COMMENT

Letters to the editor

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Patient safety

Needle breakage

Sir, fifty million cartridges of local anaesthetic are delivered annually by dentists and surgeons in the UK.[1] Fortunately, needle breakage is uncommon and is typically a complication of inferior alveolar nerve blocks.[2-4] Only one needle breakage during an infiltration has been found in the literature.[5]

We wish to share a rare encounter during an infiltration using a single use system (Fig. 1). When a 27-gauge needle was used under general anaesthetic, the plastic hub failed to retain the metal needle. Upon withdrawal, the needle separated from the plastic hub and remained in the patient's tissue. Due to careful observation by the surgeon this was spotted immediately and recovered uneventfully with a fine mosquito clip. Within one month, two further identical needle breakages occurred, experienced by a total of three different clinicians. All three needles were retrieved without complication.

We theorised that the disposable plastic syringe used was not compatible with the needle tip as both of these parts are manufactured by different companies. Screwing this particular needle into that particular syringe may have led to over-working of the threads within the plastic hub of the needle resulting in a loosened grip between plastic and metal.

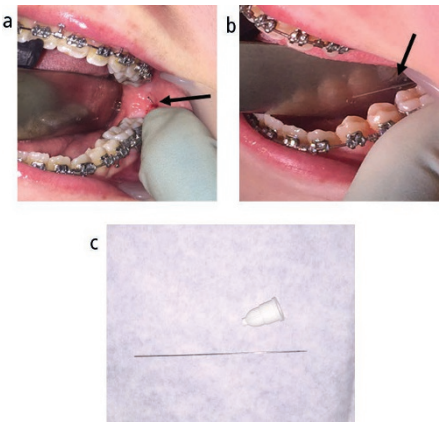

Fig. 1 The retained needle in the patient's mouth and the needle separated from the plastic hub

Given this rare and potentially dangerous occurrence repeating itself within a short space of time where the correct anaesthetic technique had been employed and where patient movement could not be attributed to the breakage, we flagged our concern to the manufacturer. Interestingly, this type of mechanical failure of the needle had never before been reported to the manufacturer. When an investigation was launched, it became apparent that all the broken needles belonged to the same batch, highlighting the importance of recording batch number.

The retained broken needle and a total of 206 unused needles belonging to that batch were retrieved from outpatients, A&E, operating theatres and equipment stores and returned to the manufacturer as per their request. Each was visually inspected and underwent rigorous testing of the glue point. The broken needle and one other unused needle showed a low quantity of glue between the plastic hub and the metal needle. All the tested needles passed a resistance test (dynamometer test) to observe the behaviour of the cannula on the hub. The formal analysis report concluded that the repeated needle breakage was due to an insufficient quantity of glue secondary to deficiencies during glue distribution. The manufacturer's actions included replenishing all the collected needles, re-briefing their staff on the importance of visual controls and implementing a new production process to commence in 2017.

A major learning point from this is for clinicians to always diligently watch the needle during administration as well as on withdrawal until it is safely out of the patient's mouth. Needle fractures in tissues can be devastating and stressful for both clinician and patient therefore to prevent the risk posed to patient safety by faulty equipment we highly recommend liaising with the manufacturer if problems arise. We also advise not discarding any faulty equipment but retaining it for testing.

M. Makwana, S. Walsh, Western Sussex Hospitals NHS Foundation Trust

1. Dental Protection. Help and advice briefing document: Local anaesthetic batch numbers. 9 November 2015. Available online at http://www.dentalprotection.org/uk/publications-resources/updates/briefing-documents/2015/11/09/local-anaesthetic-batch-numbers (accessed January 2017).
2. Bailey E, Rao J, Saksena A. Case report: fractured needle in the pterygomandibular space following administration of an inferior dental nerve block. *Dent Update* 2015; **42:** 270–272.
3. Faura-Solé M, Sánchez-Garcés M A, Berini-Aytes L, Gay-Escoda C. Broken anesthetic injection needles: report of five cases. *Quintessence Int* 1999; **30:** 461–465.
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5. Burke R H. Management of a broken anaesthetic injection needle in the maxilla. *J Am Dent Assoc* 1986; **112:** 209–210.

