

Other journals in brief

A selection of abstracts of clinically relevant papers from other journals.
The abstracts on this page have been chosen and edited by Paul Hellyer.

Orofacial cancer

Sugawara C, Takahashi A. Orofacial symptoms suggestive of malignant lesions and the role of imaging: literature review and case presentation. *Oral Radiol* 2023; **39**: 599–613.

The importance of radiographic examination is emphasised.

Using well-illustrated case presentations, the authors describe symptoms with which patients with undiagnosed malignant disease may present at a dental practice. The symptoms described here are:

- Numb chin syndrome (NCS) – NCS may be associated with malignant lesions which include malignant and metastatic tumours of the mandible, intracranial tumours arising in the region of the trigeminal nerve, and malignant tumours of hematopoietic origin
- Trismus and TMJ disorders – although there are multiple possible causes of TMJ disorders, two cases are reported where malignant tumours had invaded the masticatory muscle spaces causing trismus
- Painless swelling in the head and neck region, including macroglossia – any painless swelling should be treated with suspicion and further investigations carried out as appropriate. Cases of myeloma, oesophageal cancer and non-Hodgkin's lymphoma with such presentations are shown.

The authors highlight the importance of careful clinical examination, of correctly positioned panoramic radiographs, and of subsequent thorough interpretation of the images.

<https://doi.org/10.1038/s41415-023-6510-5>

Endodontics – obturation

Brochado Martins J F, Scheeren B, van der Waal S V. The Effect of Unintentional AH-Plus Sealer Extrusion on Resolution of Apical Periodontitis After Root Canal Treatment and Retreatment – A Retrospective Case-control Study. *J Endod* 2023; **49**: 1262–1268.

Does sealer extrusion matter?

In an ideal world, root canal obturation materials remain within the root canal. However, with modern techniques of warm vertical compaction, the unintentional extrusion of sealer through the apical foramen or lateral canals is a frequent occurrence.

In this retrospective case control study, two groups (n = 60) of root filled teeth, all with evidence of apical periodontitis (one group with evidence of sealer extrusion, one group with no evidence of extrusion) and treated with standard protocol in a postgraduate endodontic clinic, were compared. At one-year follow-up, in the extrusion group, 41.7% of cases were healed, 46.7% were healing and 1.7% non-healing. In 10% of cases, outcome was uncertain. In the non-extrusion group, 46.7% were healed, 38.3% were healing and 6.7% non-healing. In 8.3% of cases, outcome was uncertain.

<https://doi.org/10.1038/s41415-023-6512-3>

Endodontics – immature teeth

Burns L E, Genceriler N, Terlizzi K, Solis-Roman C, Sigurdsson A, Gold H T. Apexification Outcomes in the United States: A Retrospective Cohort Study. *J Endod* 2023; **49**: 1269–1275.

Retention of immature permanent teeth keeps future options open.

Treatment options for necrotic immature permanent teeth include apexification – the creation of a calcific barrier at the apex to facilitate obturation – or regenerative endodontic procedures (REP) to increase root length and root wall thickness.

Using insurance claims data from the US states of Massachusetts (2013–2019) and New York (2006–2019), 636 cases of apexification treatments were identified which fitted the coding inclusion criteria. Median patient age was 11 years (range 5–82) and anterior teeth (46%) were the most commonly treated followed by molars (39%) and premolars (15%). Mean duration of treatment where it could be identified was 255 days. Over a mean follow-up period of 64 + 39 months, the overall survival rate was 86%. Failure was more likely in premolar and molar teeth. Failure was significantly less likely if a permanent restoration (composite, core build up, crown or amalgam) was placed after treatment.

<https://doi.org/10.1038/s41415-023-6511-4>

Damaged first permanent molars

Sanghvi R, Cant A, de Almeida Neves A, Hosey M T, Banerjee A, Pennington M. Should compromised first permanent molar teeth in children be routinely removed? A health economics analysis. *Community Dent Oral Epidemiol* 2023; **51**: 755–766.

Extract or not?

Options for the management of compromised (by caries or enamel hypomineralisation) first permanent molar teeth (cFPM) in children are preventive only, restorative (which may include root canal treatment) or timely extraction. In the modelling used in this paper, patients at age eight years either had the cFPM extracted (with the assumption that the space would close) or restored, with a series of restorative scenarios envisaged, leading to possible extraction and replacement or left as a space. Survival data/failure rates for the various treatment options were estimated from published research. Financial costs were obtained from NHS remuneration data, company prices and expert opinion.

Making a number of assumptions (eg no implants or bridges until age 18 years, no endodontic re-treatment) and continuing modelling for a tooth life span of 62 years, this simulation concluded that extraction of 1 or 2 cFPMs under general anaesthetic (GA) was never cost-effective. Extraction of 4 cFPMs under GA or 1 under local anaesthetic was more cost-effective than retention. Retention of 4 molars was cost-effective but involves a value judgement and ongoing cost to the patient/provider.

<https://doi.org/10.1038/s41415-023-6513-2>