

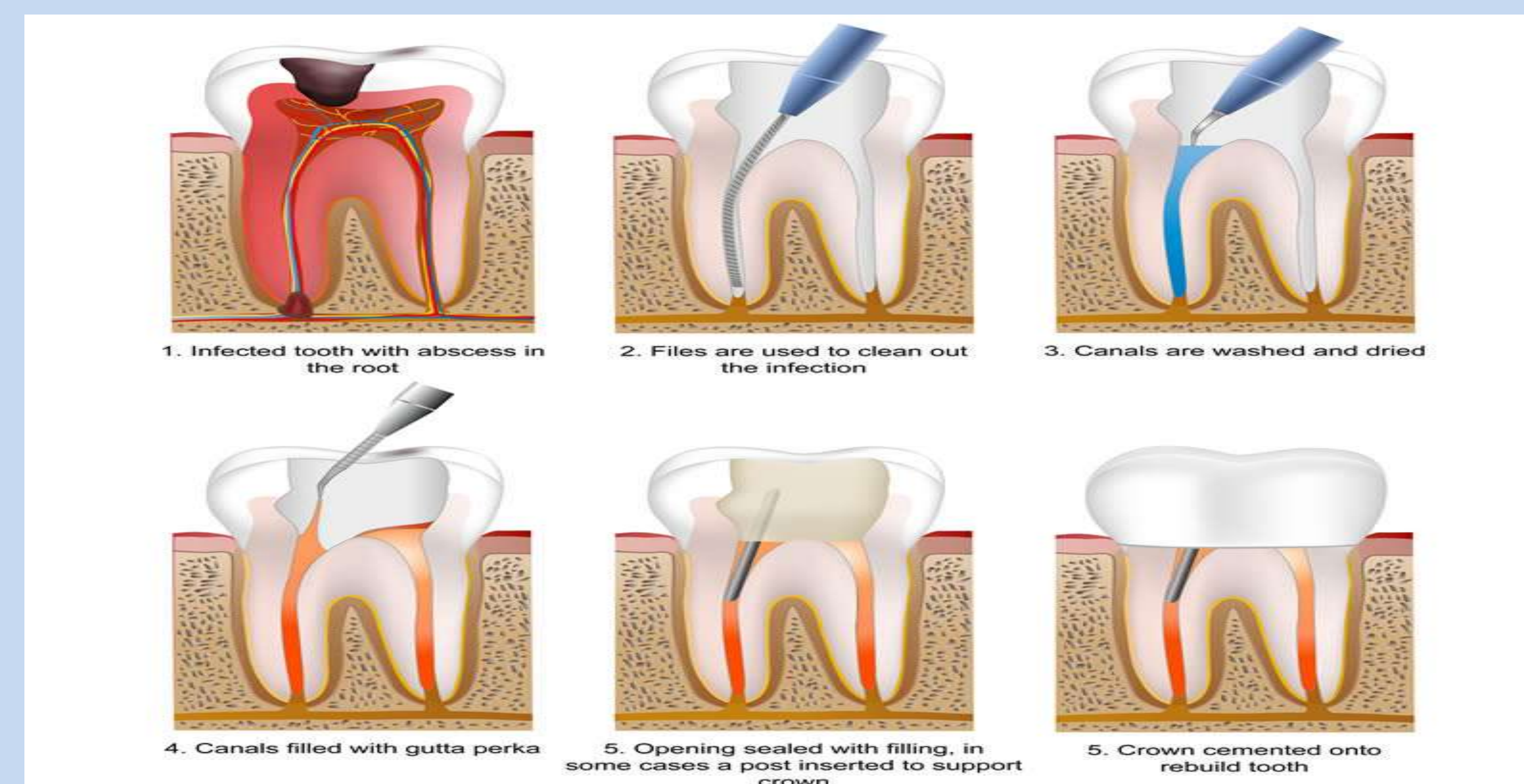
Introduction:

Root Canal is a common procedure performed in dental surgeries. Sodium Hypochlorite (NaOCl) is a routine chemical irrigant used in the root canal treatment by the dental practitioners. Its strong antimicrobial properties with low cost makes it a very desirable solution. This solution however causes complications due to its cytotoxic nature. If the solution leaks into the surrounding tissue the patient may experience intense pain and swelling which requires urgent assessment and treatment to avoid long term sequelae. Such cases may mimic anaphylaxis, 'Written Consent' was obtained from the patient.



Management:

The initial emergent management followed standard immediate assessment of airway, breathing and circulation protocol. However this was preceded by giving the patient intravenous analgesia for her intractable pain in order to take a good history and thoroughly examine her. It was important to examine and protect her airway and there after assess the area of interest. She received further analgesia, fluids and antibiotics and was subsequently referred to maxillofacial team. The patient underwent surgical assessment and irrigation of the canal and the area in the theatre with an uneventful recovery.



Discussion and Conclusion:

NaOCl is a widespread irrigant used on root canal debridement. Extreme pressures during the irrigation process can lead to extrusion of NaOCl into the periapical tissue.¹ These injuries can be life threatening and mimic anaphylaxis. According Huolsmann's 6 criteria, the diagnosis of NaOCl includes acute pain; bruising; progressive swelling involving mouth, the infraorbital region depending on the site of NaOCl; profuse haemorrhage; numbness or weakness of facial nerve; secondary infection with sinusitis and cellulitis.² In the case presented, the patient developed a typical presentation of NaOCl injury which was initially thought to be an anaphylactic reaction. It is important to recognise these incidents early and start treatment immediately.

It is therefore necessary to have a high degree of suspicion. Take a good history and examine the patient well. It is important to ensure adequate analgesia is given intravenously to ensure a complaint patient during consult and examination. Early intervention prevents destructive tissue necrosis that can occur locally during the cleaning process. This tissue destruction can lead to local inflammation and airway oedema. Intractable pain is experienced this necrosis involves nerve branches.



References:

- 1) Fatemah F, Fawaz A et al., 'Complications of improper management of sodium hypochlorite accident during root canal treatment'. J Int soc. Prev Community Dent. doi: 10.4103/2231-0762.192939
- 2) Huolsmann M, Hahn W et al., 'Complication during root canal irrigation- Literature review and case reports'. Int Endod J.2000;33:186-93.