

Endodontic Treatment for Pathogenic Lateral Canals in Single-rooted Teeth

Lateral canals comprise potential root canal space through which bacteria and their products from the main necrotic canal(s) may reach the lateral periodontal ligament and cause lateral periodontitis. Lateral periodontitis can co-exist with apical periodontitis or presents by itself without any obvious apical pathosis. Such clinical condition (i.e., lateral periodontitis alone being the main disease) tends to happen more frequently in single-rooted teeth with long-standing pulp necrosis or after unsuccessful previous root canal treatment(s). Lateral canals do not usually reveal themselves on conventional radiographs; CBCT scan is more sensitive in detecting lateral canals. The distinct position of a lateral root radiolucency (“lesion of endodontic origin” or LEO) is the most important “clue” to indicate the presence of a nearby lateral canal. Proper treatment for lateral canals usually involves the following steps: 1. deliberate manual canal negotiation based on the pre-op estimate of its location. 2. careful manual mechanical cleaning (instrumentation by pre-bent hand files only). 3. thorough chemical disinfection (with manual, sonic and ultrasonic agitation). 4. precise delivery of medication close to or into the lateral canal. 5. obturation by warm vertical compaction for proper seal of the lateral canal and its “portal of exit” (POE).

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