

pregnancies not exposed to teratogens. The rate of major anomalies was not significantly different between the groups and there was no difference in the rate of miscarriages, gestational age at delivery, or birth weight.¹ The results suggest that use of dental LA, as well as dental treatment, during pregnancy does not represent a major teratogenic risk and there seems to be no reason to deny pregnant women these interventions.

Currently, the most widely used local anaesthetic agent in dentistry is lidocaine, which was originally marketed in 1948.² LA cross the placenta in varying degrees. The concentration in the foetal circulation in descending order are by prilocaine, lignocaine and bupivacaine.^{3,4} In addition the dose of adrenaline used in lignocaine is so low that it is unlikely to significantly affect uterine blood flow and the benefits of its incorporation justify its use.^{5,6}

G. Markose, R. M. Graham, Manchester

- Hagai A, Diav-Citrin O, Shechtman S, Ornoy A. Pregnancy outcome after in utero exposure to local anaesthetics as part of dental treatment. A prospective comparative cohort study. *J Am Dent Assoc* 2015; **146**: 572–580.
- Singh P. An emphasis on the wide usage and important role of local anaesthesia in dentistry: a strategic review. *Dent Res J (Isfahan)* 2012; **9**: 127–132.
- Johnson C G. Local anaesthetics and pregnancy. *J Am Dent Assoc* 1985; **110**: 302.
- Watson A K. Local anaesthetics in pregnancy. *Br Dent J* 1989; **166**: 36.
- Lawrenz D R, Whitley B D, Helfrick J F. Considerations in the management of maxillofacial infections in the pregnant patient. *J Oral Maxillofac Surg* 1996; **54**: 474–485.
- Avraamides E J, Craen R A, Gelb AW. Anaesthetic management of a pregnant, post liver transplant patient for dental surgery. *Anaesth Intensiv Care* 1997; **25**: 68–70.

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Safe intrapulpal anaesthesia

Sir, we read with great interest the article (*BDJ* 2015; **219**: 439–445) on symptomatic irreversible pulpitis. The intrapulpal injection technique (IPI) is commonly preferred in situations where patients encounter pain during pulp extirpation, especially in a hot tooth condition. The most significant factor contributing to the success of IPI is that its administration must be done under pressure. Monheim has suggested that prolonged pressure may lead to degeneration of nerve fibres in many instances leading to profound anaesthesia.¹ Various suggested methods that aid in pressure build up in such cases include obliteration of a large pulpal opening with either gutta-percha or a cotton pellet.²

In the *BDJ* article, under the section: Step Three – Intrapulpal Injection (IPI), a variation of the conventional IPI technique is given, ie use of a gutta-percha bung to aid in

pressure build up for profound anaesthesia, which has been developed and used by the restorative team at the Leeds Dental Institute. However, no reference was cited with regards to this. The paper also states that after access and de-roofing of the pulp chamber, IPI is administered followed by effective haemostasis achieved with a cotton wool pledge (CWP) soaked with local anaesthetic or haemostatic agents or sodium hypochlorite (NaOCl). However, Vidhya *et al.* studied the chemical interaction between lignocaine hydrochloride (with and without adrenaline) and NaOCl by using nuclear magnetic resonance (NMR) spectroscopy and reported the formation of a toxic precipitate, 2,6-xylidine, which is a known carcinogen.³ Hence, the immediate use of NaOCl for achieving haemostasis following intrapulpal injection with lignocaine hydrochloride (with or without adrenaline) should be avoided.

As stated by Birchfield and Rosenberg, the anaesthetic effect of the intrapulpal technique is mainly due to the back-pressure of the solution, independent of the type of solution injected.⁴ Hence, 0.9% normal saline can be employed for achieving intrapulpal anaesthesia to avoid potential interactions between lignocaine hydrochloride and NaOCl.

Saravana Karthikeyan Balasubramanian,
Velmurugan Natanasabapathy,
TamilNadu, India

- Monheim L M. *Local anesthesia and pain control in dental practice*, 3rd ed. pp 136, 138. St. Louis: C. V. Mosby Co., 1965.
- Van Gheluwe J, Walton R. Intrapulpal injection: factors related to effectiveness. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 1997; **83**: 38–40.
- Vidhya N, Karthikeyan B S, Velmurugan N, Abarajithan M, Nithyanandan S. Interaction between lidocaine hydrochloride (with and without adrenaline) and various irrigants: A nuclear magnetic resonance analysis. *Dent Res J (Isfahan)* 2014; **11**: 395–399.
- Birchfield J, Rosenberg P A. Role of anaesthetic solution in intrapulpal anaesthesia. *J Endod* 1975; **1**: 26–27.

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Multidisciplinary management Inflammatory bowel disease

Sir, an increased incidence of dental conditions with inflammatory bowel disease (IBD) patients¹ suggests that dentists should play an active role in the multidisciplinary team managing them through recognising the associated oral conditions and screening for malnutrition and medication side effects.

