

Summary of: The mesioangular third molar – to extract or not to extract? Analysis of 776 consecutive third molars

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VERIFIABLE CPD PAPER

FULL PAPER DETAILS

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Introduction Distal caries in lower second molars has been associated with mesioangular third molars. Caries detection and restoration can be difficult. If caries progresses, root canal treatment or extraction of the second molar can be necessary. **Aims** To identify the prevalence of caries in lower third molars and the distal aspect of corresponding lower second molars in patients referred for lower third molar assessment. **Methods** Analysis of OPG X-rays for 420 consecutive patients (776 third molars) referred to three maxillofacial centres over a five month period. **Results** Thirty-four percent of third molars were mesioangular. There was radiographic evidence of distal second molar caries in 42% of these. When unerupted mesioangular third molars were excluded this increased to 54%. There was no difference in age or dental health of these patients compared to the whole group. There was no angulation of the mesioangular third molar for which distal caries in the second molar was more likely. **Conclusion** Distal caries in lower second molars related to a mesioangular third molar is a common finding in oral and maxillofacial patients in secondary care, especially if the third molar is fully or partially erupted. If such a third molar is left *in situ*, close monitoring and regular bitewing radiographs are recommended.

EDITOR'S SUMMARY

There is almost a sense of the satirical in the authors' statement, 'it is clear that distal caries in a second molar related to a mesioangular third molar is a problem in Surrey.' With the classic image of that county being leafy suburbs and comfy middle-England life one might be inclined to say that if that is all they have to worry about then they should think themselves lucky.

However, what this paper uncovers, literally and metaphorically, is a rather disturbing record of missed diagnosis and treatment of caries in a relatively young population: median age 28 years. In addition, given that Surrey is precisely one of the areas in which DMFT is low, if one extrapolates this data to the rest of the UK, the unmet need is not insubstantial. A further consideration is that in some cases the second molars under review required root treatment and some had to be extracted.

Since the reason for referral was possible removal of the third molar, the patient, at age 28, is suddenly left with at best two molars, one of which will require restorative maintenance for the rest of their life, or at worst just the first molar which, as we know so well, having erupted at age 6 years is one of the most caries-susceptible teeth and which may well also have a history of restoration.

Concomitantly, the removal of the second and third lower molars begs the question about what to do next for posterior support and prevention of over-eruption of the maxillary molars. If this is all very reminiscent of the poem which begins 'for the want of a nail a shoe was lost' and ends with the downfall of an empire, then the progression might seem very similar, not so much to national statistics but very much to the individual affected. We owe it to our patients to ensure that regular checks

include particular vigilance to the distal surfaces of lower second molars. Perhaps we should start a campaign and dub it Save the Surrey Seven.

The full paper can be accessed from the *BDJ* website (www.bdj.co.uk), under 'Research' in the table of contents for Volume 206 issue 11.

Stephen Hancocks,
Editor-in-Chief

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IN BRIEF

- Describes referral patterns to oral and maxillofacial units for lower third molars.
- Highlights the association between mesioangular lower third molars and distal caries on the adjacent second molar.
- Shows the importance of close monitoring and regular bitewing radiographs when a mesioangular third molar is present.
- Questions whether prophylactic removal of mesioangular third molars may be of benefit to some patients.

COMMENT

Distal caries in mandibular second molars where detection and restoration is difficult has been associated with partially erupted mesioangular wisdom teeth. The aim of this paper was to establish the prevalence of distal caries in the lower second molar in those patients referred for wisdom tooth removal to the Oral & Maxillofacial Surgery service in Surrey.

Radiographic analysis of 420 consecutive patients showed a third of all wisdom teeth were mesioangular with over half of these associated with distal second molar caries. This common finding of distal caries in this pre-selected population would suggest long-term close monitoring and informed consent as to the risks of leaving erupted mesioangular wisdom teeth *in situ*. This should be undertaken if the patient is to avoid the unnecessary loss of a functional second molar tooth.

The NICE guidance on the extraction of wisdom teeth has been with us for nine years, published originally in March 2000. These guidelines cite un-restorable caries, non-treatable pulpal and periapical pathology, severe soft and hard tissue infections, cystic change and neoplasia, fracture or planned surgery for facial deformity or oncological resection as reasons for removal of wisdom teeth. Resorption is the only situation where adjacent teeth are included as a cause for removal.

It is acknowledged in the paper that causality cannot be proven until a DMFT matched cohort of patients without wisdom teeth can be included

in such a study. Whilst it would not be ethical to subject them to radiography, I suspect there is such a group of many millions attending for routine dental check-ups, which may well include an OPG or peri-apical radiographs to include the lower second molar, with no wisdom tooth present.

This paper cites clear evidence for taking into account not only the wisdom tooth in question but the adjacent second molars that have a high probability of pathology in this group. In addition the bigger picture of the patient's medical history, compliance with future monitoring and possible complex restorative work, as well as anaesthetic choice should all be factored into the informed decision making and consent process.

I agree with the authors that disease or potential disease in the adjacent second molar teeth is an oversight of the NICE guidelines. In their defence, they are only guidelines and are not meant to substitute experience and clinical acumen in assessing the need for wisdom tooth removal.

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AUTHOR QUESTIONS AND ANSWERS**1. Why did you undertake this research?**

Anecdotally, we had noticed a fair number of patients both in outpatient clinics and day surgery theatre lists who presented with mesioangular third molars and caries in the distal aspect of the adjacent lower second molar. These cavities often seemed extensive and potentially difficult to restore and not uncommonly, we found ourselves recommending the extraction of the second molar. We felt this was unfortunate for the patients concerned and that earlier removal of the wisdom tooth may have prevented such disease in the second molar. We wished to identify the scale of this problem and decided to look closely at the pattern of referrals of wisdom teeth and identify the prevalence of distal second molar caries.

2. What would you like to do next in this area to follow on from this work?

Our paper suggests that distal second molar caries related to mesioangular lower third molars is common. The lower second molar may need to be extracted if the decay is extensive. If the tooth looks restorable the surgeon will advise the patient to visit their general dental practitioner to have the tooth restored. It would be very interesting to look at the long-term prognosis of the lower second molar. What is the life span of these teeth? How many are extracted at the time of third molar operation? How many require extensive restorations and/or root canal treatment? Is there some remineralisation of the carious lesion when the third molar is removed? We would then have a clearer idea of the cost to the patient's dental health and the health service.