



# Giant ejaculatory duct cyst: remediable cause of male infertility of obstructive origin

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## ■ ABSTRACT

Ejaculatory duct cyst is an obstructive cause of male infertility which can be corrected through surgical intervention. The present case describes the history, clinical development and diagnostic approach of a 43-year-old patient presenting with infertility (hypospermia) secondary to giant ejaculatory duct cyst. Management was cyst deroofing by means of transurethral resection of the verumontanum. There was considerable improvement in ejaculate volume and postoperative spermatobioscopy parameters.

**Key Words:** secondary infertility, ejaculatory duct cyst, spermatobioscopy

## ■ RESUMEN

*El quiste del conducto eyaculador constituye una causa obstructiva de infertilidad masculina susceptible de corrección mediante la intervención quirúrgica. En el presente caso se describe la historia, curso clínico y abordaje diagnóstico de un paciente de 43 años de edad con infertilidad secundaria (hipospermia) a un quiste gigante de conducto eyaculador. El manejo fue mediante destechamiento del quiste a través de una resección transuretral de verumontanum, mostrando una mejoría considerable en el volumen del eyaculado y los valores anormales de la espermatobioscopia previa al procedimiento quirúrgico.*

**Palabras clave:** infertilidad secundaria, quiste del conducto eyaculador, espermatobioscopia.



## ■ INTRODUCTION

The conception rate of a normal couple varies from 20 to 25% monthly and is 90% yearly.(1) Approximately 20% of infertility cases are due exclusively to the male factor.(2,3) Male infertility of obstructive origin has a 13% prevalence of which only 1 to 3% is due to ejaculatory

duct obstruction (cyst).(3,4) The etiology of obstruction caused by cysts is congenital or secondary to infectious events.(4-6) Duct obstruction fosters hypospermia (semen volume under 1.5 ml).(5,6) Cyst deroofing by transurethral resection of the verumontanum unblocks the obstruction and increases ejaculate volume, thus

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**Table 1.** Spermatobioscopy

<ul style="list-style-type: none"> <li>• Vol. 1 ml</li> <li>• Yellowish white</li> <li>• Increased viscosity</li> <li>• pH 8</li> <li>• Concentration – 23 million/ml</li> </ul>	<ul style="list-style-type: none"> <li>• Live 25 %</li> <li>• Dead 65 %</li> <li>• A and B Motility 35 %</li> <li>• Morphology:               <ul style="list-style-type: none"> <li>– Normal 7 %</li> <li>– Amorphous 32 %</li> <li>– Tail 15 %</li> <li>– Oval 12 %</li> <li>– Giant 7 %</li> <li>– Broken neck 27 %</li> </ul> </li> </ul>
Sperm culture <ul style="list-style-type: none"> <li>• Positive mycoplasma</li> <li>• Negative <i>C. trachomatis</i></li> </ul>	

**Table 2.** Hormonal profile

- LH: 13 mIU/ml
- FSH: 11 mIU/ml
- Prolactin: 10 ng/ml
- Testosterone: 1000 ng/dl

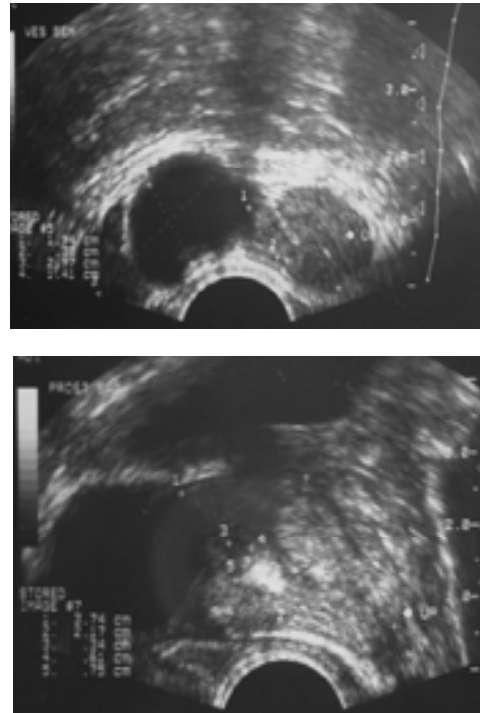
raising the conception rate. (7-9) The importance of this case is its diagnostic and therapeutic approach, turning this cause of male infertility into a pathology which can potentially be corrected through surgery.

### ■ CASE PRESENTATION

The patient is a 33-year-old male born and residing in Mexico City. His father died from kidney cancer. Medical interrogation revealed the following: cryptorchidism or parotiditis absent, secondary sexual development at 13 years of age, spermarche at 14 years of age, ejaculation time of 10 minutes with adequate volume and no pain, occasional hematospermia, began sexual activity at 17 years of age, heterosexual, engaged in unsafe sexual activity with a total of 23 partners, fathered a son with a former partner, intact libido, and no erectile dysfunction.

The relation with his present partner began 4 years ago and pregnancy attempts were unsuccessful. Patient sought help from a reproductive biologist who was not able to identify any pathology and subsequently referred him to our service for adequate evaluation and treatment.

