

3rd January 2024

Dear H,

Re: Ms K L XX/XX/1979 .

Thank you for asking me to see Ms L regarding the discolouration of her UR2. This had occurred during November after her fixed appliance was removed with the tooth appearing greyer than the adjacent teeth. There was no associated discomfort.

Although the colour loss was described as sudden, it could be that it was happening below the brackets for a while and only properly noted when the brackets were removed.

On examination the UR2 had a cervical pinkish-grey discolouration consistent with internal bleeding and haemoglobin breakdown. More usually observed following trauma. There was no tenderness to percussion or palpation with no deep pocketing or bleeding on gingival probing. The tooth did not respond to temperature or electrical vitality testing (80/80).

Clinical Image

CBCT scan analysis showed the UR2 to have a single root canal with sclerosis of the canal in the middle third of the root. Significant widening of the PDL space was present around the root apex.

A diagnosis of chronic periapical periodontitis was made for the UR2 due to progressive necrosis following orthodontic movement. Initial sclerosis due to pulp hypoxia caused loss of blood flow in the coronal third of the root canal and the stasis of the trapped blood created the pinkish grey discolouration in the cervical part of the tooth. I have seen cases like this where the apical section of the pulp survives but in this case, it seems that necrosis has occurred with accompanying periapical changes. PDL widening is a feature during and following orthodontic treatment, but the widening seen around the UR2 was far greater than the adjacent teeth indicating pathology.

Scan Slices

Treatment options were discussed with K with conventional endodontic treatment recommended likely to have a good prognosis. It may prove challenging to negotiate the middle section, but I am hoping it will be possible. Following endodontic treatment internal bleaching should return the tooth to its original colour.

I believe that K will be well capable of dealing with this, although the sclerotic section will be a little unpredictable. Do let us know if you require any further assistance.

Many thanks again for this kind referral and the opportunity to work with you.

Best Wishes,



Richard S. Kahan
Specialist Endodontist
Director, Academy of Advanced Endodontics