CASE REPORT

Unusual finding of concrescence

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SUMMARY

Concrescence is a rare dental anomaly whereby adjacent teeth are united by cementum. It has been reported to occur in around 0.8% of permanent dental extractions and a correct diagnosis prior to surgical intervention is important to ensure that patients can make an informed decision about their treatment and to reduce the potential for dentolegal action against the responsible clinician. An 83-year-old woman was referred to the Oral and Maxillofacial Surgery Department at the Wirral University Teaching Hospital, for extraction of her upper left first molar tooth. The operator noted that, when the upper left first molar was extracted, the upper left second molar tooth was also removed. Clinically, the roots of the adjacent teeth appeared fused and a diagnosis of concrescence was established. The patient was informed of the complication and provided with a 1-week review appointment, at which stage she was discharged.

BACKGROUND

Dental concrescence is a rare dental anomaly, however, it is vital that clinicians are aware of its existence to ensure that it is diagnosed, when possible, prior to starting surgical intervention. This will ensure that the patient is fully informed of the potential risks of a dental extraction and the alternatives available, which will enable patients to make an informed decision about their treatment. If clinicians do not diagnose concrescence and neglect to advise patients of the risks involved, patients could suffer further tooth loss, which increases the risk of postoperative complications and the potential for dentolegal action against the responsible clinician.

CASE PRESENTATION

An 83-year-old woman was referred to the Oral and Maxillofacial Surgery Department at the Wirral University Teaching Hospital, in November 2015, by her general dental practitioner, for extraction of her upper left first molar tooth.

The patient reported intermittent episodes of dental pain and swelling in the upper left quadrant, well localised to the upper left first molar. She noted that this had been the case for approximately 4 months and had recently been associated with a foul taste.

Medically, she had well-controlled hypertension, hypercholesterolaemia and gastro-oesophageal reflux disease, which was managed with ramipril, simvastatin and omeprazole. She had no known allergies and was a non-smoker with a low alcohol intake.

On examination, the upper left first molar tooth had deep periodontal pocketing and gingival recession. The tooth was tender to percuss and non-vital and a chronic draining sinus was noted on the adjacent attached gingivae. A provisional diagnosis of chronic apical periodontitis was made.

INVESTIGATIONS

An orthopantomogram (OPG) radiograph was taken (figure 1), which showed horizontal bone loss and an apical area associated with the mesial root of the upper left first molar tooth. The roots of the upper left first and second molars appeared bulbous, with an intimate relationship and overlap of the adjacent roots. A diagnosis of chronic apical periodontitis of the upper left first molar was confirmed.

TREATMENT

The patient was listed for routine extraction of the upper left first molar tooth under a local anaesthetic.

During the procedure, the operator noted that the extraction was more difficult than predicted and when the upper left first molar tooth was finally extracted with forceps, the upper left second molar was also removed. On examination, the roots of the teeth appeared fused and a diagnosis of concrescence was established. The roots also appeared bulbous and an additional diagnosis of hypercementosis was made (figure 2). There was no clinical oral-antral communication noted at this stage. The patient was informed and was very understanding of the unpredicted complication.

OUTCOME AND FOLLOW-UP

A 1-week review appointment was arranged to assess for healing and the patient was subsequently discharged back to her general dental practitioner for routine care without complication.

Figure 1 Orthopantomogram of the upper left quadrant.

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Figure 2 Conrescent left maxillary first and second molars postextraction.

DISCUSSION

Conrescence is a rare dental anomaly whereby adjacent teeth are united by cementum alone.¹ This usually occurs on the root surfaces, however, one of the cases in the literature discussed conrescence between the root of one tooth and the crown of an unerupted adjacent tooth.² Conrescence has been reported to occur in 0.2–3.7% of primary dental extractions and 0.8% of permanent dental extractions.³ It occurs most commonly in the maxillary molar regions and its prevalence is not influenced by age, gender or race.⁴

It can be classified further as ‘true conrescence’, whereby the union occurs as a result of close approximation of adjacent teeth during development—‘acquired conrescence’, whereby there is deposition of additional cementum following chronic inflammation.⁵ This case was most likely an ‘acquired conrescence’, as the patient had generalised periodontal disease and chronic apical pathology associated with the upper left first molar tooth.

