

## Chronic Testicular Pain following Vasectomy

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**Summary**—The incidence of chronic testicular pain following vasectomy has not been previously assessed. We have carried out a survey by postal questionnaire and telephone interview of 172 patients 4 years after vasectomy to assess the incidence of chronic testicular pain. Significant early post-operative complications occurred in 6 patients (3.5%): 2 infection, 3 haematoma and 1 orchitis. Chronic testicular discomfort was present in 56 patients (33%), considered by 26 (15%) to be troublesome but not by the other 30 (17%). Testicular discomfort related to sexual intercourse occurred in 9 cases (5%). Of the 9 patients who had sought further medical help only 2 had had further surgery (1 an epididymectomy and 1 excision of a hydrocele). Only 3 patients regretted having had the vasectomy because of chronic pain. On ultrasound examination, epididymal cysts were a common finding on both asymptomatic and symptomatic patients following vasectomy. Prior to vasectomy, all patients should be counselled with regard to the risk of chronic testicular pain.

Vasectomy became accepted as a method of contraception in the 1950s and has become, after circumcision, the commonest operation performed in men. Chronic testicular pain is a recognised complication of vasectomy (Shapiro and Silber, 1979; Selikowitz and Schned, 1985) but the natural history and incidence of this problem are unknown. Indeed, it may not be widely recognised: several reported series of complications arising from vasectomy make no reference to chronic testicular pain (Barnes *et al.*, 1973; Esho *et al.*, 1973; Philp *et al.*, 1984). We are not aware of any reported series which have included follow-up of patients following vasectomy with particular reference to chronic testicular pain. Testicular pain after vasectomy is occasionally the subject of litigation, especially if the patient has also suffered post-operative complications such as haematoma. The aetiology of the pain is uncertain but might be related to fluid accumulation and cystic changes in the epididymis.

We report a survey 4 years after vasectomy to assess the incidence of chronic testicular pain.

Possible correlation with early complications or with ultrasonic abnormalities of the epididymis or testis has been investigated.

### Patients and Methods

The study group consisted of 253 patients who had undergone vasectomy at the Glasgow Family Planning Centre between January and July 1986. All patients were sent a postal questionnaire (Fig.) in November 1990 (4 years after vasectomy). Those who failed to reply, and those who gave positive replies, were interviewed by telephone. Of the 253 patients, 72 had moved house and could not be traced and are unlikely to have received their questionnaire. A further 9 patients failed to reply and could not be contacted by telephone, leaving 172 (68%) who were assessed. The median age of the patients was 34 years (range 25–55). All but 2 of the operations were performed under local anaesthesia. The operative technique included ligation of proximal and distal ends of the vas deferens in all cases.

In addition, patients were invited to undergo testicular ultrasound; this was carried out in 14 patients who complained of chronic testicular

1. Are you aware of any difference in intercourse since your operation?  
Yes [ ] No [ ]

2. Do you get any discomfort in the penis or the testicles before, during or after intercourse?  
Yes [ ] No [ ]

3. A few men who have had vasectomies find that they get occasional discomfort in the testicles.  
Do you—

Never have any discomfort in the testicles	[ ]
Get occasional discomfort which does not trouble you	[ ]
Have occasional discomfort which is a nuisance	[ ]
Have pain in the testicles which is bad enough to affect your way of life	[ ]

4. Do you ever experience any swelling in or behind the testicles?

No	[ ]
Yes—occasionally	[ ]
Yes—frequently	[ ]
Yes—permanently	[ ]

5. If you have had pain or swelling following your operation please indicate how long after the operation you first noticed it:

Pain \_\_\_\_\_

Swelling \_\_\_\_\_

6. Would you be prepared to attend the Western Infirmary for an ultrasound scan of your testicles?  
Yes [ ] No [ ]

Fig. Postal questionnaire.

discomfort and in 13 patients who had not had prolonged discomfort or any complications related to vasectomy. Ultrasound was performed by a single operator (A.T.) using an "Acuson 128" computed sonography machine employing a 7.5 MHz linear array transducer.

### Results

Only 6 (3.5%) of the 172 patients recalled significant early post-operative complications (taking more than a week to resolve): 2 developed wound infections, 1 of which was minor and resolved within 10 days, but the other was severe and required several courses of antibiotics, taking 18 weeks to settle; 3 developed scrotal haematomas which took 3 weeks, 4 weeks and 8 weeks to resolve with conservative management; 1 patient developed "orchitis" (GP's diagnosis) which resolved after antibiotic treatment. Of these 6 patients, 3 developed chronic testicular discomfort, which was troublesome in 2 cases.

A total of 56 patients (33%) had chronic testicular discomfort (predominantly unilateral): 26 of these (15%) considered the discomfort to be troublesome, while 30 (17%) did not. In the majority of cases the pain was intermittent and unilateral. In some the discomfort was a "dull ache" and in others it was a "sharp severe pain". Of these patients with chronic testicular discomfort, 11 (6%) also had "swelling in the scrotum". Testicular pain or discomfort at the time of intercourse occurred in 9 patients (5%), of whom 7 also had testicular discomfort at other times.