Oral disease appears to be more prevalent in the benign and particularly active IBD population compared to a healthy

population.¹ The association between caries and the IBD population is well documented with children having statistically significantly higher rates of dmft compared to healthy controls.² With periodontal disease, incidence of clinical attachment loss was doubled in an IBD population *versus* control so surveillance could identify these conditions before they precipitate disease.³

IBD presents in the oral cavity as non-specific, recurrent, long lasting aphthous ulcers, which are treated through control of intestinal disease. Dentists should be aware of severe manifestations of IBD including cobblestoning of the lips and abscesses of the buccal mucosa. Routine dental appointments could identify signs of early flare activity that can be treated earlier to improve prognosis. It is theorised that oral inflammation may precede intestinal manifestations of IBD.⁴

Malnutrition, a cause of non-specific oral lesions, is extremely prevalent within the IBD cohort. Community outpatient appointment checks have identified one in four patients as being in a state of malnutrition.⁵ Deficiencies of iron, B₁₂ and folate manifest with characteristic features identified during dental screenings. IBD medications are generally potent immunosuppressant agents; methotrexate can cause ulcerative stomatitis and gingival ulceration, and purine analogues, such as azathioprine or 6-mercaptopurine, can lead to an increased risk of presentations of lymphoma⁶ which can be identified in a simple head and neck examination. Dentists can play a vital role in tailoring appropriate medication by recognising side effects on oral examination improving patient outcomes.

Dentists with IBD patients should liaise with general physicians and hospital gastroenterology services regarding concerns within the oral cavity, while doctors should encourage patients to attend oral check-ups.

T. Thomas, J. S. Chandan, Birmingham

- Laranjeira N, Fonseca J, Meira T, Freitas J, Valido S, Leitao J. Oral mucosa lesions and oral symptoms in inflammatory bowel disease patients. *Arq Gastroenterol* 2015; **52**: 105–110.
- Koutsochristou V, Zellos A, Dimakou K *et al.* Dental caries and periodontal disease in children and adolescents with inflammatory bowel disease. *Inflamm Bowel Dis* 2015; **21**: 1839–1846.
- Grössner-Schreiber B, Fetter T, Hedderich J, Kocher T, Schreiber S, Jepsen S. Prevalence of dental caries and periodontal disease in patients with inflammatory bowel disease: a case-control study. *J Clin Periodontol* 2006; **33**: 478–484.
- Lankarani K B, Sivandzadeh G R, Hassanpour S. Oral manifestation in inflammatory bowel disease: a review. *World J Gastroenterol* 2013; **19**: 8571–8579.
- Muhvc-Urek M, Tomac-Stojmenović M, Mijan-drušić-Sinčić B. Oral pathology in inflammatory bowel

disease 2016 Inflammatory Bowel Disease: Global view. *World J Gastroenterol* 2016; **22**: 5655–5667.

6. Kandiel A, Fraser AG, Korelitz B I, Brensinger C, Lewis J D. Increased risk of lymphoma among inflammatory bowel disease patients treated with azathioprine and 6-mercaptopurine. *Gut* 2005; **54**: 1121–1125.

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OMFS

Fortitude and dedication

Sir, to respond to the concerns in Ms Ahmed's letter regarding a lack of women¹ in OMFS, our department has a female oral and maxillofacial consultant and a female oral surgery associate specialist. As a dental core trainee, I have found it inspiring to work with these women in addition to their male colleagues who have pursued successful careers. As a result of attending conferences and speaking to women in these fields it is clear there is the opportunity to follow these career pathways. Forging any specialist career regardless of gender requires fortitude and dedication and we need to remember this. Indeed many female oral and maxillofacial surgery consultants have successfully pursued this career in addition to having a family.

In medicine, women currently make up 45.4% of the workforce but only represent 33.5% of those on the specialist registers.² However, they make up more than half of the specialists in paediatrics and obstetrics and gynaecology.³ In dentistry women represent 46.8% of dental registrants but only 39.8% of those on specialist lists and only 27.9% of specialists in oral surgery.⁴ The new junior doctor contract has been cited by some trainees as negatively impacting on their decision to pursue a career in oral and maxillofacial surgery,⁵ and it will be of great interest to see if this change has an effect on the uptake of surgical specialties by women.

To improve Ms Ahmed's understanding of the opportunities available, we would encourage her to attend conferences such as the British Association of Oral and Maxillofacial Surgeons and British Association of Oral Surgeons to meet and learn from the diverse mix of consultants and trainees. Furthermore, in addition to WinS (Women in Surgery), the Medical Women's Federation offer advice, support and mentorship to female trainees. Female trainees establishing

such links will facilitate positive female role modelling. It is important that in order to break through the perceived glass ceiling, women must be encouraged and supported not only by their medical colleagues but once appointed as consultants by the organisational hierarchy within which they operate. Society in general must appreciate that the training received and opportunity to progress must be equivalent regardless of gender.

C. Wilson, L. Fryer, by email

1. Ahmed A. OMFS: Gender imbalance? *Br Dent J* 2016; **221**: 372.
2. General Medical Council. List of registered medical practitioners – statistics. Available at: http://www.gmc-uk.org/doctors/register/search_stats.asp (accessed November 2016).
3. General Medical Council. The state of medical education and practice in the UK: 2016. Available at: <http://www.gmc-uk.org/publications/somep2016.asp> (accessed November 2016).
4. General Dental Council. Registrant report October 2015. Available at: <http://www.gdc-uk.org/Newsandpublications/factsandfigures/Documents/Facts%20and%20Figures%20from%20the%20GDC%20register%20October%202015.pdf> (accessed November 2016).
5. Herbert C, Kent S, Magennis P, Cleland J. What causes trainees to leave oral and maxillofacial surgery? A questionnaire survey. *Br J Oral Maxillofac Surg* 2016; doi: 10.1016/j.bjoms.2016.08.023 [epub ahead of print].

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