



UNIVERSITY OF LEEDS

This is a repository copy of *Pre-surgical sickle cell disease screening and The National Institute for Health and Care Excellence guidance (NICE)*.

White Rose Research Online URL for this paper:
<http://eprints.whiterose.ac.uk/118999/>

Version: Accepted Version

Article:

O'Connor, A, Power, A, Kanatas, A orcid.org/0000-0003-2025-748X et al. (1 more author) (2017) Pre-surgical sickle cell disease screening and The National Institute for Health and Care Excellence guidance (NICE). *British Journal of Oral and Maxillofacial Surgery*, 55 (9). pp. 984-985. ISSN 0266-4356

<https://doi.org/10.1016/j.bjoms.2017.07.021>

(c) 2017, The British Association of Oral and Maxillofacial Surgeons. Published by Elsevier Ltd. This manuscript version is made available under the CC BY-NC-ND 4.0 license
<https://creativecommons.org/licenses/by-nc-nd/4.0/>

Reuse

Items deposited in White Rose Research Online are protected by copyright, with all rights reserved unless indicated otherwise. They may be downloaded and/or printed for private study, or other acts as permitted by national copyright laws. The publisher or other rights holders may allow further reproduction and re-use of the full text version. This is indicated by the licence information on the White Rose Research Online record for the item.

Takedown

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.



eprints@whiterose.ac.uk
<https://eprints.whiterose.ac.uk/>

Pre-surgical Sickle Cell disease screening and The National Institute for Health and Care Excellence guidance (NICE)

¹A O'Connor, ²A Power, ³A Kanatas and ⁴J Russell

¹Ms Amy O'Connor, Medical student, University of Leeds
Dn13afoc@leeds.ac.uk

²Mr Andrew Power, MRCS, Specialty Registrar, Leeds Teaching Hospitals and St James Institute of Oncology, Leeds Dental Institute and Leeds General Infirmary, LS1 3EX.
andrew.power1@nhs.net

³Mr Anastasios Kanatas, MFDSRCS, FRCS (OMFS), MD, PGC. Consultant Surgeon / Honorary Associate Professor, Leeds Teaching Hospitals and St James Institute of Oncology and Leeds Dental Institute.
a.kanatas@doctors.org.uk

⁴J Russell, FRCS. Consultant Surgeon, Leeds Dental Institute and Leeds General Infirmary, LS13EX.
john.russell5@nhs.net

Address for correspondence: Anastasios Kanatas, BSc (Hons), BDS, MBChB (Hons), MFDSRCS, MRCSRCS, FRCS (OMFS), MD, PGC. Consultant Surgeon / Honorary Associate Professor, Leeds Teaching Hospitals and St James Institute of Oncology, Leeds Dental Institute and Leeds General Infirmary, LS1 3EX.

Tel: 00447956603118 e-mail: a.kanatas@doctors.org.uk

Pre-surgical Sickle Cell disease screening and The National Institute for Health and Care Excellence guidance (NICE)

We are writing in regard to the change in NICE guideline 1.4 published in April 2016 which states that; patients over the age of 16 should not be routinely offered testing for sickle cell disease or sickle cell trait before surgery. Rather, it advises that patients should be asked if they or any member of the family have the disease.¹ The guidance goes on to discuss the fact that the number of operations completed by the National Health Service (NHS) in the year 2012-2013 increased by 60% to 10.6 million, compared to those in 2002 – 2003, and therefore ‘even a small percentage of unnecessary preoperative testing can affect a large number of people’.

According to the summary of these guidelines,² they are based on General Dental Council (GDG) consensus and the rationale that; by adulthood sickle cell disease will be clinically evident and whilst a test may discover an unknown trait, this would not alter the patient’s management.

We would like to share our recent experience concerning a patient with a known sickle cell trait undergoing orthognathic treatment at our unit.³ The operation planned was a Le Fort I and posterior segment osteotomy. After an uneventful procedure and recovery period, the patient returned for review at 2 weeks with obviously devascularised tissue bilaterally. Despite antibiotics, hyperbaric oxygen treatment and therapeutic doses of Pentoxifylline and Vitamin E, these areas began to demarcate and teeth were lost bilaterally, whilst an oro-antral fistula developed in the upper right quadrant.

Avascular necrosis of the maxilla after Le Fort I osteotomy is a rare complication that has been reported to occur in <1% of cases. Blood flow to the maxilla is reduced by 50% in the first post-operative day after sacrifice of the descending palatine arteries. However, there is excellent collateral blood supply particularly if only one artery is sacrificed, as in this case. Experimental studies have shown that loss of the descending palatine arteries results in a transient ischaemic period that is compensated for by a vascular proliferation that allows tissue healing.⁴

As with many procedures, theoretically a period of hypoxia to the tissues would be expected both during and after the procedure. This could in combination with other factors such as hypotensive anaesthesia, hypothermia, acidosis and hypovolaemia could lead to the conditions required to cause an ischaemic complication such as this.

We feel it is important that pre-operative surgical testing is considered on a case by case basis, looking at both patient and operative factors. This may allow fully informed consent and to possibly help both identify, or prevent post-operative ischaemic complications.

References

1. Routine preoperative tests for elective surgery, Guidance and guidelines, NICE. 2017. Routine preoperative tests for elective surgery, Guidance and guidelines, NICE. [ONLINE]. <https://www.nice.org.uk/guidance/ng45/chapter/Context>. [Accessed 14 June 2017].
2. O’Neill F, Carter E, Pink N, Smith I. Routine preoperative tests for elective surgery: summary of updated NICE guidance. BMJ 2016; 354 :i3292.

3. Teemul TA, Perfettini J, Morris DO, Russell JL. Post-operative avascular necrosis of the maxilla: a rare complication following orthognathic surgery. *J Surg Case Rep*. 2017 24;2017(1)
4. Vichinsky EP, Haberkern CM, Neumayr L, Earles AN, Black D, Koshy M, et al. A comparison of conservative and aggressive transfusion regimens in the perioperative management of Sickle Cell Disease. *N Engl J Med* 1995;333:206–14