Hematospermia

Frank J. Leary, MD
Rochester, Minnesota

During a 15-year period, 200 patients with hematospermia were seen at the Mayo Clinic. General physical examination, including digital rectal palpation and urinalysis, was performed on all 200 patients. Of these, 26 had no additional urologic evaluation. In the remaining 174 patients, cystoscopy and K.U.B. roentgenography were done. The results of urologic evaluation in the 174 patients revealed various minor abnormalities in 64; however, in no instance was there significant urologic disease. During follow-up of five to 23 years in 150 of the 174 patients, 106 had no further hematospermia whereas 44 had recurring hematospermia, which persisted in some for more than ten years. None of these patients developed any significant disease related to the hematospermia. In our experience, the occurrence of hematospermia in an otherwise asymptomatic man with normal findings on physical examination, including digital rectal examination, seems not to be associated with the presence of, and does not lead to future development of, significant urologic disease.

Hematospermia or hemospermia denotes varying degrees of bloody discoloration in the seminal fluid. This discoloration may vary from bright red to rusty to coffee colored and may occur with sexual intercourse, masturbation, or nocturnal emission.

Coital hematospermia may be noted first by the patient's partner and be confused with bleeding from the vaginal tract. Use of a condom allows identification of the source of the bleeding. Hematospermia should also be differentiated from the extremely rare condition of melanospermia reported to have occurred in two patients with malignant melanoma. The characteristic black stain in the ejaculate in melanospermia can be identified as melanin by chromatography.[1]

Historical Perspective

Although hematospermia was described centuries ago by Galen, the documented body of knowledge concerning its etiology, natural history, and clinical significance is meager. A few case reports during the late 1800's suggested a wide variety of possible etiologic factors including urethral stricture, seminal vesiculitis, purpura, scurvy, sexual abstinence, sexual "excess," tuberculosis, bilharziasis, and hypertension. Authors during the early 1900's began to recognize that many patients with hematospermia had no demonstrable disease, and thus began to investigate the possibility of abnormalities of the venous system supplying the seminal vesicles. Magid and Hejtmancik[2] in 1957 demonstrated direct communication between the venous system and the lumen of the seminal vesicle in two patients with hematospermia. They postulated this mechanism as an explanation for the increasing number of patients observed to have "essential" or "idiopathic" hematospermia. Ross[3] summarized the literature in 1969 and presented his experience with 31 patients. He suggested that patients with hematospermia could be separated into three categories: those with definite pathologic conditions, those with functional conditions, and those with "essential" or "idiopathic" hematospermia. This etiologic classification provides the practitioner with a rational clinical approach to the patient. In 1974, Leary and Aguilo[4] reported their review of 200 patients with hematospermia seen at the Mayo Clinic from 1950 through 1965. Among 150 patients whose condition was evaluated and followed for five to 23 years, hematospermia proved to be a benign, usually self-limiting symptom, unassociated with any significant disease process.

Etiologic Classification

Hematospermia Due to Pathologic Conditions – Definite pathologic conditions are probably present in fewer than one percent of patients with hematospermia. Various inflammatory lesions, as well as tumors of the epididymis, vas, seminal vesicles, prostate, and urethra, have been reported – although rarely – to be associated with hematospermia. The presence of inflammatory lesions is usually suggested by irritative urinary symptoms and pyuria. Tumors of the seminal vesicle, spermatic cord, and prostate that have been associated with hematospermia have presented palpable abnormalities on physical examination.[5-11] Thus, a patient with hematospermia who is otherwise asymptomatic, whose external genitalia, prostate, and seminal vesicles are normal to palpation, and whose urinalysis is negative, is unlikely to harbor any inflammatory or neoplastic disease responsible for the hematospermia.

Hypertension, blood dyscrasias, and anticoagulant therapy may rarely be found to be associated with hematospermia.

Hematospermia Due to Functional Conditions – Prolonged sexual absti-

From the Mayo Clinic and Mayo Foundation, Rochester, Minnesota. Requests for reprints should be addressed to Dr. Frank J. Leary, Mayo Clinic, Rochester, Minn 55901.

nence, interrupted coitus, "unbridled sexual license," excessive masturbation, and a variety of sexual aberrations have all been considered responsible for hematospermia in some patients. Obviously, the history concerning such possible etiologic activities may be difficult to elicit.

Hematospermia Due to "Idiopathic" or "Essential" Conditions. – The largest group of patients (probably 99 percent) with hematospermia can be placed in this category. Exhaustive clinical and laboratory studies in such patients fail to identify any pathologic process. At the present, we believe some type of venous anomaly associated with the seminal vesicle accounts for the hematospermia.

Epidemiology

Data concerning the incidence of hematospermia are not readily available. Ross,[3] at the University of Liverpool, states that the outpatient department sees one patient with hematospermia every two months. At the Mayo Clinic, we have seen approximately one patient with hematospermia per month (an incidence of 1:5,000 new patients seen). I suspect that hematospermia is probably more common than these figures suggest.

