AAE Position Statement

The following statement was prepared by the AAE Research and Scientific Affairs Committee to address issues being raised by some endodontic patients. AAE members may photocopy this statement for distribution to patients or referring dentists.

NICO Lesions

(Neuralgia-Inducing Cavitational Osteonecrosis)

The NICO lesion (Neuralgia-Inducing Cavitational Osteonecrosis, also known as Ratner's bone cavity) was first described in the dental literature in 1920 by G.V. Black. The lesion consists of ischemic osteonecrosis found in the jaws of patients with symptoms of atypical facial pain or trigeminal neuralgia. Research has shown the lesions to be difficult to diagnose. The lesion will sometimes present very subtle radiographic changes often detectable only by a technetium scan or with multiple periapical radiographs. The overlying soft tissues show no changes.

Many etiologies for NICO have been suggested, but none have been substantiated through research. According to noted oral pathologist Dr. J.E. Bouquot, the typical NICO case occurs as facial pain many years after an extraction or an infection in the area. Odontogenic infections and minor trauma have been suggested as initiators, and correlations to clotting or vascular abnormalities have been made based on anecdotal associations. No scientific studies have demonstrated a causative relationship between endodontic therapy and the formation of NICO.

The recommended treatment for NICO is decortication and curettage of the bony tissues. While this practice has produced relief of pain in some cases, NICO has a strong tendency to recur and to develop in other jawbone sites.

Most affected sites with a postoperative NICO diagnosis have been in edentulous areas. However, some patients with long, frustrating histories of pain associated with endodontically treated teeth have been presented the treatment option of tooth extraction followed by periapical curettage in an attempt to alleviate pain. The American Association of Endodontists cannot condone this practice when NICO is suspected. Because of the lack of clear etiological data, a NICO diagnosis should be considered only as a last resort when all possible local odontogenic causes for facial pain have been eliminated. If a NICO lesion is suspected in relation to an endodontically treated tooth, if possible, periradicular surgery and curettage should be attempted, not extraction.

In addition, the practice of recommending the extraction of endodontically treated teeth for the prevention of NICO, or any other disease, is unethical and should be reported immediately to the appropriate state board of dentistry.

References

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3. Ratner EJ, Langer B, Evins ML. Alveolar cavitational osteopathosis. Manifestations of an infectious process and its implication in the causation of chronic pain. J Periodont 1986; 58:593–603.
4. Segall RO, del Rio CE. Cavitational bone defect: a diagnostic challenge. J Endodon 1991; 17:396–400.

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