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Anticoagulants

Updates on idarucizumab

Sir, we are in agreement with Syyed (*BDJ* 2014; **217:** 623–625) and Scully (*BDJ* 2015; **219:** 515) regarding the limitations associated with dabigatran, and appreciate the early discussion surrounding idarucizumab posed by Curto (*BDJ* 2016; **220:** 278). However, since these letters, there have been updates surrounding idarucizumab reversing dabigatran in emergency settings.

Dabigatran is one of three currently approved novel oral anti-coagulants (NOACs). Dabigatran is currently licensed for prevention of venous thromboembolism after hip or knee replacement

surgery, prevention of stroke and systemic embolism in atrial fibrillation and treatment of thrombo-embolic disease. Although dabigatran is associated with less serious bleeding than warfarin,[1] life-threatening bleeding events can still occur. The SDCEP have attempted to create a guideline for dental surgeons to help manage patients on NOACs prior to low or high risk surgery on the basis of low quality evidence. However, these guidelines were largely conservative, encouraging patients to continue taking dabigatran for low risk surgeries and omit a dose for high risk surgeries.

Recent evidence regarding the efficacy of iduracizumab, a reversal agent for dabigatran, has stimulated debate as to its usefulness. A phase 1 trial initially showed the drug was able to reverse the effects of dabigatran with limited side effects.[2] This was followed by the phase 3 RE-VERSE AD trial[3] which demonstrated iduracizumab's ability to normalise clotting time in 88-98% of participants taking dabigatran prior to urgent surgery. Since this trial several case reports[4–6] have matched the same results with safe instant reversal of dabigatran, as the ongoing REVERSE-AD trial[7] continues to show promising, similar results. As the medication is still largely novel, the trials regarding efficacy and long-term risks are ongoing. However, current evidence suggests iduracizumab is a safe and efficacious method of dabigatran reversal with further research required.

J. S. Chandan, T. Thomas, H. S. Baryah, by email

1. Graham D J, Reichman M E, Wernecke M *et al.* Cardiovascular, bleeding, and mortality risks in elderly Medicare patients treated with dabigatran or warfarin for nonvalvular atrial fibrillation. *Circulation* 2015; **131**: 157–164.
2. Glund S, Stangier J, Schmohl M *et al.* Safety, tolerability, and efficacy of idarucizumab for the reversal of the anticoagulant effect of dabigatran in healthy male volunteers: a randomised, placebo-controlled, double-blind phase 1 trial. *Lancet* 2015; **386**: 680–690.
3. Pollack C V, Reilly P A, Eikelboom J *et al.* Idarucizumab for dabigatran reversal. *N Engl J Med* 2015; **373**: 511–520.
4. Schulz J G, Kreps B. Idarucizumab elimination of dabigatran minutes before systemic thrombolysis in acute ischemic stroke. *J Neurol Sci* 2016; **370**: 44.
5. Peetermans M, Pollack C, Reilly P et al. Idarucizumab for dabigatran overdose. *Clin Toxicol* 2016; 54: 644–646.
6. Rosenberg L, Gerstrøm G, Nybo M. Idarucizumab for reversal of dabigatran prior to acute surgery: a schematic approach based on a case report. *Basic Clin Pharmacol Toxicol* 2016; doi:10.1111/BCPT.12696.
7. Pollack C V, Reilly P, Eikelboom J et al. Idarucizumab for reversal of the anticoagulant effects of dabigatran in patients in an emergency setting of major bleeding, urgent surgery, or interventions. *J Am Coll Cardiol* 2016; **67**: 664.

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Antimicrobial resistance

The antibiotic cure-all myth

Sir, your timely editorial in the *BDJ* on 18 November[1] highlights a clinical management process that was always thus. More than 20 years ago, after a very busy day supervising students in the Primary Care Unit (Dental Casualty Department) at Guy's Hospital, I asked what was the most commonly prescribed analgesic given for toothache in the patients who had already seen a GMP or GDP. It was quite clear to everyone that the answer was 250 mg of amoxicillin tds for five days.

Toothache can be a pervading and very dominating pain, and the demands by patients who say they have already used OTC analgesics and have 'still been up all night' puts huge pressure on the practitioner to move the problem on from a busy schedule. Even in the correct climate of a teaching department, it was often not possible to offer these patients exodontia in less than several days, and much longer for endodontic treatment. Because many patients report that they feel more comfortable after a course of antibiotics given for toothache, there has developed an understandable association which fosters the antibiotic cure-all myth. While the understandable should not substitute for professional judgement, a clinician short of time and an agitated patient distracted by pain do not make for a very easy solution.