Hematospermia has occurred in patients ranging from 20 to 70 years of age. The highest incidence occurs from 40 to 70 years of age. Occupational, racial, social, and familial factors do not appear to be involved.

Natural History

In our experience, 85 percent of patients had had repeated episodes of hematospermia over periods of weeks to months before seeking medical advice. After their general physical examination – including digital rectal palpation, urinalysis, K.U.B. roentgenography, and cystoscopy – 70 percent of those with "essential" or "idiopathic" hematospermia had no further episodes of bleeding. Thirty percent continued to notice recurring hematospermia, which in some persisted for as long as ten years. None of these patients with recurring hematospermia developed significant urologic disease related to the hematospermia.

Clinical Aspects

While bleeding from a bodily orifice usually prompts a visit to the doctor's office, many patients who have hematospermia delay seeking medical advice. The bleeding itself often seems of less concern to the patient than does its imagined cause. Such patients are usually anxious and apprehensive, presenting a broad challenge to the physician. Not only must he examine the patient thoroughly, but he must review in depth all aspects of the patient's concerns about the significance of his hematospermia. In addition to the usual general fear of cancer, the patient with hematospermia may have profound but unspoken fears of some threat to his "male" integrity. Ghosts of past sexual indiscretions, specters of venereal disease, and apparitions of his spouse's infidelities may all play on his mind, disturbing him, his home, and his sex life. Hematospermia can often be a significant clinical problem affecting the entire family.

Recommendations vary about the extent of the work-up needed for a patient with hematospermia. Our experience indicates that a patient with hematospermia who is otherwise asymptomatic, whose external genitalia, prostate, and seminal vesicles are normal to physical examination, and whose urinalysis is negative requires no further clinical study. Admittedly, further evaluation or consultation for radiographic or endoscopic examinations may sometimes seem prudent and reassuring, particularly for the patient who appears somewhat less than satisfied with what he interprets to be a rather minimal physical examination plus a urinalysis.

Patients with hematospermia who have additional symptomatology in the genitourinary system or other systems, as well as patients with positive findings on physical examination or urinalysis, will require further appropriate evaluation.

Those having additional symptomatology related to the genitourinary system may complain of urinary disturbances (urgency, frequency, dysuria, hematuria, nocturia, urethral discharge), pain or "discomfort" (penis, testicles, perineum, groin), or alterations in sexual function (decreased libido, impotence, premature ejaculation). While many of these symptoms may be functional, some may reflect the presence of infection in the genitourinary organs. Such lesions are usually associated with pyuria, microhematuria, or bacilluria and, if uncomplicated, should respond to appropriate antimicrobial therapy. Resistant or recurring infections may require urologic consultation.

Excretory urography, retrograde cystography, cystoscopy, and retrograde pyelography are rarely indicated in a patient with hematospermia. In my opinion, seminal vesiculography should be avoided. Significant indeterminate palpable enlargement of the seminal vesicle should probably be explored.

Treatment

In the rare instance when hematospermia is due to a definite pathologic process, appropriate treatment of the causative factor should cure the problem.

Patients with hematospermia due to functional factors require thorough counseling about their sexual activities. Psychiatric consultation occasionally may be of benefit; however, most patients can be managed quite satisfactorily by their family practitioner.

Idiopathic or essential hematospermia requires only reassurance, which in some patients may be needed in repeated, large doses. Some authors have advocated the use of systemic estrogens, steroids, and antihistamines as well as the topical (via urethral instillation) application of various agents (Argyrol, silver nitrate, and clorpactin). In my opinion, none of these modalities is necessary and some may be harmful.

References

1. Smith GW, Griffith DP, Pranke DW: Melanospermia: An unusual presentation of malignant melanoma. J Urol 110:314-316, 1973
2. Magid MA, Hejtmancik JH: Hematospermia. J Urol 78:82-88, 1957
3. Ross JC: Haemospermia. Practitioner 203:59-62, 1969
4. Leary FJ, Aguilo JJ: Clinical significance of hematospermia. Mayo Clin Proc 49:815-817, 1974
5. Heller E, Whitesel JA: Seminal vesicle cysts. J Urol 90:305-307, 1963
6. Smith BA Jr, Webb EA, Price WE: Carcinoma of the seminal vesicle. J Urol 97:743-750, 1967
7. Ewell GH: Seminal vesicle carcinoma. J Urol 89:908-912, 1963
8. Marshall DF, Leary GC, O'Donnell EE, et al: Seminal vesicle carcinoma. J Maine Med Assoc 52:145-147, 1961
9. Tripathi VNP, Dick VS: Primary sarcoma of the urogenital system in adults. J Urol 101:898-904, 1969
10. Arlen M, Grabstald H, Whitmore WF Jr: Malignant tumors of the spermatic cord. Cancer 23:525-532, 1969
11. Melicow MM, Tannenbaum M: Endometrial carcinoma of the uterus masculinus (prostatic utricle): Report of 6 cases. J Urol 106:892-902, 1971