

Minimally invasive vasectomy*

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Objective To evaluate the associated morbidity and patient comfort of the 'minimally invasive, no scalpel' (MINS) vasectomy.

Patients and methods Eighty-nine consecutive patients presenting for vasectomy underwent a MINS procedure. Post-operatively, the pain experienced, recovery time and complication rate were assessed using a postal questionnaire. The questionnaire was also used to assess a group of historical controls who had undergone a vasectomy using a standard technique.

Results The length of time to recovery was significantly

reduced in patients who underwent the MINS vasectomy ($P < 0.05$) and the pain, bruising, swelling and complication rate were also less than in patients who underwent a standard vasectomy.

Conclusions The MINS vasectomy is preferable to a standard technique, reducing both patient morbidity and the complication rate. This is attributable to the minimal dissection and reduced tissue handling required to expose and isolate the vas.

Keywords Minimally invasive, no-scalpel, vasectomy.

Introduction

Vasectomy is one of the commonest surgical procedures performed, providing a simple, safe and efficient means of contraception. A new, 'minimally invasive, no scalpel, no suture' (MINS) technique has been adopted in some parts of the Far East and the USA, following its introduction in China (by Li Shun-Quiang) in 1974 [1]. This technique is claimed to reduce operative time and patient morbidity when compared with a standard vasectomy [2].

A controlled study was performed to evaluate the complication rate and patient comfort of this new vasectomy technique.

Patients and methods

Eighty-nine consecutive, unselected patients presenting for vasectomy underwent the MINS procedure. Both private and National Health Service patients were included. Each patient was asked to complete a questionnaire detailing the time to recovery and the pain, swelling and bruising they had experienced, using visual analogue scales (VAS) (Appendix 1). Questionnaires were also sent to 75 patients who had undergone vasectomy in the previous 6 months using a standard technique, to provide a group of historical controls.

The MINS vasectomy is performed using a modified

ring-forceps with a blunt end (Femcare, UK) that can be clipped onto the vas through the scrotal skin, without damaging the skin, and a mosquito forceps with a sharp tip (Fig. 1; Femcare, UK). An intradermal bleb of 2% plain lignocaine is used to anaesthetize the skin and a perivascular block using 5 mL on each side provides excellent analgesia with minimal discomfort from infiltration. One vas, together with the overlying area of scrotal skin in the midline, is grasped in the ring forceps. The skin is pierced with the tip of the mosquito forceps to reveal the underlying vas and the vas hooked up into the wound using the mosquito forceps. The vas is then re-grasped with the ring forceps (Fig. 2). The procedure is performed throughout by gentle blunt dissection. From this point the procedure resembles a standard vasectomy in that a portion of the vas is excised and the free ends obliterated using the technique preferred by the

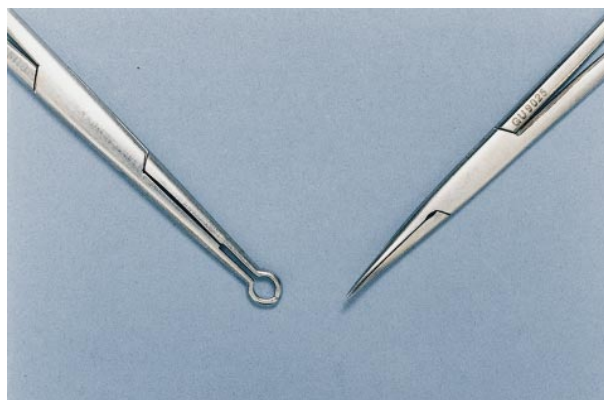


Fig. 1. The instruments used in the minimally invasive vasectomy.

Accepted for publication 5 December 1995

*The results of this study were reported to the Summer meeting of the British Association of Urological Surgeons in 1992



Fig. 2. Operative view showing the vas being delivered into the wound using the mosquito forceps and held in the ring forceps.

Table 1 A comparison of the post-operative duration of the variables assessed after vasectomy

	Vasectomy (Mean duration [days])		P value
	Minimally invasive	Standard	
Pain	1.3	2.4	0.05
Discomfort	3.8	7.1	0.005
Activities restricted	2.8	6.7	0.005
Time to full recovery	7.1	12.9	0.005
Time off work	1.8	2.9	0.05

individual surgeon. The second vas is delivered similarly through the same wound. At the end of the procedure, contraction of the dartos muscle causes the skin wound to shrink to the size of a pinhole, which does not require a suture.

Results

Of patients who underwent the MINS or standard procedure, 87% and 76%, respectively, replied to the questionnaire. The time to recovery and the length of time off work were both significantly less for patients in the MINS group (Table 1; log-rank method, $P=0.05$). VAS scores for pain, bruising and swelling were also lower in the MINS group, although the differences were not statistically significant for bruising when a Mann-Whitney U -test was applied. When asked to compare

the amount of pain experienced during the procedure with the amount they had expected, 86% of patients in the MINS group had less pain than expected, compared with 52% in the standard vasectomy group. Only 2.7% of patients in the MINS group needed to visit their general practitioner post-operatively, compared with 16.3% of the control group; both these results were statistically significant ($P<0.05$, chi-squared test).

Discussion

The MINS vasectomy had a lower complication rate than did a standard vasectomy and was preferred by the patients, causing less discomfort and a faster recovery. The reduced swelling and bruising results from the minimal tissue dissection required to isolate and deliver the vas. Continuing experience with the technique in China, Thailand and in the USA has confirmed the present findings that this is a safe and well accepted method of birth control [3]. We have now sterilized a further 270 patients using the technique, which continues to delight both patient and surgeon.

Acknowledgements

A.F.H. is grateful to Dr Mark Goldstein of New York and the Association for Voluntary Surgical Contraception for training in the technique. A video of the technique is available from: Christel Karner, Documentation HRP, World Health Organization, X11 Avenue Appia, 1211 Geneva 27, Switzerland. Please specify British PAL format and the English language when ordering.

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