Only 9 patients (5%) had sought further medical help for chronic testicular pain or swelling. Two had seen their general practitioner without any further action being taken—in both cases the discomfort settled after 3 years; 4 patients had been referred to a consultant surgeon, without any further action being taken; 2 had undergone further surgery: 1 had had an epididymectomy performed for chronic testicular pain (without any benefit) and 1 had had repair of a hydrocele which had pre-

dated the vasectomy (with some improvement in the pain). As a result of this survey 2 patients have sought further treatment for chronic testicular pain (1 had previously seen a consultant but treatment was not recommended).

Only 2 patients regretted having had the operation (1 because of chronic testicular pain and the other because of a change of mind regarding further children), while 2 patients had reservations about the operation but did not regret it (both because of chronic testicular discomfort). Only 1 patient had undergone reversal of vasectomy.

Ultrasound examination of the scrotum was performed in 27 patients who had undergone vasectomy (14 with chronic testicular discomfort and 13 with no symptoms). Of the 14 patients who had chronic testicular discomfort, the ultrasound examination was normal in 7, while 4 had multiple bilateral epididymal cysts and 3 had unilateral epididymal cysts (in 2 of these cases the pain was on the opposite side). Of the 13 asymptomatic patients, the ultrasound examination was normal in 9, while 2 had bilateral epididymal cysts, 2 had unilateral epididymal cysts, and 1 had an atrophic hypoechoic testis. The majority of cysts were located in the head of the epididymis.

## Discussion

Obstruction of the vas deferens results in a build-up of pressure, causing epididymal engorgement and epididymal blow-outs, which have been demonstrated at re-operation for reversal of vasectomy (Shapiro and Silber, 1979) and by sequential ultrasound (Jarvis and Dubbins, 1989). It is therefore not surprising that a percentage of patients develop chronic testicular discomfort. This study has demonstrated that mild chronic testicular discomfort is a common sequel of vasectomy. Pain or discomfort troublesome enough to make the patient seek further treatment and to regret vasectomy is, however, uncommon (5%). These findings have important implications for informed consent: perhaps all patients should be warned of this complication before vasectomy. Although half of the patients who reported post-operative complications had long-term discomfort, there was no obvious relationship with immediate post-operative problems such as bleeding, haematoma or infection (which patients may deem to be due to surgical negligence); this has important medico-legal implications.

Various terms have been used to describe this

syndrome: late post-vasectomy syndrome (Selikowitz and Schned, 1985), post-vasectomy orchialgia (Shapiro and Silber, 1979), congestive epididymitis (Schmidt and Free, 1979) and post-vasectomy pain syndrome (McCormick and Lapointe, 1988). Selikowitz and Schned (1979) described in detail a series of 18 patients with chronic testicular pain following vasectomy. The pain was unilateral in 16 and bilateral in 2. They were all seen 5 to 7 years after vasectomy for unremitting epididymal pain and induration which had failed to respond to conservative measures. The patients had been referred to them over a 2-year period. Seventeen of these 18 patients were treated by epididymectomy with complete relief of pain in all cases. Histology of the epididymis showed dilated tubules packed with sperm, and ruptured tubules with extravasation of sperm, granuloma formation and haemosiderin deposition. Shapiro and Silber (1979) reported 9 patients with chronic testicular pain following vasectomy. All had severe epididymal swelling and tenderness, aggravated by sexual intercourse and ejaculation. The pain was unilateral in 3 cases and bilateral in 6. In 2 of the patients the pain was relieved by excision of a sperm granuloma. In 6 patients (who did not have sperm granulomas) pain was relieved by vasovasostomy.

While sperm granulomas are very common, occurring in about a third of patients after vasectomy (Silber, 1977), painful granulomas requiring excision are rare, occurring in 0.5% of patients (Schmidt and Free, 1979). None of the patients in the present series required excision of a sperm granuloma.

Our ultrasonic findings are similar to those of the only previous ultrasound study after vasectomy. Jarvis and Dubbins (1989) prospectively evaluated the sonographic appearance of the testis and epididymis before, 2 months and 1 year after vasectomy in 31 patients. They found enlargement of the epididymis in 14 patients (45%) but this resolved by 1 year in 9 patients. Small pre-existing cysts 3 mm in diameter were present in 6 patients (19%) but new epididymal cysts developed in 17 patients (none of their patients had any long-term symptoms).

In conclusion, a third of vasectomy patients develop chronic testicular discomfort but only a few develop more severe pain that requires further surgical treatment. Informed consent needs to take account of this finding. Ultrasound frequently demonstrates epididymal cysts in vasectomised patients, both in asymptomatic patients and in those with chronic pain.

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