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Preoperative screening for sickle cell disease and guidance from the National Institute for Health and Care Excellence (NICE).

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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 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 GDG consensus and the rational 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 Pentoxyfylline 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.

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