Diagnostic perplexity of panoramic radiograph

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DESCRIPTION

A 14-year-old girl presented to the dental clinic with a history of a fall and blow to her upper front teeth. After initial management by the oral surgeon she was referred to the endodontic department for the management of her fractured maxillary incisors. Her medical history was unremarkable. Intraoral examination revealed complicated crown fracture on maxillary central and lateral incisors. Panoramic radiograph (figure 1) showed fractured maxillary incisors involving pulp and horizontal root fracture at apical third of tooth number 21(Fédération Dentaire Internationale) that raised a question to the prognosis of this tooth. Since panoramic views are not a good diagnostic tool to assess anterior teeth, we had taken occlusal view (figure 2) and periapical view radiographs (figure 3) at different angles to confirm horizontal root fracture. These radiographs showed a completely different scenario. We could see a separate mass (odontome/supernumerary tooth) having a canal space, adjacent to the root of tooth number 21 and the root of the tooth did not show any abnormality. Thus, further management was carried out according to the diagnosis of complicated crown fracture of maxillary incisors.

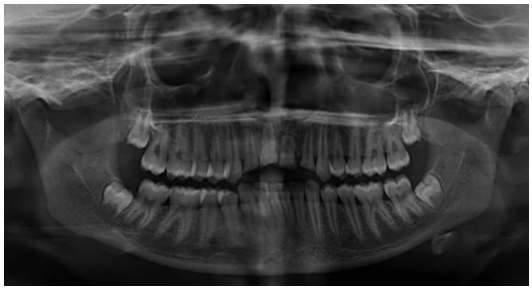

Figure 1 Panoramic radiograph showing fracture line at the junction of middle and apical third of root of tooth number 21(Fédération Dentaire Internationale).

Figure 2 Occlusal radiograph showing the presence of supernumerary tooth or odontome adjacent to the root of tooth number 21(Fédération Dentaire Internationale).

Figure 3 Periapical view showing the presence of separate mass adjacent to the root of tooth number 21(Fédération Dentaire Internationale).

Panoramic radiograph is considered to be an important and useful screening tool for radiological assessment in all dental specialties. Its importance cannot be negated in the survey of maxillofacial region and diagnosis of suspected maxillofacial fractures.[1] However, the image clarity in the anterior region is limited, therefore, in conjunction to panoramic radiograph periapical radiographs are also recommended at different angles to rule out any dental fracture.[2 3] Relying solely on panoramic radiograph might lead to inadequate diagnosis.

Learning points

- The image clarity of panoramic radiograph is limited in the anterior region.
- Periapical radiographs at different angulations are necessary to rule out any dental fracture.
- Depending solely on the panoramic radiograph might end up in inadequate treatment.

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