

Assessment Of Digital Perfusion Following Hand Surgery

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Abstract

Digital perfusion should be monitored after all upper limb surgery. The authors report an unusual case of digital tattooing and discuss options for monitoring perfusion when capillary refill cannot be accurately assessed. The management of other commonly encountered problems and their solutions are also discussed.

CASE REPORT

A 75 year old Indian woman with rheumatoid arthritis attended for elective wrist fusion and Darrach's procedure. All digits demonstrated fixed dark brown pigmentation to mid middle phalanx level (Figures 1 and 2). The pigmentation is caused by topical application of henna dye and is a common means of cosmetic decoration of the fingers in Indian women. Comparisons may be drawn to the use of coloured nail polish by Western women. The appearance of the digits caused concern as to how digital perfusion could be monitored in the immediate post-operative period because capillary perfusion could not be accurately assessed. Saturation monitoring probes were found to give consistent readings for hands and feet bilaterally. This method was therefore utilised in the post-operative period.

Figure 1

Figure 1



Figure 2

Figure 2



DISCUSSION

Monitoring of digital perfusion is important following any limb surgery. Previous reports have documented the problems in the presence of nail polish and this should routinely be removed prior to any limb surgery.¹ False nails which are very difficult to remove also give inaccurate readings with saturation probes. An alternative method for monitoring digital perfusion is local skin temperature and special probes are available for continuous recording of the re-implanted digit although they will not be available in all centres. Following Dupuytren's contracture release the digit may be slow to pink up due to vascular spasm and skin pulp turgor is a reliable way of monitoring reperfusion.

In this case saturation monitoring proved adequate despite the inability to record capillary perfusion and the authors would recommend this method to others faced with similar

digital tattooing.

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