

Incisive Canal Cyst

The incisive canal, also known as the nasopalatine canal, is an interosseous conduit through the anterior maxilla connecting the oral and nasal cavities. Within this canal lies the nasopalatine nerve and the vascular anastomosis between the greater palatine and sphenopalatine arteries. According to “ The Incisive Canal: A Comprehensive Review” from the 4th to 10th weeks of life, the external facial features of the embryo begin to form through a series of highly intertwined genes and cellular migration events. During this period, the anterior oral cavity begins to separate from the nasal cavity via palatogenesis with the formation of the primary and secondary palates. By the sixth embryonic week, the primary palate will be formed by the fusion of the medial nasal processes. It is taught, that an unusual and rare form of cleft palate is the cause of the formation of the nasopalatine cyst. However, other studies have shown that the incisive canal was derived from the primary palate within the pre-maxillary bone. In the study, the development of the neurovascular structures within the incisive canal was traced using histology and 3D reconstruction. The results strongly emphasized the accepted concept that the nerves and blood vessels are derived from the mesenchymal tissue.

Clinically, most cysts are asymptomatic with the clinical presentation of a rounded swelling of the incisive papilla. The nasopalatine duct cyst is the most common non-odontogenic cyst of the oral cavity constituting about 1.7–11.9% of all jaw cysts. When symptoms arise, such as pain, drainage, pruritus, fistula, or ulceration they usually represent an underlying infection of a previously asymptomatic cyst. A normal incisive canal can measure around 6mm; when the diameter is exceeded, then a canal cyst should be suspected. These cysts are known to be more

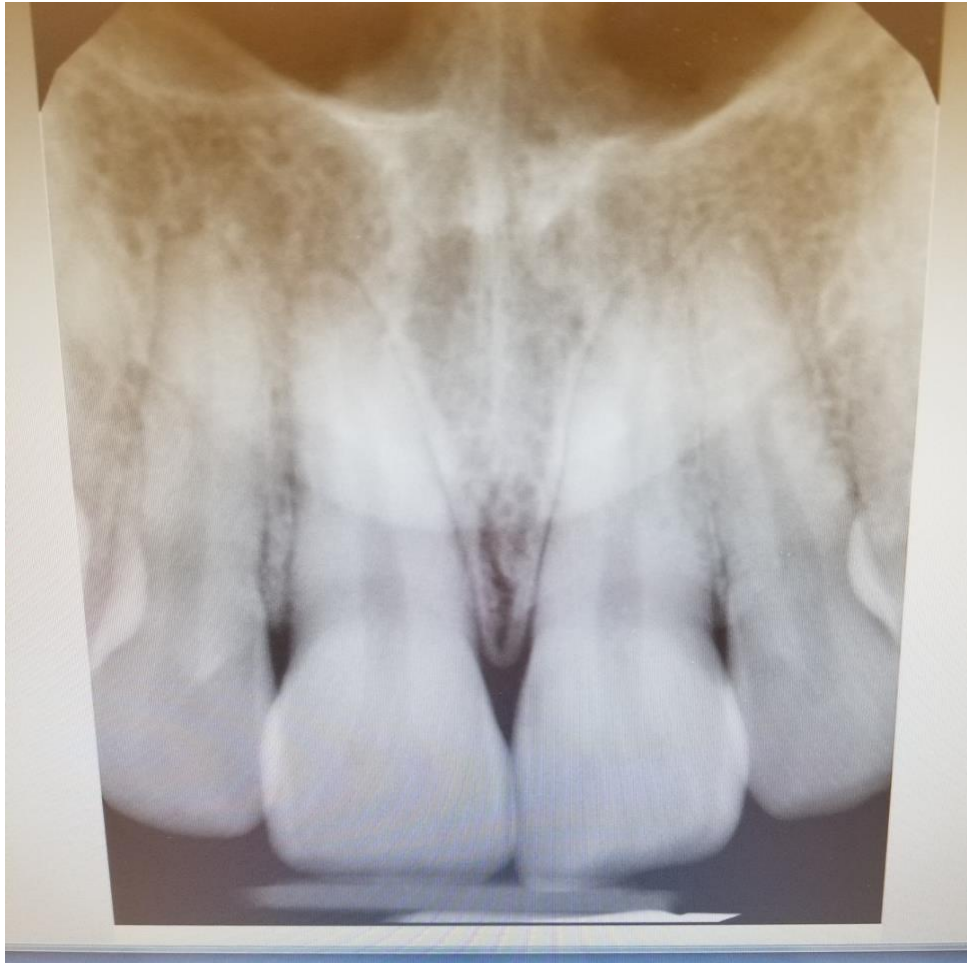
male predicted within the '40s and '50s; however, age should not be excluded to be present in the younger population according to several studies. Radiographically, cysts appear as a well-circumscribed anterior to maxillary radiolucencies that are heart-shaped, due to the superimposition of the anterior nasal spine. Cysts can also appear as round or oval-shaped on radiographs. Histopathological analyses reveal a cyst wall lining with stratified squamous epithelium. However, a combination of stratified squamous epithelium with pseudostratified columnar epithelium with or without accessory cilia or goblet cells, simple columnar epithelium, and simple cuboidal epithelium can be present. The wall can also contain fibrous tissue, veins and nerves, minor salivary glands, and cartilage. Incisive canal cysts are treated with complete surgical removal by a palatal approach with the palatal flap. Periapical radiograph, panoramic and CBCT are needed to assess the lesion with better precision and limits radiation. The differential diagnosis for incisive canal cyst includes medial enlarged nasopalatine duct, central giant cell granuloma, central incisor root cyst, supernumerary tooth follicular cyst (normally mesiodens), primordial cyst, nasoalveolar cyst, osteitis with palatal fistulization, and bucconasal and/or buccosinus communication, and intraosseous schwannoma.

The incisive canal cyst is relevant to me as a Dental Hygienist because as a care provider, I must have the appropriate knowledge to know how to identify these different manifestations that may occur in any patient. Also, by obtaining the exact diagnosis I can provide the best type of care to my patient and be properly monitored to have optimal results depending on the treatment.

Clinically appearance



Radiographically appearance



References

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