

A study to assess the prevalence of chronic testicular pain in post-vasectomy men compared to non-vasectomised men

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Abstract

Objective. To assess the prevalence of chronic post-vasectomy testicular pain (CPTP) compared to the prevalence of chronic testicular pain in a control population of non-vasectomised men.

Methods. A retrospective postal study of 198 men who had a vasectomy more than 3 years previously at the Palatine Centre to determine the incidence of CPTP, of whom 101 (51%) replied (mean age 40.4 years, range 29–54 years, mean time since vasectomy 46.5 months). A control group of 102 men (mean age 40.2 years, range 28–55 years) who had not had a vasectomy were obtained via patients attending the community family planning clinics or associated general practitioner (GP) services in the same geographical area.

Results. Occasional non-troublesome discomfort was reported by 37/101 of the post-vasectomy men compared to 21/102 of the control group. Occasional discomfort which was a nuisance was felt by 10/101 of the post-vasectomy group compared with 3/102 of the control group, and 6/101 in the post-vasectomy group reported pain severe enough to seek medical advice compared to only 2/102 controls. None of the post-vasectomy men regretted having had the operation.

Conclusions. Only 6% of cases (compared to 2% of controls) experienced pain severe enough to seek medical advice in the 3–4-year post-operative period. However, there was a significant difference in the prevalence of occasional testicular discomfort between post-vasectomy men and controls. Mostly these pains were not regarded as troublesome, however men attending for vasectomy counselling should be informed of the possibility of this morbidity.

Key message points

- At 3–4 years after their operation, vasectomy patients reported double the rate of occasional testicular discomfort at 47% compared to 23% in controls [95% confidence interval (CI) for a difference of 10%–35%].
- Despite this, none of our respondents regretted having the operation.
- Only 3% of cases and 1% of controls had pain severe enough to interfere with sexual intercourse.

Introduction

Chronic testicular pain after vasectomy is a recognised complication, with a reported incidence ranging from 0.9% to 54%.¹ Davies et al.² defined it as an intermittent or constant, unilateral or bilateral testicular pain, 3 months or

longer in duration, which significantly interfered with the daily activities of the patient so as to prompt him to seek medical attention. McMahon et al.³ in a postal questionnaire and telephone follow-up of 172 patients (68% response rate), 4 years after vasectomy, reported chronic testicular discomfort in 33% of patients, considered by 15% to be troublesome, but only nine of their patients had experienced pain severe enough to seek further medical help.

Choe and Kirkemo¹ reported a 39% response rate (182/470) to a postal retrospective survey of post-vasectomy patients. Chronic post-vasectomy testicular pain (CPTP) was shown to be the most common late complication, occurring in 18.7% (34 patients).

In a review⁴ concerning medico-legal aspects of fertility regulation, the prevalence of CPTP or scrotal pain was quoted to be as high as 30%, whereas in an earlier follow-up of 16 000 post-vasectomy patients regarding complication, no reference was made to chronic testicular pains.⁵

Guidelines from the Royal College of Obstetricians and Gynaecologists (RCOG)⁶ gave chronic testicular pain a grade C recommendation in vasectomy counselling, meaning that in relation to the available evidence there is consensus among experts that it should be mentioned. However, we have been unable to find any studies giving the background prevalence of this symptom in men of similar age, social group and sexual activity, who have not had a vasectomy.

This retrospective survey therefore aimed to assess the long-term morbidity related to chronic testicular pain from bilateral vasectomy, carried out in a community health centre under local anaesthetic, and to compare these results to a control population of men who had not had a vasectomy. The pain in our study was defined as intermittent or constant, unilateral or bilateral testicular pain occurring 6 weeks after vasectomy to allow time for any early post-operative complications to subside. The severity of pain was assessed in four categories as used by McMahon.³

Methods

Local ethical committee approval was obtained prior to commencement of the study. The study population comprised men who had undergone vasectomy in the Mancunian Community NHS Trust clinic. This runs once per week and performs about 250 operations per year, mainly on local residents from the area served by our community family planning clinics.

