

> **THE MALIGNANT  
ONE PERCENT**

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Malignant lesions may account for less than 1% of all apical radiolucent images. Nevertheless it is important to delineate between a malignant lesion and a lesion of endodontic origin (LEO). An up-to-date and comprehensive medical history will ensure no vital information is omitted. The most common malignant lesion is metastatic. A patient is often aware of the primary cancerous site and could have undergone treatment but may still be unaware of the possibility of metastasis to the jaws. The risk of a malignant lesion increases with age, especially after the third decade.

A thorough dental history could provide clues suggestive of a malignant lesion. Paraesthesia is noteworthy as it is a symptom not typical for LEO's. Swelling and pain, common for malignant lesions can easily be mistaken for an endo problem. Monitor all endodontically treated teeth closely as RCT and antibiotics will do little to relieve symptoms associated with a malignancy. If a previous RCT tooth has a periapical lesion do not assume the pre-op diagnosis was correct.

Pulp testing is mandatory when an apical radiolucency is present. Unfortunately a negative response to pulp vitality testing does not guarantee a LEO:

- Malignant and benign lesions can cause pulp necrosis
- Coincidences can occur (i.e. pulp is necrotic or non-responsive but the lesion is non-odontogenic)

The clinical exam should complement the results of the pulp vitality tests. Look for caries, leaking restorations, cracks, and other possible explanations for a non-responsive pulp or failing RCT. A non-odontogenic lesion is suspected if the pulp is vital despite the presence of an apical radiolucency, sinus tract, or swelling/pain.

Other than swelling or a sinus tract there is usually little disruption of the soft tissue for a LEO. The picture above is of palatal discolouration and bony expansion (image courtesy of Sirotheau et al, J Endod 2014;40:16-27) associated with a radiolucent image which turned out to be a mucoepidermoid carcinoma. If the soft or hard tissue is particularly odd then a non-odontogenic source should be considered. However, malignant lesions can occur with little or no unusual clinical signs or symptoms.

Time is of the essence when a malignant lesion is suspected. The first step is to review the medical and dental histories again. Then perform a thorough clinical examination of the entire oral cavity, pulp test the teeth in the affected quadrant, trace all sinus tracts, and evaluate radiographically. One bitewing and two angled PA's are the minimum requirement for evaluation of an apical lesion. A panoramic or occlusal radiograph or a cone beam CT can provide more details if the diagnosis is not clear.

The May newsletter will address the radiographic features differentiating a malignant lesion from a LEO. When in doubt do not 'pull it out' or wait for spontaneous recovery. Instead, investigate further and consider a second opinion. It is a mistake to quickly dismiss the malignant 1%.

Regards,



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