Figure 2 Clinical pre-operative photograph (a) labial view (b) occlusal view (c) Tooth 21 with sinus present

Figure 3. Pre-operative PA radiograph tooth 21

Treatment plan

Tooth 21

1. Root canal retreatment
2. Composite restoration
3. Emax crown
4. Clinical and radiographic review

This case describes the management of an upper incisor with internal inflammatory resorption.

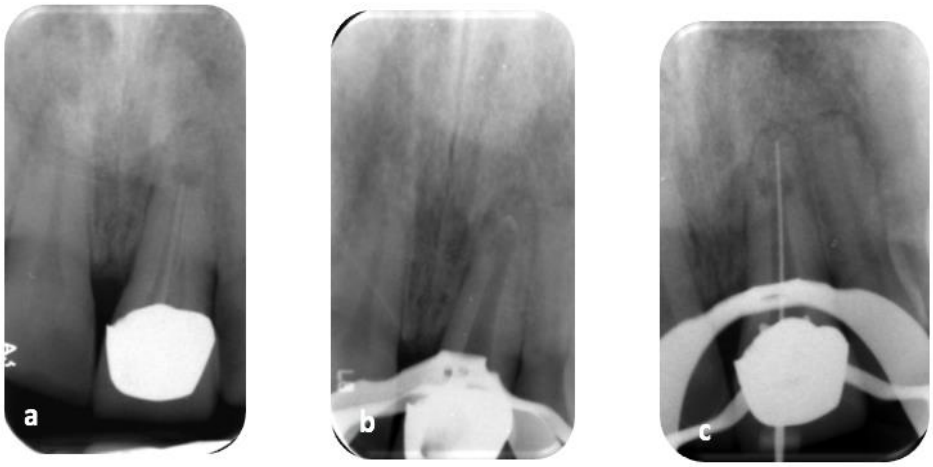
Internal inflammatory resorption is the loss of dental hard tissue from the root canal walls by odontoclastic cells (Patel 2010). The physiologic process is suggested to be caused by damage to the predentine layer covering the mineralised dentine and inflammation.

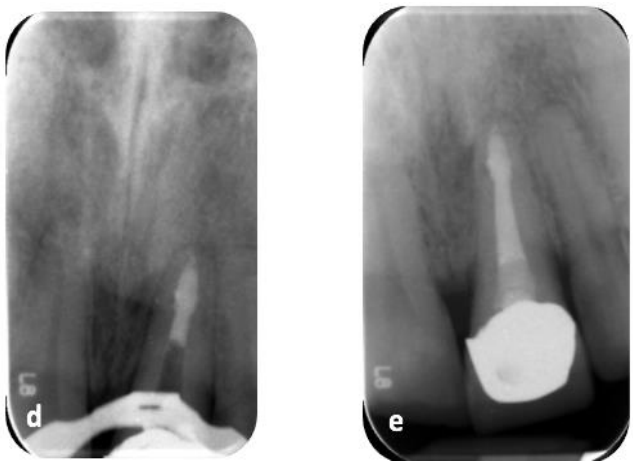
This leaves the mineralised dentine exposed directly exposed to odontoclastic cells (Wendenberg & Lindskog 1985). Its progression is dependent upon vital pulp tissue in the resorptive region and necrotic pulp in the coronal region. This allows for bacterial progression and antigenic production, which act as a stimulus for odontoclastic activity (Patel et al 2010).

In this case. the resorptive lesion was in the apical third and inaccessible to mechanical instrumentation. The use of sodium hypochlorite allowed for chemical debridement, and was further enhanced by ultrasonic activation (Macedo et al 2014; Virdee et al 2018).

An apical plug of MTA was placed due to the large apical size of the canal and to obturate the resoptive defect. This was placed by machtou pluggers and condensed with ultrasonics to achieve an adequate seal (Lawley 2004).

5.





6.

7. **Figure 4** PA radiographs of tooth 21 (a) Pre-operative (b) Removal of GP (c) Working length (d) MTA plug (e) Postoperative.

Figure 6 Review of tooth 21 (a) Pre-operative radiograph (b) Postoperative radiograph (c) 1-year review, showing periapical radiolucency is less dense