Questionnaires were sent by post to men who had undergone the operation at least 3 years previously, i.e. between April 1996 and January 1994, to allow time for the development of any possible complications. All men had vasectomy under local anaesthetic and both vasa deferens were cut and clipped at both ends. Catgut suture was used to close the skin incision.

There are obvious difficulties in accessing a representative cross-section of healthy middle-aged men to obtain responses to questions about testicular pain and number of sexual partners. Therefore, the control group comprised men without sexual illness or symptoms who had some connection with our reproductive health services, i.e. we offered a similar questionnaire to men in the age range 30–55 years attending for vasectomy counselling, men on the waiting list for vasectomy counselling, those attending the male family planning clinic, some male patients attending their general practitioner (GP) for minor/acute ailments not relating to the genitals, and partners of women attending family planning clinics and the menopause clinic at Palatine Centre.

The control and sample questionnaires were laid out almost identically. The post-vasectomy questionnaire contained additional questions concerning post-operative complications and time of onset of pain related to the operation and if it caused the patient to regret having the operation. Both questionnaires asked about the number of sexual partners the subject had had in the past 3 years, as a sexually transmitted infection could be a factor in chronic testicular pain. Other questions assessed the severity, extent and intensity of any testicular pain experienced.

The questionnaire asked respondents to report any pain experienced after the 6-week post-operative period. For both questionnaires the following grades were used: never had any discomfort in the testicles; had occasional discomfort which was not troublesome; had occasional discomfort which was a nuisance; and had pain severe enough to prompt individual to seek medical advice. The questionnaire did not ask, nor give, personal identification.

Sample size and data analysis

A power calculation was made using information from papers reviewed that the prevalence of CPTP was predicted to be approximately 30%. With 100 subjects per group the study would have 80% power to detect a difference in prevalence of 20% or more (30% versus 50%) using the conventional 5% significant level. To detect a difference of 10% or more, 310 subjects per group would be required. Data were analysed on a spreadsheet. Chi-squared tests were performed using a programmable calculator.

Results

Questionnaires were posted to 198 men who had had vasectomies, of whom 101 (51%) replied. There was no further follow-up to those who did not reply. The mean age was 40.4 years (range 29–54 years) and the mode age was

44 years. The mean time since vasectomy was 46.5 months.

For the control sample 154 questionnaires were sent out to men contacted from the vasectomy waiting list, or partners of women attending the menopause clinic, of whom 79 replied. Further controls were obtained as follows: 16 from the male family planning clinic, 21 men were asked to participate of whom five refused (it was noted that those who refused were of Asian race); seven from Palatine family planning clinic, no refusals; and five from neighbouring general practices, attending for minor/acute ailments, not relating to their genitals (no refusals)

Of the 178 questionnaires issued, 107 (57%) responses were received, of which five were excluded because they were outside the age range of 30–55 years. Table 1 shows the demographics of the two groups. Table 2 compares the demographics of post-vasectomy men who did not respond with that of the respondents, confirming no major differences in mean age and time after operation, and Table 3 gives a summary of pain experience.

Table 1 Demographics of respondents

| | Post-vasectomy | Control sample |
|--|----------------|----------------|
| Number | 101 | 102 |
| Age range (years) | 29–54 | 28–55 |
| Mean age (years) (SD) | 40.4 (5.29) | 40.2 (7.25) |
| Median age (years) | 41 | 39 |
| Mean number of sexual partners (in past 3 years) | 1 | 1.30 |

SD, Standard deviation.

Table 2 Comparative data of respondents and non-respondents post-vasectomy

| Group | Number in group | Mean age (years) | Mean time after vasectomy (months) |
|--------------------------------|-----------------|------------------|------------------------------------|
| Post-vasectomy non-respondents | 108 | 39.3 | 46.8 |
| Post-vasectomy respondents | 101 | 40.4 | 46.5 |

Of the 37 post-vasectomy males reporting non-troublesome discomfort, pain was unilateral in 16, of whom 12 had sporadic pain, two had constant pain, which did not interfere with daily life, and two did not specify. Eleven men reported pain as a dull ache.

Of the seven men who reported non-troublesome bilateral pain, all of them reported sporadic pain and four reported pain as a dull ache and three did not specify.

The site and type of pain was not specified by 14 respondents.

