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Diplopia following ID block

Sir, Scott *et al.* (*BDJ* 2007; 202: 32-33) describe an interesting case of double vision and local cutaneous vasoconstriction in the upper lip, just lateral to the philtrum, following inferior dental and long buccal nerve blocks. As the authors suggest, some of the more obvious anatomical explanations seem unlikely. They report deep anaesthesia with the patient feeling 'odd' after administration of local anaesthetic, which suggests there was direct leakage of anaesthetic into the vascular system, despite aspiration to try and avoid this. A more likely explanation for the diplopia is that anaesthetic entered veins communicating with the pterygoid venous plexus surrounding the pterygoid muscles. This plexus anastomoses freely both with emissary veins that pass through the foramina spinosum and ovale (occasionally also through a foramen of their own, the foramen of Vesalius). All of this valveless system of veins communicates with the cavernous venous sinus intracranially, and through this, with veins of the orbital cavities, forehead and face.

The tough lateral wall of the cavernous sinus, to which the dura mater of the middle cranial fossa is tightly bound, contains within it cranial nerves III, IV, VI and VII. However, the VIth nerve runs free within the venous blood of the cavernous sinus on the lateral aspect of the internal carotid artery, which itself also courses through the venous blood accompanied by a plexus of sympathetic nerves destined for the face and forehead – and which are vaso-motor and secretomotor to sweat glands in the skin. Local anaesthetic reaching the cavernous sinus is, therefore, immediately in contact with the VIth nerve, which is likely to be affected by it, resulting in either partial or sometimes complete inability to abduct the eye until it clears.

The blanching of the upper lip is harder to explain but the deep facial vein runs in the cheek with the long buccal nerve and artery. The rich

anastomosis of arteries around the upper lip would suggest it is unlikely that any one of them would have a discrete cutaneous distribution. Nonetheless, in this patient it remains a possibility that the buccal artery may indeed extend anteriorly through the cheek and into the skin of the upper lip. Anaesthetic and vasoconstrictor in the buccal artery would lead to immediate vasoconstriction. Anaesthetic in the deep facial vein here could again also easily pass back to reach the cavernous sinus. Whether this poor patient experienced two rare bouts of bad luck, that each resulted in a separate sign, or just one associated with the long buccal nerve block, is debatable, but these rare and alarming occurrences remind us of why we all spent so long learning head and neck anatomy. (The best account of these kind of anatomical details is undoubtedly Hollinshead W H. *Anatomy for surgeons, volume 1, head and neck*. Philadelphia: Harper Row, 1982.)

C. Dean

London

doi: 10.1038/bdj.2007.183

Mile high CPD

Sir, living in East Anglia I rarely get to treat airline crew, but for practitioners in the vicinity of London airports, they may have noticed an increased interest in dental matters among this group, and I could be to blame. I love my work but when on holiday or away for a weekend, I try and forget dentistry with one exception: air travel. This is a great opportunity to catch up on CPD, especially the non verifiable variety. For example on a recent long haul flight, I read three *BDJs* and two other dental publications and, as always, left them behind for the crew, which I guess must be a welcome change for them from *Hello* and *OK*. However, I have a dilemma as to what to do when I fill out my record sheet – Activity: read *BDJ* – no problem! However, venue: somewhere over Greenland?

P. Williams

Lowestoft

doi: 10.1038/bdj.2007.184

A new script

Sir, I write after reading the Editorial by Professor Kay, the new Dean of the Peninsula Dental School (*BDJ* 2006; 202: 1).

Strangely I read it after listening to a presentation by the Chief Dental Officer in Birmingham when virtually identical phrases were used. Now I understand I am becoming more cynical with every move of the Department of Health, but I wonder who is writing this new script.

Birmingham has suffered badly with promises of a new dental school as the current building continues to deteriorate rapidly, only for the financial difficulties of PCTs and the political wind to move the agenda.

Birmingham has no access problem and the areas of the new schools do; if students could help to reduce that, what a great knock on benefit for the DoH.

One must therefore wonder if this new way of teaching in outreach primary care settings, instead of building a traditional dental school, would ever have happened without scenes of queues outside dental practices, which made front page news headlines.

There must also be a re-evaluation of where such graduates will get work after VT. Many practices used contract value for the Principal to convert and keep the VT using the freed contract value. That cannot happen again this year.

Already I am hearing many stories of practices consolidating contract values and shedding some of the workforce. One must congratulate the Government in changing the position of job shortages to one of over-supply in a very short space of time.

Sadly patient care does not benefit from these changes.

E. Crouch

Birmingham

doi: 10.1038/bdj.2007.185

South African registration

Sir, it would be appreciated if you could assist the South African Dental Association by publishing this letter for the information of dental practitioners working overseas.

