VASECTOMY – EXPERIENCE IN A MALAYSIAN HOSPITAL

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SUMMARY

A review of our experience of 916 cases of partial bilateral vasectomy performed under local anaesthesia at the University Hospital, Kuala Lumpur during the period between January 1971 and June 1980 is presented. Minor post-operative complications occurred in 5.8% of cases with a low post-operative infection rate of 1.2%. In 35% of patients, persistence of non-motile sperms in the semen were seen after at least ten ejaculations in each instance. In four of these cases non-motile sperms continued to persist into the sixth month of follow-up even after at least 50 ejaculations in each instance.

INTRODUCTION

Bilateral vasectomy, for purposes of voluntary sterilization, is now a widely accepted procedure throughout the world. In Malaysia, acceptance of this method of contraception has apparently remained low. The Malaysian male is reluctant to undergo this operation for various reasons such as the fear of loss of libido or of impotence or the inability to perform his normal duties, etc.

In this study, a review of our experience of partial bilateral vasectomy procedures carried out under local anaesthesia at the University Hospital, Kuala Lumpur, during the period between January 1971 and June 1980 is presented.

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MATERIALS AND METHODS

There were 916 cases of vasectomy performed during this period. Recruitment, pre-operative and post-operative counselling of patients were carried out to a large extent by the trained staff of the National Family Planning Board attached to the hospital. Prior to the surgery, each patient was carefully examined by one of our doctors. As vasectomy under local anaesthesia can be exceedingly difficult when there has been previous herniorraphy or operation for hydrocele or varicocele, or when a large inguinal hernia or varicocele is present, patients with these conditions were excluded.

The pre-operative preparation is as follows : the patient is instructed to shave his scrotum (not the pubic hair) himself and have a good bath to get rid of free hair the night before the operation. Premedication consists of oral valium 10 mg and paracetamol half-hour prior to the procedure. The surgeon masks, scrubs and puts on sterile gloves without gowning. The patient's scrotal skin is then cleansed with 0.05% aqueous chlorhexidine solution, and towelled off so that only the scrotum is exposed. The vas on one side is detected at the neck of the scrotum, with the aid of slight traction on the testis of that side, and lifted up gently between forefinger and thumb and brought subcutaneously to lie in the

mid-anterior aspect of the scrotum. About 0.5 ml of 1% lidocaine is injected in front and behind the vas deferens. A few minutes is allowed for the anaesthetic to act. During this time, the opportunity is taken to remind the patient that he is not sterile after the operation until at least three successive semen samples have been examined and found to be negative for sperms. A 3 – 4 mm transverse incision is made down to the vas deferens. The latter, with its sheath is grasped through the incision with a tissue forceps. A longitudinal incision is made over the sheath until the pearly white vas is seen. The exposed vas is held with a second forceps and pulled out of its sheath. The thin mesentery is dissected away to isolate about 1 cm of the vas. This segment is then clamped and excised. The cut ends are ligated with 2/0 chromic catgut. The proximal end of the vas is then allowed to retract into its sheath, and a single catgut stitch is inserted to seal it into its sheath. The distal end of the vas is left out of the sheath.

The opposite vas deferens is then brought over to the midline under the previous incision by a similar technique, local anaesthetic is infiltrated around it, and it is then grasped by a tissue forceps. After the same technique is performed on the opposite side, haemostasis is ensured, and the skin edges brought together with a single mattress suture of chromic catgut. A light dressing is applied and the patient told to wear tight underpants for good scrotal support. The average operative time was 10 minutes. The cut segments of the vas are then sent for histological confirmation.

RESULTS

Table I shows the racial distribution in this study; the majority of our patients were Indians and Chinese.

TABLE I
VASECTOMY – RACIAL DISTRIBUTION (1971–1980)

Race	No. of cases	%
Malays	106	11.5
Indians	448	48.9
Chinese	330	36.2
Others	32	3.4
Total	916	100.0

As shown in Table II, the majority of patients (90.7%) were above the age of 30 years, and most of them had two or more children (Table III).

A semen analysis was carried out on all our patients one month after the procedure and at monthly intervals, thereafter, till at least three successive specimens were negative for sperms. They were also told that they will need at least 10 – 12 ejaculations before their semen becomes negative for sperms. Almost all the patients had accomplished an average of 10 ejaculations by the end of the month. In spite of this, Table IV shows that one month after the operation, 35% of the patients had non-motile sperms present in their semen. This incidence decreased to 11.6% at the end of three months. In 21 patients, a few non-motile sperms persisted till the fifth month, although each of them had had on the average about 50 ejaculations by this time. In four of these patients with a few non-motile sperms at the end of six months,

TABLE II
VASECTOMY – AGE DISTRIBUTION (1971–1980)

Age (years)	No. of cases	%
25 and under	12	1.3
26 - 29	74	8.0
30 - 34	245	26.8
35 - 39	281	30.6
40 and over	304	33.3
Total	916	100.0

TABLE III
VASECTOMY – PARITY DISTRIBUTION

No. of children	No. of cases	%
1	7	0.8
2	162	17.6
3	288	31.5
4	193	21.0
5 or more	266	26.1
Total	916	100.0

revasectomy was performed. Their subsequent semen analysis were negative for sperms.

