Audit

Wound infections in day-case hand surgery: a prospective study

Kambiz Hashemi, Christopher J Blakeley

The Hand Clinic, Mayday University Hospital, Croydon, UK

Background: There is little published information about postoperative infection rates in day-case hand surgery and the possible factors promoting infection.

Results: We report on infection rates observed in day-case hand surgery of 1035 cases over a 2-year period performed by two consultant surgeons. Infection rates of just over 1% were observed.

Conclusion: We believe that this low infection rate reflects seniority of surgeon, operative technique and short duration of operation.

Key words: Day case – Hand surgery – Infection

The prevention of wound infection is central to the successful outcome of any operative procedure. This is especially so for 'day-case surgery' which now accounts for 30–50% of all in-hospital surgical procedures. As in any surgical procedure, complications following day-case surgery, including wound infection, can result in unexpected hospital admissions, prolonged follow-up and rehabilitation and delay in the patient's return to work. A review of the current literature reveals that little has been published about postoperative infection rates in day-case hand surgery and the possible factors promoting infection.

Patients and Methods

Patients

A prospective study of 1035 consecutive patients attending the Mayday University Hospital Hand Clinic for day-case surgery over the 2-year period from April 1999 to March 2001 was carried out. Seven patients were excluded as they were already taking antibiotics at the

Table 1 Surgical procedures performed

Carpal tunnel decompression	458
Release of trigger finger/thumb	206
Excision of Dupuytren's contracture	147
Excision of ganglion	130
Release for De Quervain's tenosynovitis	39
Release lateral/medial epicondylitis	21
Ulnar nerve decompression	18
Trapezioplasty	9
Others	7

time of operation for an unrelated condition. The surgical procedures carried out are presented in Table 1.

Operative technique and follow-up

All operations were performed in one of three dedicated operating theatres in the day-care surgical unit of the hospital by one of the two authors. Patients were allowed to wear a gown in theatre; the surgeons wore standard theatre greens and sterile gloves. The surgeons did not wear face masks during any of the procedures but sterile surgical gowns were worn in 9 cases of trapezioplasty.

Correspondence to: Mr Kambiz Hashemi, Consultant Hand Surgeon, The Hand Clinic, Mayday University Hospital, London Road, Croydon CR7 7YE, UK. E-mail: kambiz.hashemi@mayday.nhs.uk

The operative area was prepared with red chlorhexidine gluconate 0.5% in alcohol and standard sterile cloth drapes were applied. All except 53 operations were performed under local anaesthetic using 1% plain lignocaine or intravenous regional anaesthesia using 20–30 ml of 0.5% prilocaine. Fifty-three procedures were carried out under general anaesthesia.

Postoperatively, the hand was bandaged with wool and crepe and a high arm sling applied. Patients were reviewed on the 5th day for wound inspection and on the 12th day for removal of sutures. Patients were given a final review after about 6 weeks.

All patients were provided with an information sheet of postoperative instructions.

Definition of infection

A wound was deemed to be infected if it fulfilled at least two of the following criteria: (i) cellulitis around the incision; (ii) pus discharging from the wound; and (iii) positive bacteriology from wound swabs. All infections were treated initially with a 5-day course of co-amoxiclav 375 mg TDS.

Results

As expected, the majority of patients were females, with a female to male ratio of 1.7:1. The age range of the patients was 12–97 years of whom 93.5% were between 20 and 80 years of age. Forty-five patients were insulin-dependent diabetics.

A total of 42 patients were excluded from the study as they were lost to follow-up due to non-attendance at their final review. Using the above definition, a total of 11 patients (1.1%) developed postoperative wound infection. In four cases, this was apparent at the first postoperative

follow-up visit and the remaining seven cases were confirmed at the second follow-up visit. The cases included 2 following carpal tunnel decompression, 5 after operative release of trigger finger and 4 following excision of Dupuytren's contracture. Eight out of the eleven patients were insulin-dependent diabetics.

Discussion

Previous studies on wound infection in hospitalised patients have shown rates of 5–17%.¹ The benefits of 'day-case surgery' include a greatly reduced rate of infection, reported as low as 2% in elective orthopaedics and hand surgery² although another study reported a much higher 10% infection rate.³

The present study has shown that very low rates of postoperative infection can be expected in elective hand surgery, and that this is probably due to seniority of surgeon, operative technique, short duration of operation,^{4,5} and close postoperative follow-up. Wearing of sterile gowns, face-masks, and laminar airflow seem to have little effect in day-case hand surgery. Such low infection rates do not necessitate the routine use of prophylactic antibiotics.³

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