The Health Professions Council of South Africa (HPCSA), the statutory body, recently published a press release announcing amnesty on restoration fees. What this means is that the HPCSA has agreed to a once-off waiver of penalties for those practitioners both local and abroad, who did not pay their annual registration fees timeously or who allowed their registration to lapse without informing the Council.

The amnesty period started on 1 February 2007 and will expire on 30 April 2007. It applies to those practitioners – in South Africa or overseas – whose registrations have lapsed and who have not practised for up to two years, as well as those practitioners who have been resident and practising in other countries.

This blanket waiver is aimed at encouraging health professionals, particularly those working abroad who have expressed a desire to return to South Africa but who have found the restoration penalties too high, to be restored to the register.

The only proviso is that practitioners who take advantage of this amnesty period will be required to render professional services to any public sector institution of their choice. They will be expected to work 100 hours in service to public health within six months of their restoration. This may include working in the public service or with health non-governmental organisations. They will be required to submit evidence of their public health service within six months, failing which they will need to pay full restoration fees applicable at that time.

N. Campbell

CEO

South African Dental Association

doi: 10.1038/bdj.2007.186

AVT alternative

Sir, I read with interest the item *Evaluation of vocational training of dentists in three different regions* (BDJ 2006; 201: 774-778). As a final year dental student, I found this research article useful. It provided me an overview of what VT year would be like (the good and the bad).

I applaud the writers for bringing up the problem on the appointment process for vocational training. Although the list for the South Wales deanery will only be posted on 12 March 2007, students have been making practice visits and sending CVs way before this date. It is with the hope that they will obtain a suitable practice in terms of location and environment. This involves a lot of effort (transport, writing and sending

letters) and time (missing clinical sessions/time off). Come 12 March 2007, more time will have to be taken off for interviews. On top of this, final year projects will have to be handed in and revision started for finals.

A different system should be used whereby students could be matched to prospective vocational trainers based on certain criteria such as location, areas of dental interests, equipment provided and type of training. This would help reduce the amount of time spent on the whole appointment process. Although this system has its own flaws, it would be a better alternative to the current system.

A. Chai

Cardiff

doi: 10.1038/bdj.2007.187

Access to CPD

Sir, I really do thank you for providing regular verifiable CPD articles in your journal. As a working Mum with young children it was very easy to grab my copy of the *BDJ* and do my CPD either in my lunch break at work or whilst sitting in the car waiting for the daily after school activities to end.

However, in the last two copies of the *BDJ*, one article has not been readily available and has needed downloading in order to answer the questions. This therefore makes things less flexible and not so easily manageable.

Please do not make this a regular format and please print BOTH CPD articles fully in the *BDJ*.

T. Black

By email

The Editor-in-Chief responds: we have received several responses from amongst our 10,000 plus registered CPD users making a similar point to Dr Black. I am sorry to learn that some users do not at present find this new system as convenient a way of achieving CPD as when both papers were in the print version. We introduced this change together with other developments, as explained in my Editorial in December (BDJ 2006; 201: 739) in the hope that as a result more readers will go online and explore the advantages of the BDJ site and of electronic publishing in general. There is a lot of additional content and value in the BDJ site and we feel that this may be one method of prompting readers and users to explore it. The internet as a source of reference, information and education for the professional will continue to grow in content and significance whether we like it or not and part of our intention is to encourage connection and

familiarity with this, as our new series in the journal also indicates (see p.255).

As one of the CPD papers is still in the print form, participants who for whatever reason do not want to go online to study the other paper, still have the opportunity to accumulate 24 verifiable hours per year, which is in excess of the current GDC requirement of an average of 15 hours. Alternatively, of course, it is possible to print a copy of the online-only CPD paper and read it in the conventional way. In addition, from June 2007, we will be introducing CPD in BDA News, which will be in the print version, so that BDA members will have a further way of accumulating CPD hours in the conventional way.

I am grateful for feedback as we are carefully monitoring the effect of this development, and the other changes that we have made from the beginning of this year. None of them are set in stone and we may need to make adjustments as time progresses.

doi: 10.1038/bdj.2007.188

Spatial matrix hypothesis

Sir, I read with some interest the recent articles on the aetiology and management of TMD (BDJ 2007; 202: E2 and E3). As mentioned previously,¹ I understand that malocclusions and TMD are most commonly encountered in modern societies, most likely in association with changes in environmental conditions, such as feeding behaviour *inter alia*. The foundations for malocclusions and TMD might begin at birth, as modern mothers are less likely to breastfeed a child. Similarly, other environmental/behavioural changes, such as pacifier-use or bottle-feeding during infancy, might predispose to, or be associated with, malocclusions and TMD in later life.

