Abstract: Surgically Correctable Hematospermia: A Case Report

Hematospermia is an anxiety-provoking symptom that may occur repeatedly, in some cases lasting for weeks to years. It is generally thought to be a benign, self-limiting condition. Some patients with decreased semen volumes and/or azoospermia may be infertile, whereas others with severe pain in the lumbosacral or perineal regions. Infertility affects 15% of couples, and in about half of these cases, a male factor is implicated. Ejaculatory duct obstruction (EDO), a rare but surgically correctable cause of male infertility, is found to be the cause in 15% of infertile men. Seminal plasma examination and TRUS have been widely used in the diagnosis of EDO. We report a 25-year-old male married since 2 months, presented with complaints of blood in ejaculate, low volume ejaculate, and perineal pain during ejaculation for 4 years. Semen analysis showed low volume semen and plenty of RBCs. TRUS and MRI showed seminal vesicle and calculi in the ejaculatory duct. We proceeded with Trans urethral resection of ejaculatory duct (TURED) and calculus retrieval. Postoperatively, the patient symptomatically relieved. Semen analysis showed no RBC, increased volume, and improved quality of life.

Keywords: Ejaculatory duct obstruction, TURED

Introduction

Hematospermia, the presence of blood in the semen, is a symptom not uncommonly encountered in clinical practice. Hematospermia can be caused by various pathologies, from infectious to malignant processes. Patients with hematospermia are often fearful of cancer and making love. Usually, we are not able to offer a complete and satisfactory explanation because history and physical examination are often unrevealing. Its clinical significance and causes were largely speculative before the advent of modern imaging techniques. A definitive diagnosis and treatment of a specific pathological condition removes the anxiety and puts both the patient and the clinician at ease.

Case Report

A 25-year-old man attended our outpatient department with complaints of blood in ejaculate, low volume ejaculate, and perineal pain during ejaculation for 4 years. He was married since 2 months. His general condition and vital signs were normal. On rectal examination, there was a smooth 1 cm mass palpable at the base of the prostate. Basic laboratory investigations and renal parameters were normal. Semen analysis showed colour: red, volume: 1 ml, count: 35 million and 30% normal morphology. Abdomino pelvic ultrasonography (USG) revealed dilated seminal vesicle (14 mm) and 8 mm hyperechoic lesion in the prostatic region. TRUS and MRI showed seminal vesicle and calculi in the ejaculatory duct. We proceeded with TURED (trans urethral resection of ejaculatory duct) and calculus retrieval. Postoperatively, the patient symptomatically relieved. Semen analysis showed no RBC, increased volume, and improved quality of life.
Post operatively patient was symptomatically relieved. Semen analysis showed volume - 2 ml, count - 45 million, actively motile – 40%, 40% morphologically normal and no Rbc. TRUS revealed no hyperechoic lesion and slightly dilated seminal vesicle.

**POST- OP TRUS showing no calculi**

**DISCUSSION**

Hematospermia is generally thought to be a benign self limiting disease. Clinicians usually consider chronic seminal vesicularitis as an underlying cause in most persistent cases. Hematospermia occurs mostly in men aged .40 years. Previous reports have indicated the top 6 causes of hematospermia to be iatrogenic trauma, inflammation or infection of the urogenital tract, obstruction, cysts of the reproductive tract, neoplasms, and vascular anomalies of the posterior urethra. In patients aged .40 years, hematospermia may be associated with serious underlying pathologic changes. Therefore, systematic examinations are required for patients with recurrent, refractory, and symptomatic hematospermia to rule out possible serious pathologic changes and mitigate patient anxiety. The ejaculatory ducts are derived from the Wolffian duct system. The seminal vesicles develop as a blind diverticulum at the terminal end of the vas deferens. The ejaculatory ducts represent a direct continuation of the seminal vesicles and begin after the ampulla of the vas deferens joins the seminal vesicle duct on its medial aspect at an acute angle. The vas deferens ducts are approximately 1–2 cm long and enter the prostate obliquely and posterior to the base, then course medially and anteriorly through the prostatic glandular tissue, ending in the prostatic urethra at the verumontanum as slit-like orifices. The ducts diminish in size and converge towards their termination. The causes of EDO comprise two categories: congenital and acquired. Congenital causes include congenital atresia or stenosis of the ejaculatory ducts and Wolffian duct anomalies, while acquired causes of EDO include inflammatory conditions, calculi, history of indwelling catheters, previous transurethral surgery such as bladder neck incision or TURP [2], and urethral trauma. Symptoms of EDO are quite variable but include infertility, decreased force of ejaculation, pain on or after ejaculation, hematospermia, perineal or testicular pain, low back pain, urinary obstruction, dysuria but it can also be asymptomatic. Transrectal ultrasonography has been widely used in the diagnosis of EDO. The diagnostic criteria for EDO using TRUS were seminal vesicle dilatation with a width of > 1.5 cm, dilated ejaculatory ducts, calcification or calculi inside ejaculatory ducts or at the verumatanum. Transurethral resection of the ejaculatory ducts (TURED), originally described by Farley and Barnes in 1973, has been the standard procedure for EDO and several reports have documented its efficacy. Post TURED relief of hematospermia - 100%, improvement in semen quality - 75%, pregnancy rate – 20 – 30% and azoospermia - 4%.

However, postoperative complications from TURED surgery occur in 10–20% of patients and include persistent bleeding, acute urinary retention, urinary reflux into the vasa deferentia with subsequent recurrent attacks of epididymitis, external sphincteric, bladder neck contracture, erectile dysfunction and rectal injury. After surgery, at a mean follow-up of 1 month, improvement in their ejaculation, resolution of their haematospermia and pain with ejaculation is reported. They also noted a return to projectile ejaculation and an increase in the volume of their ejaculate. EDO affects more than a man’s fertility. As with any body system, there is often discomfort with any blockage, as a result of stimulation of pressure receptors in the affected lumen, and this is a possible cause in men with EDO that could explain the physical pain reported by some. However, men with symptoms of EDO often also have a psychological component to their problem; they often have non-projectile ejaculations and low-volume ejaculates, which could be very disturbing to them, and which might be perceived as a sexual malfunction and as a threat to their masculinity. Infertility issues aside, the symptoms of EDO can have a major impact on sexual satisfaction and should therefore be addressed.

**CONCLUSION**

The most common cause for refractory hematospermia is ED obstruction due to the presence of cysts around or within the ED or ejaculatory duct calculi, strictures of the ED orifice due to local infection or inflammation. With the use of a resectoscope, ureteroscope, and related instruments such as a modified electrotome and cold-knife, diagnostic observation and minimally invasive treatment through a transurethral endoscopic approach was safe, effective, and convenient for treating refractory hematospermia. Potential neoplastic lesions of the reproductive tract can be ruled out quickly, and common pathologic changes in the SVs, prostate, and ED can be determined. The etiology of hematospermia can be identified and corresponding treatment performed. This minimally invasive modality leads to satisfactory effects but no obvious complications and does not affect ejaculation and orgasms. Striking improvement in the semen quality in sterile young patients followed the correction of ED obstruction. Therefore, this procedure may be widely applied in selected group of patients.

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**REFERENCES:**
