Haematospermia

Definition
The presence of blood in the ejaculate is called haematospermia. It is usually a painless, benign, isolated, self-limiting symptom.\cite{1}

Epidemiology

- Haematospermia is not uncommon and may affect men of any age after puberty.
- Its peak incidence is in men aged 30 to 40 years.
- More than 90% of patients have no prior genitourinary symptoms or significant factors in their history.
- The age ranges from 14 to 74 years, with an average age of late 30s.\cite{2}

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 30-70% of the cases there is no association with any significant pathology.\cite{3}
  - Most of the semen comes from the seminal vesicles and prostate and infections or inflammation of these organs account for up to 50% of cases.\cite{3}
  - Malignancies and trauma account for just 4-13% of cases. Malignancy should particularly be considered in older patients, ie aged 40 years or above.\cite{4}
  - It may be a complication associated with transurethral prostate resection. Rates of 2.5% have been found.\cite{5}
  - Ultrasound-guided biopsy of the prostate can also result in haematospermia. This occurs in about a third of patients undergoing this procedure and is not cause for alarm.

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.
- About 15% of patients will have one episode and never have another. 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.

- About 85-90% of all 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.

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).[^6] [^7]
- With any bleeding tendencies (inquire about spontaneous bruising or abnormal bleeding).
- Tropical infections such as schistosomiasis and trachoma.[^8]

The following factors require further consideration: [^2] [^9]

- 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
- 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

- 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.[^9] [^10]
• 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 (0.5%) 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. [4]
  - 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:
    - 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.[12]
• 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.

Persistent haematospermia may benefit from a novel treatment with massage by transrectal heat rotating magnetic field. In a recently reported series of 64 cases, which were caused by prostatitis and spermatocystitis, after one to four treatment sequences the cure rate was 81.25%. [13]

Further reading & references


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