The contraceptive methods practised prior to the vasectomy are shown in Table V. Upon recruitment and whilst waiting for the operation, these couples if not already on contraception were prescribed a method. In spite of this at the time of vasectomy 4.6% of these patients failed to be on any method.

The most common post-operative complication was persistence of tenderness over the spermatic cord at the vasectomy site, when seen one week after the operation (Table VI). This, however, was transient and usually subsided 10-14 days post-operatively. The infection rate was low at 1.2%. One patient presented six months later with the complaint of blood-stained semen. His prostate was tender on palpation and was diagnosed to have prostatitis. He responded to a course of antibiotics, and when seen one month later his ejaculate was clear.

DISCUSSION

Bilateral vasectomy operation is a short and simple procedure. It requires no hospitalisation and needs only a few days off from work. However, one must take care not to allow vasectomy to become trivialised. We feel it is not a minor unimportant operation left to be done by untrained staff. Although not observed in our study, traction on the vas deferens has been shown to induce significant bradycardia in about 30% of subjects.[1] Such excessive vagal stimulation can lead to cardiac arrest or fainting. It is, therefore, essential to perform this operation only under circumstances where resuscitative measures are readily available.

The overall post-operative morbidity as shown in this study is low (5.8%). A review of the literature reveals the overall post–vasectomy infection rate at between 3%[2] and 12%.[3] In our study, the low incidence of 1.2% can be attributed to the operation being performed under aseptic conditions, in a hospital environment with meticulous care in securing proper haemostasis and the routine use of prophylactic antibiotic cover.

TABLE IV

VASECTOMY – POST -OPERATIVE SEMEN ANALYSIS

Specimen showing presence of non-motile sperms		No. of Cases	%
First specimen	(1)	321	35.0
Second specimen	(2)	147	16.0
Third specimen	(3)	107	11.6
Fourth specimen	(4)	40	4.3
Fifty specimen	(5)	21	2.3
Sixth specimen	(6)	4	0.4

Note: ( ) refers to the months

TABLE V

CONTRACEPTIVE METHOD PRIOR TO VASECTOMY

Method	No. of cases	%
Condoms	523	57.1
Contraceptive pill	262	28.7
I.U.D.	41	4.4
Rhythm	40	4.4
Injectables	4	0.4
None	46*	5.0
Total	916	100.0

* wives of four of these patients were currently pregnant.

TABLE VI

VASECTOMY – COMPLICATIONS

Complication	Number of cases	%
Infection		
Infected wound	7)	
Epididymitis	3)	1.20
Prostatitis	1)	
Bleeding		
Blood-stained discharge from wound	7)	
Scrotal haematoma	1)	0.98
Sub-cutaneous ecchymosis	1)	
Pain		
Tender spermatic cord with induration	19)	
Pain in groin	9)	3.49
Testicular pain	4)	
Others		
Wound breakdown	1	0.10
Total	53	5.77

The incidence of sperm granuloma has been reported to be around 1%.[4] This appears at the site of vasectomy 21 or more days post–operatively.[5] Rolnick[6] recognised that the sheath of the vas deferens aided recanalisation after vasectomy by acting as a splint "promoting and directing the path of epithelialisation". Thus, it is reasonable to assume that recanalisation could be prevented if the sheath of the vas was interposed between the two cut ends of the vas. Such a procedure was performed in all our cases. No pregnancies have occurred as a result of spontaneous recanalisation. The one pregnancy that was seen was the result of an extra-marital relationship. There was no sperm granuloma noted in our study.

There have been conflicting views about when vasectomy can be regarded as having achieved its purpose. When the vas is cut, a few sperms are left behind in the convoluted ampulla of the vas deferens and the seminal vesicles. Each of the latter is a labyrinth of little compartments and not a simple sac. Although a figure of 10–12 ejaculations has been suggested as being necessary to empty out these systems, nobody can be sure as to how many ejaculations are needed. This has been illustrated in our study where in some patients spermatozoa persisted as long as six months even though these patients had at least 50 ejaculations after the operation. In view of such slow clearance of spermatozoa in some patients, a logical course to take is to ensure that an alternative contraceptive method is continued until all sperms have disappeared from the semen.

Patients are ofter worried about the long–term effects of vasectomy. However, it is encouraging to note that there has been no documented long–term ill effects in man so far. Impotence and loss of libido are often causes of fear in Malaysian men. Our preliminary study, however, seems to show no long–term effects on potency or libido.

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