One man reporting occasional non-troublesome discomfort had emergency treatment following vasectomy. This man did not provide any further details on the extent,

Table 3 Prevalence and degree of pain

| | Any discomfort (%) | 95% CI | p | Degree of discomfort | | | p |
|-----------------------------------|--------------------|--------|---------|----------------------|----------------|----------|---------|
| | | | | None (%) | Occasional (%) | Some (%) | |
| Post-vasectomy patients (n = 101) | 53 (52) | 43–62 | 0.0001* | 48 | 46 | 6 | 0.0001* |
| Controls (n = 102) | 26 (26) | 18–35 | | 74 | 24 | 2 | |

*p Refers to chi-square test for significant difference between cases and controls. CI, Confidence interval.

severity and intensity of his pain. Another man in this group had swelling after vasectomy, which lasted longer than 6 weeks and he took paracetamol to relieve his pain. The time after vasectomy for this man is unknown.

All 10 of the post-vasectomy men experiencing testicular pain, which was a nuisance, found it was sporadic. The pain was unilateral in seven men, bilateral in two, and one did not specify. Eight men recorded pain as a dull ache for which one man took aspirin, and two as sharp pain.

Of the six patients who complained of pain severe enough to prompt them to seek medical advice, four reported bilateral testicular pain, of whom one had taken antibiotics and another had to have a further operation and still took Anadin® for pain relief. Three of this group recorded the time of onset of their pain: one at 2–4 months, one at 4–6 months and the other at 6–12 months post-vasectomy. One respondent reported attending at an accident and emergency department, but did not answer questions regarding severity, site or time of onset of pain. Another respondent reported unilateral pain and infection, but the timing of onset of his pain was, again, not reported.

No patients reported that pain after vasectomy made them regret having the operation but three patients reported that pain interfered with intercourse. One of these was the patient taking Anadin® for pain relief, another was the one who had used antibiotics and the third was one who reported unilateral non-troublesome pain.

Analysis of the control group of 102 patients was as follows. Non-troublesome discomfort was reported by 21 respondents. Of these, 12/21 (57%) classed their pain as unilateral, five (24%) bilateral, and four (19%) did not specify. The pain was reported to be a dull ache by 17/21 men. Sharp sporadic pain was reported by one respondent; the others did not specify.

Discomfort that was a nuisance was reported by 3/102 respondents (3%). All three men had unilateral sporadic pain, of whom two reported pain as a dull ache and one as a sharp pain. Two controls reported pain severe enough to seek medical advice. One individual did not give any further details. One man in the control group had pain that interfered with sexual intercourse.

Discussion

We have not found any other study of post-vasectomy pain that has used a control group. It is very difficult to access a suitable control group, as the questions required are very personal and sensitive, and this is likely to have influenced the response rate.

In our study the demography of the post-vasectomy and control groups are closely matched with respect to mean age, range of age and the number of sexual partners the individuals have had in the prior 3 years. Our results suggest that the prevalence of sexually transmitted disease affecting testicular pain in this population was negligible.

Our study was based on the same principle and pain categories as McMahon's³ questionnaire survey of 172 men 4 years after vasectomy. McMahon's 68% response after follow-up of non-respondents by telephone found that 33% experienced chronic testicular pain, whereas 53/101 of our respondents reported pain according to this definition, with a response rate of 57%. This suggests that those who replied to our survey were more likely to have testicular pain than the non-respondents. We also recognise that the ascertainment of pain is very subjective, and if our respondents were aware of the potential link between vasectomy and testicular pain then the post-vasectomy group may have been more likely to report it.

The occurrence of post-vasectomy discomfort of any type in 52% of our respondents must be put in the context of a prevalence among control men from a similar population of 26%, and none of our post-vasectomy men reported regretting the operation, despite the experience of testicular pain.

Conclusions

Vasectomy was associated with severe testicular pain in only 6% of cases and 2% of controls. Pain that interfered with sexual intercourse was reported by 3.1% of cases and 1% of controls. However, vasectomy was associated with a doubling of the rate of occasional testicular discomfort (47% compared to 23%, $p = 0.001$) but none of our respondents regretted having the operation. Men attending for vasectomy counselling should be informed about this possible long-term effect.

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