Haematospermia

Definition

The presence of blood in the ejaculate is called haematospermia. It is usually a painless, benign, isolated, self-limiting symptom.

Epidemiology

- Haematospermia is not uncommon and may affect men of any age after puberty.
- Its peak incidence is in men aged 30-40 years.
- The majority of patients have no prior genitourinary symptoms or significant factors in their history.

Aetiology

Semen originates from multiple organs, including the testicles, epididymis, vas deferens, seminal vesicles and prostate. In about 50% of patients the cause of haematospermia is not clearly understood or known:

- In men younger than 40 years of age, the most common cause is infection (urinary tract infection or sexually transmitted infection)\(^1\).
- In men of 40 years of age or older, malignancy is a more common cause than in men under 40 years old. Malignancies and trauma account for just 4-13% of cases.
- Five studies found that rates of prostate cancer ranged from 2.6% to 6% in men aged over 40 years with haematospermia\(^1\).
- It may be a complication associated with transurethral prostrate resection\(^2\).
- Ultrasound-guided biopsy of the prostate can also result in haematospermia. In one study more than 80% of men reported hematospermia lasting for up to four weeks following prostate biopsy\(^3\).

Classification

Primary haematospermia

Blood in the ejaculate is the only symptom.

- There is no blood in the urine, macroscopically or microscopically.
- The patient has no evidence of any urinary irritation or infection and physical examination is completely unremarkable.
- The condition is self-limiting.
- Primary haematospermia patients have been studied extensively in the past and most studies show no other associated problems.

Secondary haematospermia

The cause of bleeding is known or suspected - eg, immediately after a prostate biopsy, or in the presence of a urinary or prostate infection or cancer.

Unusual causes or predisposing factors:

- Prostatitis.
- Epididymitis.
- Urinary calculi.
- Tuberculosis.
- Cirrhosis of the liver.
- Arterial hypertension.
- Haematological disorders affecting clotting - eg, haemophilia.
- Parasitic infections.

Presentation

Haematospermia usually presents as painless blood staining of the semen, noticed on ejaculation. The patient usually presents with brownish to red discoloration of ejaculate.

- The majority of patients who have haematospermia will have repeated episodes.
- There is no blood in the midstream urine and physical examination is normal.
- Haematospermia occurring with painful ejaculations, and/or pain in the perineum, indicates chronic prostatitis or, occasionally, other prostatic pathology such as infection of the seminal vesicles\(^4\).
Other (rare) causes can include prostatic calculi or prostatic neoplasm. Haematospermia can also occasionally occur:

- As part of lower urinary tract symptoms.
- In late stages of malignant hypertension (always check blood pressure).
- With any bleeding tendencies (inquire about spontaneous bruising or abnormal bleeding).
- Tropical infections such as schistosomiasis and trachoma.

The following factors require further consideration:

- Persistent symptoms.
- Abnormal findings on examination.
- Age over 40 years.
- Painful ejaculation.
- Pain in the perineum.

**Differential diagnosis**

- Idiopathic.
- Chronic or acute prostatitis.
- Infection of seminal vesicles.
- Urinary tract infection.
- Prostatic neoplasm.
- Malignant hypertension in final stages.
- Urethritis.
- Bleeding tendencies of any kind (including haemophilia or patients on anticoagulants).
- Groin, testicular or pelvic injury.
- Exotic infections such as Schistosoma haematobium and Trichomonas spp.

**Investigations**

**History**
Discuss the following with the patient:

- When, how often, associated symptoms.
- Any precipitating factors.
- Frequency of sex - prolonged abstinence can be causative.\[5\]
- Any discharge or history of sexually transmitted infections.
- Pain on ejaculation, perineal pain, testicular pain.
- Bruising or bleeding tendencies.
- Problems urinating.
- Hypertension.
- Travel history, especially Africa.

**NB**: patients who have haematospermia associated with symptoms of urinary infection or visual or microscopic blood in the urine require a complete urological evaluation.

**Examination**
A full physical examination is mandatory including:

- Blood pressure.
- Abdominal palpation for hepatosplenomegaly or renal enlargement.
- Examination of genitals, including the testicles for any lumps, urethral discharge.
- PR prostatic check for cragginess, enlargement or lumps, loss of median sulcus.

**Tests**\[4\]
- If the prostate or seminal vesicle is felt to have suspicious areas on rectal examination, or if the prostate specific antigen (PSA) screening test for prostate cancer is suspicious, ultrasound examination and biopsy may be indicated.
- Microscopy, culture and cytology of the ejaculate or prostatic fluid from ‘milking’ the prostate.
- Microscopy and culture of urine.
- If blood is seen in the urine, an X-ray or ultrasound scan of the urinary tract, as well as a telescopic examination of the bladder and prostate (cystoscopy), are indicated.
- Sexually transmitted disease screen.
- PSA:
  - Remember that a raised PSA can result from acute or chronic prostatitis, benign prostatic enlargement, recent rectal examination, ie 1-2 days, as well as prostatic carcinoma.
  - Haematospermia is rare in a prostate cancer screening population. When a man presents with haematospermia, prostate cancer screening should be vigilantly performed, since haematospermia is associated with an increased risk of prostate cancer.
Other tests depending on any other symptoms - eg, clotting test if there are any other signs of bruising or bleeding. Investigations of any testicular or prostatic lumps if present. May need prostatic ultrasound examination.

Persistent and recurrent cases of haematospermia are best investigated by:
- Transrectal ultrasound examination
- Cystoscopy
- CT and MRI scanning

Management

It is generally recommended that no therapy be given for primary haematospermia as it usually resolves spontaneously.

Usually reassurance is all that is required after full physical examination and investigations of any ancillary symptom or signs.

In patients aged over 40 years, with persistent haematospermia, especially with other symptoms, a urological opinion may be necessary.

Treatment of any associated or underlying pathology usually is sufficient. Patients should be given a full explanation of their condition and told of symptoms to report.

Open vesiculectomy surgery has been considered the definitive form of treatment; however, it can be associated with significant morbidity. Laparoscopic vesiculectomy may be a safe and feasible approach and has showed good outcomes and minimal morbidity.

Further reading & references

1. Haematospermia; NICE CKS, December 2016 (UK access only)

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