carried out for acute clinical and medicolegal reasons and removal may mitigate this risk and reduce the morbidity and mortality associated with a foreign body.

Figure 1 Views from the OPG and lateral cephalogram demonstrating the intraosseous displacement of an orthodontic bracket.

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