R. Wilson, Norwich

1. Hancocks S. Antibiotics don't cure toothache... *Br Dent J* 2016; **221:** 595.

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The toolkit blah

Sir, I just wanted to offer my congratulations on the antimicrobial stewardship (AMS) toolkit provided, which is excellent except for one main issue that I think needs discussing: UDAs and opening up a tooth! Let's face it most GDPs are NHS and have to work according to the UDA system. So let's think about an average day of nearly 40 patients and an extra with raging toothache on a lower molar. Are you seriously expecting GDPs to dress the tooth which may take approximately 20 minutes for a measly 1.2 urgent band UDAs, run behind schedule and get a mouthful from their patients who were kept waiting?

If they then go on to provide endodontics they can only claim two more UDAs, so it's a complete loss making activity. When will you lot at the BDA get real and actually start telling the truth that the system prevents dressing a tooth and creates antibiotic prescribing? I laughed so much when I read your editorial in the *BDJ* regarding a pat on the back for dentistry, which I think is complete rubbish.[1] Why don't you fight for the GDP? Don't try and make it harder and more of a business loss. Stick up for them and fight for them. The remuneration for opening up a tooth is daylight robbery and disgraceful. You didn't mention the inadequate UDA system at all and I'm surprised that you didn't.

You'll now say you were just highlighting the toolkit blah blah blah and it's not in your remit to talk funding but until you guys start getting nitty gritty none of you will ever have any guts in my opinion.

M. Wint, by email

1. Hancocks S. Antibiotics don't cure toothache... *Br Dent J* 2016; **221:** 595.

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Literature reviews

Patient-centred care

Sir, I read with interest the article by Scambler *et al.* regarding patient-centred care in dentistry.[1] There seems to be considerable delay of this article being prepared and accepted for publication in August 2016, as the literature review was searched up to May 2012. The conclusion drawn from this systematic review may no longer be valid.

The General Dental Council launched *Standards for the dental team* on 30 September 2013. It replaces *Standards for dental professionals* and its supplementary guidance booklets (eg *Principles of patient consent*) published in 2005. To support the implementation of the new *Standards for the dental team*, the General Dental Council has also developed an interactive site with case studies, scenarios and frequently asked questions.[2] The authors have made no attempt to mention this important update in the Introduction section of their paper.[1] As this article[1] is not the first systematic review on patient-centred care in dentistry, you will usually expect the authors of this article to provide an updated search of the literature and comment on any previous systematic review on this topic. I am surprised that the authors had made no attempt to mention a previous systematic review by Mills *et al.* in 2014.[3] There are also a number of errors associated with this article.[1] The old name

of NICE was used in reference 4. In 2005, the name of NICE was changed from the National Institute for Clinical Excellence to the National Institute for Health and Clinical Excellence. Following the Health and Social Act 2012, NICE was renamed the National Institute for Health and Care Excellence in 2013. In addition, superscripts have not been used in Tables 1 and 2 to link the included articles to the reference list at the end of the article.[1] This causes some difficulties in locating the included articles.

Readers will be interested to read the latest guidance on when and how to update systematic reviews.[5] A checklist can be found in Appendix 3 of the supplementary material on the web.[6]

C. A. Yeung, Lanarkshire

1. Scambler S, Delgado M, Asimakopoulou K. Defining patient-centred care in dentistry? A systematic review of the dental literature. *Br Dent J* 2016; **221:** 477–484.
2. General Dental Council. Standards. Online information available at http://www.gdc-uk.org/Dentalprofessionals/Standards (accessed 10 November 2016).
3. Mills I, Frost J, Cooper C, Moles D R, Kay E. Patient-centred care in general dental practice – a systematic review of the literature. *BMC Oral Health* 2014; **14:** 64.
4. National Institute for Health and Care Excellence (NICE). NICE: Who we are. Online information available at https://www.nice.org.uk/about/who-we-are (accessed 10 November 2016).
5. Garner P, Hopewell S, Chandler J *et al.* When and how to update systematic reviews: consensus and checklist. *BMJ* 2016; **354:** i3507.
6. Garner P, Hopewell S, Chandler J *et al.* Appendix 3. PUGS Checklist for updating a systematic review: deciding when and how. Online information available at http://www.bmj.com/content/bmj/suppl/2016/07/20/bmj.i3507.DC1/garp030756.ww_default.pdf (accessed 10 November 2016).