Physical examination showed no pulmonary or precordial alterations, a soft, palpable abdomen with no pain upon palpation or signs of peritoneal irritation. Rectal examination revealed a soft, Grade I-II prostate



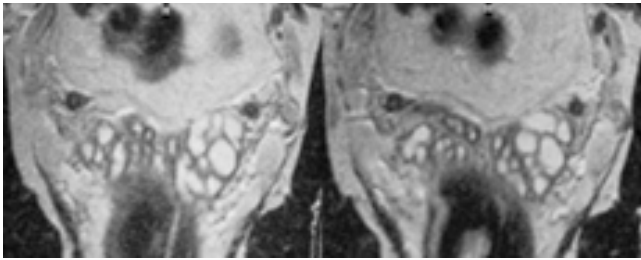
**Figure 1.** Transrectal ultrasonography of the prostate. Hypoechoic image at seminal vesicle level corresponding to ejaculatory duct cyst is observed.

with no nodules or other aggregate and anal sphincter and rectum with no alterations. The rest of the physical exam showed uncircumcised penis, permeable meatus, 3 x 3 x 2 cm left testicle of normal consistency, epididymus with no alterations, Grade II varicocele, 4 x 3 x 2 cm right testicle of normal consistency with an ~ 1 x 1 cm cyst on the epididymal head and spermatic cord with no alterations.

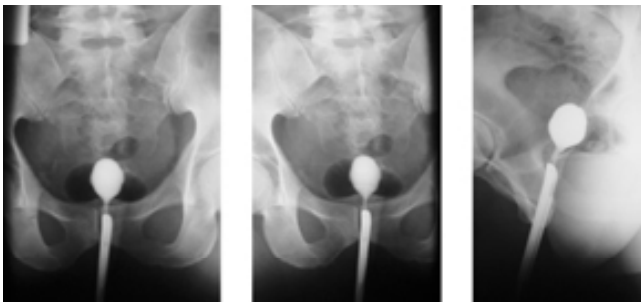
Based on this history, spermatobioscopy with sperm culture, hormone profile, complete blood count, blood chemistry, serum electrolyte level and coagulation time were solicited (**Tables 1 and 2**).

Spermatobioscopy showed important alterations, especially in sperm volume. Only 7% of live spermatozooids displayed normal morphology. The hormonal profile and other study results were normal.

Radiologic extension studies were solicited and transrectal ultrasound of the prostate (TRUS) showed cysts at the seminal vesicle level measuring approximately 2.28 x 2.03 cm (**Fig. 1**). Bilateral testicular ultrasound was done (**Fig. 2**). Magnetic resonance did not show the image of cysts seen in



**Figure 2.** Magnetic resonance image showing both seminal vesicles with no apparent alterations.



**Figure 3.** Retrograde deferentography image clearly showing giant cyst in the right ejaculatory duct.

the TRUS (**Fig. 3**). Because the previous studies were inconclusive, retrograde deferentography through cystoscopy was carried out.

Patient received peridural anesthesia for transurethral resection of the verumontanum and giant ejaculatory cyst deroofing. The surgery was complication-free and the patient was released from the hospital after 24 hours.

Significant improvement was observed in the control spermatobioscopy values, carried out 3 months after surgery (**Table 3**).

## DISCUSSION

Ejaculatory duct cyst forms part of a wide variety of pathologies involving the male reproductive system causing infertility problems which have repercussions in couple quality of life. Although its incidence is low, it must be ruled out with laboratory and imaging studies in order to make correct diagnoses. Ejaculatory duct obstruction should always be suspected when there is azoospermia or oligo and/or severe astenospermia, decrease in ejaculate volume, acid seminal pH and low seminal fructose levels.

**Table 3.** Spermatobioscopy

<ul style="list-style-type: none"> <li>• Vol. 2.5 ml</li> <li>• Yellowish white</li> <li>• Normal viscosity</li> <li>• pH 8</li> <li>• Concentration                             <ul style="list-style-type: none"> <li>– 48 million/ml</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Live 25 %</li> <li>• Dead 65 %</li> <li>• A and B Motility 44 %</li> <li>• Morphology:                             <ul style="list-style-type: none"> <li>– Normal 12 %</li> <li>– Amorphous 25 %</li> <li>– Tail 17 %</li> <li>– Oval 26 %</li> <li>– Giant 10 %</li> <li>– Broken neck 11 %</li> </ul> </li> </ul>
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Ideally, cyst content aspiration should be carried out in order to look for motile spermatozooids. They should be preserved before any therapeutic intervention is performed. Recurrent epididymitis due to urinary reflux, retrograde ejaculation and urinary reflux to seminal vesicles are among the principle postoperative complications described in the literature.

In the present case, diagnostic vasography was not necessary, given the results of the initial spermatobioscopy and the previous successful procreation. The patient's hormonal profile was completely normal, but surgery was performed based on the alterations present in the spermatobioscopy. Verumontanum resection was carried out within the prostatic urethra. The proximal reference was the bladder neck, the distal reference was the external sphincter at the level of the membranous urethra and the posterior reference was Denonvillier's fascia.

Significantly improved postoperative spermatobioscopy parameters corroborated the effectiveness of corrective surgery of the cyst as treatment for obstructive-type infertility.

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