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European Association of Urology

Guidelines

European Association of Urology Guidelines on Vasectomy

Gert R. Dohle[a,*], *Thorsten Diemer*[b], *Zsolt Kopa*[c], *Csilla Krausz*[d], *Aleksander Giwercman*[e], *Andreas Jungwirth*[f]

for the European Association of Urology Working Group on Male Infertility

[a] *Department of Urology, Erasmus University Medical Centre, Rotterdam, The Netherlands;* [b] *Department of Urology, Paediatric Urology and Andrology, University Hospital Giessen and Marburg GmbH, Campus Giessen, Justus-Liebig-University Giessen, Germany;* [c] *Andrology Centre Department of Urology Semmelweis University, Budapest, Hungary;* [d] *Sexual Medicine and Andrology Unit, Department of Clinical Physiopathology, University of Florence, Florence, Italy;* [e] *Reproductive Medicine Centre, Skane University Hospital, Malmö, Sweden;* [f] *EMCO Private Clinic, Department of Urology and Andrology, Bad Dürrnberg, Austria*

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Abstract

Context: The European Association of Urology presents its guidelines for vasectomy. Vasectomy is highly effective, but problems can arise that are related to insufficient preoperative patient information, the surgical procedure, and postoperative follow-up.
Objective: These guidelines aim to provide information and recommendations for physicians who perform vasectomies and to promote the provision of adequate information to the patient before the operation to prevent unrealistic expectations and legal procedures.
Evidence acquisition: An extensive review of the literature was carried out using Medline, Embase, and the Cochrane Database of Systematic Reviews from 1980 to 2010. The focus was on randomised controlled trials (RCTs) and meta-analyses of RCTs (level 1 evidence) and on well-designed studies without randomisation (level 2 and 3 evidence). A total of 113 unique records were identified for consideration. Non–English language publications were excluded as well as studies published as abstracts only or reports from meetings.
Evidence synthesis: The guidelines discuss indications and contraindications for vasectomy, preoperative patient information and counselling, surgical techniques, postoperative care and subsequent semen analysis, and complications and late consequences.
Conclusions: Vasectomy is intended to be a permanent form of contraception. There are no absolute contraindications for vasectomy. Relative contraindications may be the absence of children, age <30 yr, severe illness, no current relationship, and scrotal pain. Preoperative counselling should include alternative methods of contraception, complication and failure rates, and the need for postoperative semen analysis. Informed consent should be obtained before the operation. Although the use of mucosal cautery and fascial interposition have been shown to reduce early failure compared to simple ligation and excision of a small vas segment, no robust data show that a particular vasectomy technique is superior in terms of prevention of late recanalisation and spontaneous pregnancy after vasectomy. After semen analysis, clearance can be given in case of documented azoospermia and in case of rare nonmotile spermatozoa in the ejaculate at least 3 mo after the procedure.

* Corresponding author. Department of Urology, Erasmus University Medical Center Rotterdam, P.O. Box 2040, 3000 CA Rotterdam, The Netherlands. Tel. +31 10 463 3132; Fax: +31 10 463 58 38.
E-mail address: g.r.dohle@erasmusmc.nl (G.R. Dohle).

1. Introduction

Vasectomy is the most reliable form of male contraception, and it is estimated that 40–60 million men worldwide rely on it [1]. Although highly effective, problems can arise related to insufficient patient information before the procedure, to the actual surgical procedure, and to the process of postoperative follow-up until definitive sterility is achieved [2,3].

Common long-term complications from vasectomy are scrotal pain, with about 1% reporting pain that noticeably affects quality of life [4], and spontaneous recanalisation of the vas deferens that occurs in 0.03–1.2% after previous clearance of spermatozoa in the semen [5–7]. Furthermore, after 10 yr, about 2% of vasectomised men have a reversal operation because of a desire to have children, usually in a new relationship. The chance of a reversal request is increased in men who had a vasectomy at a young age and in those without children [8]. It appears that the majority of men after vasectomy reversal have reduced semen quality, and sometimes additional artificial reproductive techniques are needed to achieve conception.

The aim of these guidelines is to provide information and recommendations for physicians who perform vasectomies and to emphasise the need to provide adequate information to the patient before the operation to prevent unrealistic expectations and legal procedures.

2. Evidence acquisition

An extensive review of the literature was carried out using Medline and Embase from 1980 to 2010. Our key questions concerned indications for vasectomy, preoperative patient information, techniques of vasectomy, complications and failure rates of the procedure, postoperative follow-up, and semen analysis after vasectomy. Additionally, the Cochrane Database of Systematic Reviews was searched using the term *vasectomy*. The focus was on randomised controlled trials (RCTs), meta-analyses of RCTs, and well-designed studies without randomisation. A total of 113 unique records were identified for consideration. Non–English language publications were excluded as well as studies published as abstracts only or reports from meetings. Levels of evidence and grades of recommendation were added, modified from the Oxford Centre for Evidence-based Medicine levels of evidence [9] (Appendix 1).

3. Indications

There are different motivations for having a vasectomy, but it is essential that the decision is made in a situation without stress or compulsion. Respect for the patient's personal decision is essential. There are no absolute contraindications. Relative contraindications may be the absence of children, young age (<30 yr), severe illness, no current relationship, and scrotal pain [8].

4. Essential patient information

Preoperative counselling for vasectomy must address the following items:

- The procedure should be considered irreversible.
- The procedure has a low complication rate [2,3].
- The procedure has a low but existing failure rate [3,7,10].
- Couples need to continue their contraceptive measures until sterility is achieved.
- All available data indicate that vasectomy is safe and is not associated with any serious, long-term side-effects or disease [11].

Information about contraceptive alternatives can be provided by general practitioners. The surgeon should provide additional information about the procedure; the advantages and risks associated with vasectomy; the need for postoperative semen analysis; and the chance of early failure and of late recanalisation, even if sterility is achieved, according to semen analysis [5].

Vasectomy is not medically indicated, and alternatives for birth control are available. The risk of failure is not common knowledge. These arguments favour extensive preoperative patient counselling and strict documentation of the information provided. A written informed consent is recommended.

5. Technique

The basic principle of vasectomy is the discontinuation of the deferential ducts. This goal can be accomplished with several techniques, but some general principles apply:

- Vasectomy can be performed in an outpatient setting under local anaesthesia, but general anaesthesia might be required for specific indications.
- Both deferential ducts are exposed through one or two incisions.
- The no-scalpel vasectomy technique of isolation of the vas deferens is associated with fewer early complications, such as infections, haematomas, and less postoperative pain [12,13].

For discontinuity, one of the following techniques can be applied:

- Excision of a piece of vas deferens and ligation with sutures or clips.
- Interposition of tissue to prevent recanalisation [14].
- Cautery of the luminal side [15].

Results of different vasectomy techniques have been reported, but comparisons of various techniques have not convincingly shown superiority of one particular approach in terms of preventing pregnancy [13]. Some studies have shown that occlusion failure based on the results of postvasectomy semen analysis is the highest with simple excision and ligation with sutures and clips and the lowest