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Characterization of the structure of the retromolar canal using MicroCT - a preliminary report.

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The retromolar foramen and its associated canal represent a largely under-reported anatomical variation of clinical significance in dentistry. The contents of this canal consist of nerves and blood vessels, which may be exposed during surgical access. Reported clinical consequences of this variation are usually three - local anaesthetic failure, intra-operative haemorrhage and loss of sensation over areas of distribution if the bundle is cut.

Along with poorly reported prevalence, its internal structure, source of contents and its association with hard and soft tissue structures have been poorly defined. Preliminary results of Microfocus CT scan analysis reveal various branching patterns. The most common pattern shows a single canal communicating between retromolar foramen and the inferior alveolar canal. Owing to the trajectory of the retromolar canal, it seems to contain nerve fibres branching off the inferior alveolar nerve rather than neurovascular structures entering the inferior alveolar canal. As such, the contribution of this anomaly to local anaesthetic failure seems doubtful.

Further study and clinical correlation is required to clearly determine clinical application based on results. This study serves to create awareness of the structure of a relatively unknown anatomical anomaly, to guide future investigation and to introduce a relatively under-utilised imaging modality to the field of dental research.

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No

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