Conrescence is not usually identified clinically as the union is subgingival and radiographic diagnosis can also be difficult as the fused teeth have independent pulp chambers,³ although, the roots of the adjacent teeth will be radiographically indistinguishable. The preoperative OPG radiograph showed overlap of the roots of the adjacent teeth, which should potentially have raised concerns of a possible conrescence with the operator performing the extraction. Some authors have advised that obtaining additional radiographs at different angles and exposure parameters may facilitate establishing a diagnosis⁶ and one of the cases discussed the use of cone-beam CT to better diagnose a conrescence when a plain film radiograph suggests union.⁷

Owing to the difficulty in making a diagnosis, cases of conrescence are usually reported postextraction,⁸ which can result in complications dependent on the degree of cemental union, which can vary from a single small site to a fusion extending over the entire surface of the root. If the union is minimal, then the adjacent teeth may separate during extraction, however, if the union is more extensive, this could result in unpredicted extraction of the adjacent tooth, fracture of the maxillary tuberosity or an oral-antral communication.⁶

Alternative treatment options discussed in the literature include non-surgical root canal treatment to maintain the fused teeth,³ or sectioning of the adjacent teeth to allow separate tooth extraction.⁹ If a diagnosis of conrescence is established, then it is vital that the patient is informed of these alternatives if they are viable options, to allow for informed decision-

making and valid consent prior to proceeding with intervention.

Hypercementosis is a non-neoplastic condition whereby there is deposition of excessive amounts of normal radicular cementum on the root surface of a tooth.¹⁰ The condition is reported to occur at an incidence of 1.7% and may be localised or generalised with bilateral involvement not uncommon.^{11–12} Generalised hypercementosis has a widespread distribution and can present in patients with Paget’s disease, acromegaly, rheumatic fever and thyroid goitre.¹³ Localised hypercementosis usually presents as thickening of the cementum in the apical third of a single tooth and can occur to the point of fusion and conrescence of adjacent teeth.¹⁴

The aetiology is idiopathic but has been attributed to excessive occlusal forces and chronic periapical inflammation. One of the cases in the literature identified periodontal disease as a potential aetiological factor whereby hypercementosis could occur in an effort to stabilise a tooth against occlusal load and compensate for its loss of periodontal support.¹⁵ The hypercementosis observed in this case was believed to be localised and could have occurred as a result of loss of periodontal support or in reaction to the chronic periapical pathology associated with the upper left first molar.

Hypercementosis is asymptomatic and usually found incidentally following radiographic examination. The affected roots are observed to be abnormally thickened but still separated from the alveolar bone by a normal periodontal ligament space and intact lamina dura (figure 1). Hypercementosis does not require treatment, however, it is essential that a diagnosis is established preoperatively to ensure that care is taken during dental extractions as the procedure will likely be more difficult due to the bulbous root morphology. Hypercementosis is also associated with an increased risk of ankylosis whereby the root surface is continuous with alveolar bone, which would also increase the complexity of a dental extraction.¹

Although the patient was very understanding of the unpredicted extraction of an adjacent tooth and accepted the outcome, the loss of two molar teeth could result in reduced masticatory function or aesthetic issues, which could have a negative psychological impact on the patient. Both conrescence and hypercementosis could increase the risk of a resulting maxillary tuberosity fracture and oral-antral communication, which would require further surgical intervention. These complications could subsequently result in dentolegal action being taken against the responsible operator if the patient was not fully informed of the potential risks.

Learning points

- ▶ Conrescence is a rare dental anomaly whereby adjacent teeth are united by cementum.
- ▶ Conrescence is not usually identified clinically and radiographic diagnosis is difficult.
- ▶ Consider the use of radiographs at different angles and exposure parameters or cone-beam CT as additional diagnostic tools.
- ▶ Misdiagnosis could result in unpredicted extraction of the adjacent tooth, fracture of the maxillary tuberosity or an oral-antral communication.
- ▶ Alternatives such as non-surgical root canal treatment to maintain fused teeth or sectioning should be discussed if they are viable options.

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