

Case Based Urology Learning Program

Resident's Corner: *UROLOGY*

Case Number 17

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A 45-year-old-male presents with a history of vasectomy 5 years ago. He has 3 children from his previous partner, and recently became engaged to a 24-year-old healthy female with normal menstrual cycles. The couple would like to start a family together and would like to know the options available for doing so.

What other history is particularly relevant?

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The patient denies any difficulty conceiving prior to vasectomy. He had no complications with vasectomy. His libido and erections are normal. His new wife is healthy and had a normal evaluation by her gynecologist. His past medical/surgical/family/social history are only positive for vasectomy 5 years ago. He takes no medications.

What physical examination findings
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General appearance: Well-nourished, developed male

Chest: No gynecomastia

Tanner stage: 5

Groin exam: No hernia, no incisions

Testicular exam: Bilaterally descended testicles, 20cc bilaterally, no masses

Vas deferens: Small granulomas bilaterally, short vasal defects

Epididymis: fullness to the tail of the epididymis

No varicocele

DRE: Normal

What is the likely diagnosis?

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Infertility status post elective vasectomy 5 years ago. The history and all of the findings are consistent with this.

What diagnostic testing should be considered?

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None

How should this patient be managed?

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The patient has 2 options:

1. vasectomy reversal, typically the preferred pathway.
2. sperm extraction for IVF/ICSI.

Is this patient a good candidate for vasectomy reversal and what would anticipated success rates be?

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The patient is a good candidate for vasectomy reversal. The success rate for vasovasostomy is 88% with pregnancy rates >50%. The obstructive interval is the best predictor with respect to success of the vasectomy reversal as published by Belker and colleagues in their large, multicenter, retrospective study.

Vasovasostomy Reversal Obstructive Intervals and Success Rates

Obstructive Interval (yrs)	Success Rates (%)	Pregnancy Rates (%)
< 3	97	76
3 – 8	88	53
9 - 14	79	44
>14	71	30

What intraoperative findings influence the decision for vasovasostomy vs. vasoepididymostomy?

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Intraoperative findings from the proximal vas deferens including copious clear fluid, the presence of sperm (motile or non-motile), or sperm parts portend a better prognosis and directs the urologist to perform a vasovasostomy. However, if the expressed fluid is creamy, thick, and/or is lacking sperm or sperm parts, upstream obstruction must be considered, and an epididymal exploration should be carried out, likely leading to a vasoepididymostomy. Patients with a >10 year history of obstruction are more likely to develop epididymal obstruction necessitating a vasoepididymostomy to complete the anastomosis.

What are the important considerations with respect to sperm aspiration for IVF/ICSI in patients who have had a vasectomy?

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The second option is also feasible and might be particularly attractive if the wife was older and on the threshold of losing fertility potential, in which case a more immediate solution might be more appealing. Sperm can be extracted from the epididymis with a percutaneous epididymal sperm aspiration (PESA) or testicular sperm aspiration (TESA). A PESA is preferred because a relatively large number of motile sperm can be procured with minimal morbidity. One important consideration is that the numbers obtained from PESA or TESA are typically not adequate for intrauterine insemination. This will shift the burden of medical therapy to the female, who will have to undergo IVF or ICSI. The net cost with this pathway also tends to be substantially increased.

Selected Reading

Belker AM, Thomas AJ Jr, Fuchs EF, Konnak JW, Sharlip ID. Results of 1,469 microsurgical vasectomy reversals by the Vasovasostomy Study Group. *J Urol* 1991;145:505-11.

Practice Committee of the American Society for Reproductive Medicine. Vasectomy Reversal. *Fertil Steril* 2008;90:S78-82.

Topic:

Male Fertility/Benign Testis

Subtopics:

Azoospermia, Vasectomy Reversal