Chapter III

Diagnosis and Investigation of Genitourinary Disease

An adequate history and a thorough physical examination enables many urological diagnoses to be made. This is emphasised in the section on inguino-scrotal swellings.

Special investigations have greatly increased the accuracy of clinical diagnosis although their usefulness, risks and costs should always be considered. The continuing development of sophisticated special investigations has not replaced careful history taking and examination findings, nor the special doctor-patient relationship, which is essential and requires a combination of mature common sense, responsibility and scientific knowledge.

One special investigation, urodynamics, is discussed separately, in chapter IV.

The Patient History

Patients commonly present to urologists complaining of difficulty with micturition, pain, haematuria, a swelling or a urethral discharge. There is much to be gained by allowing the patient to describe his own problems before asking direct questions.

General Considerations

The age, marital status, previous medical and surgical problems, including venereal disease and any suspicion of tuberculosis, present and past drug therapy, cigarette smoking habits and alcohol intake, family history, fluid intake, past and present occupation, and present level of physical and mental activity are essential items of information. The link between cigarette smoking, analine dye contact and carcinoma of the bladder is now well established. In women the date of the last menstrual period must be known and indicated to the radiologist before any x-ray examinations are undertaken. Any past history of abnormal bleeding must be fully investigated before surgical procedures are carried out.

Haematuria

All patients who present with macroscopic haematuria, or with microscopic haematuria greater than 20,000 red blood cells per ml, require both radiological outlining and direct visualisation of all of the urinary system, irrespective of their age or other symptoms (see chapter VI).

Pain

Renal and Ureteric Pain: Renal and ureteric pain is usually due to obstruction (see chapters IX and XII) but may be due to infection or neoplasia. The pain may be acute or chronic. Acute renal and ureteric colic is discussed in chapter XII, page 210. Chronic renal pain produces a dull loin ache, usually with anterior radiation and aggravated by jolting movements.

Bladder Pain: Acute obstructive bladder pain indicates that both the bladder musculature and nerves are healthy and, provided that the obstruction can be corrected (see chapter X), will function well after surgical correction, while chronic pain, or no pain in the presence of a large distended bladder, usually indicates the reverse.
Clinical Urology Illustrated

Chronic obstructive bladder pain is felt supra-pubically whilst bladder outlet inflammatory pain, due to infection, calculus or neoplasm, produces a constant desire to void. An intense supra-pubic and penile desire to void, with associated frequency of micturition and, often, terminal haematuria, is termed *strangury*.

**Prostate Pain:** Prostatic pain may be acute but is usually chronic and due to inflammation. It is felt in the perineum and occasionally in the rectum and related areas.

**Urethral Pain:** Urethral pain may be chronic but in females, is usually acute-on-chronic and caused by inflammation. Sterile or infected non-obstructive urethro-trigonitis (see p. 136) is the most commonly referred urological problem in our community. The pain may be accompanied by scalding or burning depending upon the degree of inflammation present.

**Back Pain:** Lower tract genitourinary neoplasms are common and metastases, particularly from carcinoma of the prostate, often spread to the vertebrae and present as back pain. Paraplegia may result from a failure to investigate such pain. Most patients presenting with back pain, as an isolated symptom, have back strain and not genitourinary pathology.

**Inguino-scrotal Pain:** Torsion of the testis, or its appendages, may result in scrotal and/or referred abdominal pain in males, usually under the age of 21 years, whilst inflammatory epididymo-orchitis commonly produces intra-scrotal pain in older adults. Testicular neoplasms (p. 184) are rare but commonly present with scrotal pain. Idiopathic scrotal oedema and the rare scrotal fat necrosis are other causes of scrotal pain in children (see below).

Inguinal pain may be due to an obstructed or strangulated inguinal femoral hernia or to inflammation of the related drainage lymph glands from a primary infected source.

**Frequency/Nocturia**

Frequency is a common presenting symptom and, if associated with lower genitourinary tract infection, sterile or neoplastic inflammation, occurs together with urgency, scalding, burning, or even strangury. Frequency as a solitary symptom is most commonly due to anxiety but may be due to local disease which reduces the bladder capacity such as neoplasia, tuberculosis, interstitial cystitis or irradiation, or to general diseases, such as congestive cardiac failure, diabetes or to malfunction of the pituitary and adrenal glands (p. 45).

With a fluid intake of 1,500ml per day most healthy younger adults void 4 to 6 times whilst awake, and rarely at night.