Open carpal tunnel decompression by specialist versus nurse practitioner

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ABSTRACT

Purpose. To compare the outcome after open carpal tunnel decompression by specialists versus a nurse practitioner.

Methods. Of 1361 cases of open carpel tunnel decompression under local anaesthesia from 1996 to 2008, 807 were performed by specialists (consultant, specialist registrar, or specialty and associate specialist) and 554 by a nurse practitioner (since May 2006). The 2 groups were compared in terms of surgical time, total theatre time, postoperative pain, and patient satisfaction with the service.

Results. The mean surgical time was shorter in cases performed by specialists (13 vs. 18 minutes, p<0.0001), as was the mean total theatre time (26 vs. 29 minutes, p=0.0154). The rate of postoperative pain was higher in cases performed by specialists (31.5% vs. 24.5%, p=0.0125), as was the rate of patient dissatisfaction (1.6% vs. 0.18%, 0.0113). Nonetheless, since May 2006, outcome was comparable for specialists and the nurse practitioner. This could be due to the change from short-acting to long-acting/mixed local anaesthetic, and the technique for infiltration. The waiting time for surgery reduced from a mean of 16 to 3 weeks.

Conclusion. Specialists and the nurse practitioner achieved comparable outcome after open carpal tunnel decompression.

Key words: carpal tunnel syndrome; decompression, surgical; nurses

INTRODUCTION

The incidence of carpal tunnel syndrome is approximately 0.4% per year.1 Carpal tunnel decompression through an endoscopic or open method results in good-to-excellent outcome in 70% to 90% of patients.2 In the UK, success has been reported for nurse-led management of carpal tunnel syndrome.3 The extended role of nurses in an acute or outpatient setting is widely accepted, although their role as surgical operators remains controversial.4

In a hospital with up to 100 weeks of waiting time for carpal tunnel decompression, a trained nurse
managed 395 procedures over a 2-year period and achieved comparable outcome to that of surgeons, with waiting time reduced to 6 weeks. Better use of nursing staff in specialist roles is suggested. This study compared the outcome after open carpal tunnel decompression by specialists versus a nurse practitioner.

**MATERIALS AND METHODS**

Records of 554 men and 1197 women aged 18 to 93 (mean, 58) years who underwent open carpal tunnel decompression between 1996 and 2008 were reviewed. Revision cases were excluded. Of the 1751 cases, 1197 were carried out by a consultant (n=322), specialist registrar/specialty or associate specialist (n=828), or senior house officer (n=47), and the remaining 554 cases were carried out by a nurse practitioner under local anaesthesia since May 2006. The nurse practitioner had basic surgical skills and had been supervised over 100 cases before independent practice. Complex cases undertaken under general anaesthesia were excluded for analysis, as were cases undertaken by the senior house officer (for training). Thus, 807 cases by specialists were compared with 554 cases by a nurse practitioner in terms of surgical time, total theatre time, postoperative pain, and patient satisfaction with the service (4-point scale from very satisfied to very dissatisfied).

The 2 groups were compared using the Fisher’s exact test or two-sample t-test as appropriate. A p value of <0.05 was considered statistically significant.

**RESULTS**

The mean surgical time was shorter in cases performed by specialists than by the nurse practitioner (13 vs. 18 minutes, p<0.0001), as was the mean total theatre time (26 vs. 29 minutes, p=0.0154) [Table]. The rate of postoperative pain was higher in cases performed by specialists than the nurse practitioner (31.5% vs. 24.5%, p=0.0125), as was the rate of patient dissatisfaction (1.6% vs. 0.18%, 0.0113). Nonetheless, since May 2006, outcome was comparable for specialists and the nurse practitioner. This could be due to the change from short-acting to long-acting/mixed local anaesthetic and the technique for infiltration that improved postoperative pain and patient satisfaction. The waiting time for surgery reduced from a mean of 16 to 3 weeks.

**DISCUSSION**

Prolonged waiting time for carpal tunnel decompression may increase the risk of sensory and motor loss of the median nerve secondary to progression of disease. In our hospital, the waiting time for carpal tunnel decompression reduced from a mean of 16 to 3 weeks. This is attributed to the nurse-led management of carpal tunnel syndrome, more efficient pathways through day surgery, and a change in anaesthetic technique to predominantly local anaesthesia resulting in more patient satisfaction. Nonetheless, the follow-up period was too short for evaluation of complications, and outcome scoring was lacking, but the reoperation rate secondary to persistent symptoms or complications was similar and negligible in the 2 groups.

Our nurse practitioner did not assess the patients; the diagnosis, listing, and nerve conduction studies were carried out by the specialists who supervised the nurse practitioner and were responsible for the patients. The nurse-led service may deprive junior surgeons of surgical exposure and may be unsustainable due
to the lack of training by future surgeons and lack of replacement of the nurse practitioner.

CONCLUSION

Specialists and the nurse practitioner achieved comparable outcome after open carpal tunnel decompression.

DISCLOSURE

No conflicts of interest were declared by the authors.

REFERENCES