In terms of cause and effect, there is little doubt that genetic susceptibility is involved in a child's development of a malocclusion and perhaps TMD. Moreover, a cranio-caudal gradient of ontogeny means that an altered maxilla will have concomitant effects on the developing mandible, and these midfacial disparities may have primacy over dento-occlusal parameters that dental professionals tend to focus on. In order to explain these associated phenomena I developed the spatial matrix hypothesis.² The crowns of teeth are unique in the human body because once fully developed there is no innate developmental mechanism by which they can change their size or shape. They can, however, change their spatial position/orientation secondary to other tissues that are capable of: remodelling, such

as bone; hypertrophy/atrophy, such as muscle; or regeneration, such as epithelia. Using this idea as a premise, it is likely that an underdeveloped midface presenting with palatal insufficiency (due to gene-environmental interactions) could be associated with malocclusions, TMD and may simultaneously predispose to upper airway obstruction. I am currently investigating 3D airway changes to establish this association, and the preliminary findings suggest that a relationship may exist between TMD and upper airway morphology.³ Dr Luther's contentions on sleep (nocturnal) bruxism interface with my own hypothesis at this juncture; a lack of functional space (to breathe at night) might set off a chronic anxiety response that manifests with the TMD-patient grinding the teeth in an ineffectual, subconscious attempt to alleviate the airway. Indeed, I surmise that the existence of wear facets on deciduous or permanent teeth is indicative of latent airway issues, although currently there is a dearth of evidence for this notion. However, according to the spatial matrix hypothesis, in the presence of developmental compensation, retraction/extraction procedures during orthodontic treatment or inappropriate 'prophylactic' occlusal equilibration protocols may exacerbate a precarious state of developmental stability.⁴ Perversely, in order to re-establish or attain craniofacial homeostasis, special attention must first be given to non-mandibular constraints prior to addressing the signs and symptoms of TMD.

G. D. Singh
Portland, USA

1. Singh G D. 3D airway changes. *Br Dent J* 2006; 200: 421.
2. Singh G D. On growth and treatment: the Spatial Matrix hypothesis. In McNamara J A Jr (Ed). *Growth and treatment. Craniofacial Growth Series. Monograph 41* pp 197-239. Ann Arbor, USA: University of Michigan, 2004.
3. Singh G D, Olmos S. Use of a sibilant phoneme registration protocol to prevent upper airway collapse in patients with TMD. *Sleep and Breathing* 2007 (in press).
4. Kent A. Catastrophic occlusion. *Br Dent J* 2006; 201: 418.

doi: 10.1038/bdj.2007.189

What's your number?

Sir, recently I had a query regarding the strength of a fluoride supplement on an NHS dental FP10. The telephone number of the dentist was not printed on the form. The dentist was in a neighbouring PCT area. I searched in the yellow pages, an out of date PCT list of dentists and finally had to call a directory enquiry firm to obtain the telephone number. This took me time and energy

as well as the cost of the directory enquiry. The matter was eventually resolved to everyone's satisfaction.

I therefore carried out an audit of my NHS dental forms. I report the findings (Table 1) of my audit about the missing telephone numbers at the bottom of the dental NHS prescriptions – FPIOD forms. The sample size for January 2007 was 37.

Table 1 Results

| | Number | % |
|--|--------|-----|
| No. of prescriptions in audit | 37 | 100 |
| No. of prescriptions with prescriber telephone number absent from form | 37 | 100 |
| No. of prescriptions with prescriber telephone number included on form | 0 | 0 |

Virtually all general medical practitioner prescriptions bear a telephone number at the bottom of the NHS form. I wish for our dental colleagues to do the same and include their practice telephone number on their prescription forms. I appreciate it may be the job of the NHS printers.

T. Mahmood
Pharmacist
Romford
doi: 10.1038/bdj.2007.190

Saliva sewer

Sir, I work in an emergency dental department at a local dental hospital and I am continually appalled at patients arriving at the department with a tooth which has been put on 'open drainage'.

The canal system has been open to the oral cavity and has been, as an endodontist friend used to say to me, open to 'raw sewage', ie saliva.

If these teeth were heavily infected and the tooth was going to be extracted the following day, 'open drainage' is reasonable treatment, but in these cases the patient has been assured that these teeth could be 'root treated'.

Recently a patient arrived with a tooth that had been put on 'open drainage' some days before and had to be admitted with an acute spreading infection associated with this tooth.

I do wonder if a bug from his saliva had exacerbated his dental infection.

In these days of CPD and excellence in dental undergraduate teaching could someone tell me what is going on?

W. E. Skipworth
Sheffield
doi: 10.1038/bdj.2007.191