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Prevention

Fluoride varnish flavours

Sir, we have recently become aware that there is only one fluoride varnish licensed for caries control in children, Duraphat varnish. However, there are other products available which have different flavours with the identical concentration of fluoride, which are better tolerated by some children who don't like the flavour of Duraphat, eg Profluorid with its caramel, melon mint and cherry varieties.

Profluorid, which is a medical device not a medicine, is indicated for treatment of hypersensitive teeth and treatment of cervical areas after professional cleaning and calculus removal but not for caries prevention.

Is it acceptable to be using it instead of Duraphat to help prevent caries in children, in line with *Delivering better oral health: an evidence-based toolkit for prevention* (2014)?

Our literature search so far has not given us an answer.

M. Sherborne, S. Oliver, Surrey Community Dental Services

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Restorative dentistry

Incredulous restorations

Sir, the article by R. D. Jackson on Class II composite restorations[1] describes the provision of a beautifully finished composite filling. Over the years I have seen many articles, lavishly photographed, showing such restorations.

Usually they describe the amalgam fillings they are replacing as 'failing' and 'having recurrent caries'. To me, they often look like long-standing amalgams which have provided years of excellent service and have the potential of doing so for years to come.

Is there any chance we could be told why they are failing or see a pre-operative radiograph to show the caries, otherwise my incredulous nature makes me think that the either operator has a far more critical eye than I or, perhaps, they have been replaced for aesthetic reasons alone.

Though there is nothing wrong in that, I feel that I would rather be told.

D. King, Bollington

1. Jackson R D. Class II composite resin restorations: faster, easier, predictable. *Br Dent J* 2016; **221:** 623–631.

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Endodontics

No rubber dam, no root canal

Sir, the evidence in favour of the use of rubber dam in contemporary endodontics is strong. It's recommended in textbooks and articles,[1,2] by the European Society of Endodontology[3] and the American Association of Endodontists.[4]

However, it seems that it is still not being universally applied in general practice. The most recent study examining the use of rubber dam and reported in the *British Medical Journal*[5] showed that less than half of the sample of 1,490 American dentists were routinely using a rubber dam every time.

Now, a widely reported[6] accident in the UK, in which a file fell into a patient's airway and pierced the patient's stomach, highlights well the important role of the rubber dam in protecting the airway. Publicity of this kind is not what the profession needs.

Some years ago the Chief Dental Officer mandated single patient use of endodontic instruments to support cross infection control. Perhaps the procedural use of rubber dam should now be mandated to prevent further calamitous consequences?

In an era when forums provide resources and the opportunity for the sharing of information, it should not be argued that rubber dams are not tolerated. Well-informed patients can see the logic of isolating a tooth for both clinical and safety reasons.[7]

There is no better way of demonstrating that we put patients' interests first than by only operating according to best practice. The message should be no rubber dam, no root canal treatment.

J. Webber, by email

1. Carrotte P. Endodontics: Part 6 Rubber dam and access cavities. *Br Dent J* 2004; **197:** 527–534.
2. Webber J. Risk management in clinical practice. Part 4. Endodontics. *Br Dent J* 2010; **209:** 161–170.
3. European Society of Endodontology. Quality guidelines for endodontic treatment: consensus report of the European Society of Endodontology. *Int Endod J* 2006; **39:** 921–930.
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6. Frodsham I. Scared of the dentists? Turn the page now! Patient, 29, traumatised after dentist drops inch-long spike down her throat during root canal surgery. *Daily Mail* 19 November 2016. Available at: http://www.dailymail.co.uk/news/article-3949174/Woman-suffers-punctured-stomach-dentist-drops-inch-long-dental-file-throat-underwent-root-canal-surgery.html?ITO=1490 (accessed January 2017).
7. Dental Fear Central. What is a rubber dam and why would your dentist want to use one? Available at: http://www.dentalfearcentral.org/faq/rubber-dam/ (accessed January 2017).

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