CLINICAL VIGNETTE

Hematospermia

Stephen C. Ross, M.D.

Case Report

A 28-year-old male presented with two episodes of hematospermia during intercourse with his wife. He did not have pain, fever, penile discharge, dysuria or hematuria. There was no history of exposure to sexually transmitted diseases or penile trauma. He was not on any medications. He had no previous episodes of hematuria. Family history was negative for genitourinary problems.

Physical exam showed a healthy male. No bruising or petechiae was detected. His genital exam revealed a normal circumcised penis without discharge. His testicles were non-tender and without masses. His epididymis and vas deferens were non-tender. Rectal exam revealed a slightly tender prostate and normal feeling seminal vesicles. Urinalysis was normal. A urine culture returned normal.

The presumptive diagnosis was that of prostatitis. He was treated with ten days of oral ciprofloxacin and has had no recurrence of symptoms.

Discussion

The above case illustrates the typical presentation of hematospermia. Although it may be an alarming symptom and cause considerable anxiety in an individual, blood in the ejaculate usually does not signify serious underlying pathology. The condition has been diagnosed for centuries since the time of Hippocrates. The exact incidence of hematospermia is unknown but a busy practitioner may expect to see several cases per year.

Etiology

Hematospermia is the formal term used for bloody ejaculate. Other terms such as hematosemen or haematospermia have also been used. Hematospermia can be caused by many conditions. The condition can be isolated to one episode or can occur repeatedly over several weeks or months. Most men with this condition are young with a mean age of 37. In almost half of the cases, the etiology is considered idiopathic, but this may reflect limited diagnostic testing.[1]

In 1997 Witz et al organized the causes of hematospermia by their pathologic mechanisms. He broke it down into inflammation and infection, ductal obstruction and cysts, tumors, vascular abnormalities, systemic conditions, and iatrogenic factors.[2]

In 1991 D J Jones did a prospective study of 74 men ranging in age from 20 to 73 presenting with hematospermia. In the group of patients less than 40-years-old (n = 65), no abnormalities were found in 31 (46%). Prostatitis was the most common cause and was found in 21 patients, followed by urethritis. Only one patient was found to have a serious problem of prostate cancer. Even in the patients over 40-years-old (n=9) only one had prostate cancer. Other etiologies in this group included benign prostatic hyperplasia with friable veins, prostatic calculi, and prostatits.[3] A summary of the common causes of hematospermia is listed in Table 1.

Evaluation

A thorough medical history should be taken when patients present with hematospermia. The amount of bleeding, duration of symptoms, and systemic symptoms such as weight loss, fever, pain, discharge or voiding complaints should be ascertained. The history can also help distinguish bleeding that may be coming from the sexual partner. If this of concern a "condom test" can be performed where the ejaculate is collected in the condom then examined for blood.[2] The history may also distinguish hematospermia from urethral bleeding. Bleeding from the urethra is pink or red. Bleeding from the seminal vesicles or prostate is generally dark.[4] One should inquire about surgical history or biopsies, the use of self-instrumentation, and medications such as anticoagulants or aspirin.

Table 1: Common Causes of Hematospermia

Local Causes	
• Prostatitis	• Benign prostatic hyperplasia
• Urethrits	• Urinary tract infections
• Urethral stricture	• Self-instrumentation
• Posterior urethral vein	• Sexual excess
• Meatal papillomata	• Urethral condyloma
• Prostatic calculi	
• Cysts of the seminal vesicles or ejaculatory duct	
Systemic Causes	
• Hypertension	• Hemophilia
• Purpura	• Leukemia
• Scurvy	• Lymphoma
• Cirrhosis of the liver	• Tumors
• Testicular cancer	• Prostate cancer
• Intraductal carcinoma	
• Amyloidosis of seminal vesicles	
• Carcinoma of the seminal vesicle	

Physical examination may help to localize the source of bleeding. The blood pressure and temperature should be taken. The abdomen should be examined to exclude hepatosplenomegaly or the presence of abdominal or pelvic masses. Careful evaluation of the testes, epididymis, and spermatic cords should be done. The external urethra should be inspected for signs of trauma and a digital rectal exam of the prostate and seminal vesicles should be done.

Laboratory testing for hematospermia is fairly simple. A urine analysis and urine culture should be ordered.[5] A serum PSA should be done in patients over 50 or in younger patients with a family history of prostate cancer. Other lab testes should focus on specific clinical conditions obtained from the history and physical. These may include serum creatinine levels, ejaculate for AFB, or PT INR if systemic conditions are considered. If one suspects a sexually transmitted disease such as gonorrhea or chlamydia then urethral cultures should be obtained.

Since most causes of hematospermia are benign or idiopathic,, further diagnostic testing has to be left up to the clinical suspicion of the practitioner. An IVP is rarely contributory to the investigation. Transrectal ultrasound has provided the physician with the single most important tool for evaluating hematospermia. Investigators have found that transrectal ultrasound can help pinpoint the diagnosis in 83%-92% of patients referred to an urologist or radiologist. Findings have included prostate calculi, dilated seminal vesicles, ejaculatory duct cysts, and seminal vesicle calculi.[2] CT scanning has been used to examine the anatomy of the seminal vesicles, but has not proven helpful in evaluating men with hematospermia. Magnetic resonance imaging has been found to be more useful, especially in its ability to demonstrate hemorrhage within the seminal vesicles or prostate.[6] If infection or other etiology cannot be ruled out, transurethral cystoscopy may be useful in locating urethral or porstate lesions. Enlarged veins have also been found in the bladder neck or prostate using cystoscopy.

Treatment

Since patient with hematospermia often come to the physician frightened and anxious, the first goal of the clinician is to reassure the individual the problem is rarely serious. Treatment should be based on identifying any underlying pathology. Infection should be treated with appropriate antibiotics after a culture is obtained. If infection is suspected but cultures are negative, an antibiotic that is known to be secreted in prostatic fluid such as ciprofloxacin, doxycycline or trimethoprim-sufasoxasole should be used.[7]

Bleeding from varicosities in the urethra, prostate or seminal vesicles should be fulgurated. Cysts of the seminal vesicles or prostate urethra can be treated with trans-rectal aspiration.[2]

Any systemic disease should be treated appropriately, such as controlling hypertension or stopping anticoagulation therapy. Previously, oral agents such as estrogen and corticosteroids have been used to decrease swelling in the prostate and seminal vesicles, but these have been found to be ineffective.

Persistent hematospermia is difficult to treat. Some investigators have tried to inject coagulant substances into dilated seminal vesicles with transrectal ultrasound. The hematospermia was resolved for only three months. Thus, coagulant or sclerosing agents appear to have no role in permanent treatment of recurring hematospermia.[3,8]

Conclusion

Hematospermia is an alarming symptom, which often prompts patients to visit their physician. The degree of work up should depend on the age of the patient and the duration and recurrence of the hematospermia. Most patients can be evaluated by taking a good history and performing a thorough physical exam. A urinalysis and urine culture will usually suffice for laboratory evaluation. Patients with documented abnormal physical findings or persistent hematospermia may benefit from further studies particularly using transrectal ultrasound or magnetic resonance imaging. Treatment is directed towards the underlying cause.

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