URINARY SYMPTOMS
HEMATURIA

- PRESENCE OF BLOOD IN URINE
  MACROSCOPIC
  MICROSCOPIC - DIPSTICK TEST
  FALSE POSITIVE – FOOD, DRUGS, eg. Pyridium furadantin (NO RBC’s)
  PERSISTENT/INTERMITTENT
  URINARY STREAM: HEMaturia:
  Beginning - lower urinary tract
  UNIFORM STAINING - UPPER URINARY TRACT
  TERMINAL: BLADDER STONE
  INFECTION
• PAIN FULL/ PAINLESS
• OCCULT NEPHROPATHY – HYPERTENSION

❖ RENAL PAIN
DEEP SEATED, IN LOIN. STRETCHING OF CAPSULA
CALCULUS
INFECTION – PSOAS SPASM
urine (microscopic haematuria) may be detected as part of a routine health check. A substantial haemorrhage at the beginning of the urinary stream may suggest a urinary tract cause, while uniform staining for blood points to a cause higher up. Terminal blood-stained or severe bladder irritation by stone or by infection experiences pain with haematuria, the doctor may help to identify the source of the bleeding if it is no pain.

None of these variations in the present Sphinx exhaust in itself to diagnose the case is sufficient in itself to diagnose the cause patients with haematuria need investigable anticoagulant drugs. In a significant proportion negative: the chance of finding a uterus or male under 40 years of age with microscopic haematuria is small. However, bleeding into the urinary tract an occult nephropathy so it is important in these patients.

Box 74.1

Haematuria

- Is always abnormal whether microscopic or macroscopic
- May be due to a lesion anywhere in the urinary tract
- Is investigated by
  - midstream specimen examination for bacteria
  - urine specimen for urine cytology
  - intravenous urogram and/or intravenous injection
  - flexible or rigid cystoscopy
- Is commonly due to urinary infection, e.g., prostate

Pain (Boxes 74.2 and 74.3)

Renal pain

Inflammation and acute obstruction of the renal pelvis are liable to cause pain that...
URETERIC COLIC

ACUTE PAIN IN LOIN RADIATING TO GENITALIA
SHARP PAIN WITH CONTINUOUS LOW GRADE
STONE, CLOTS

BLADDER PAIN

SUPRA PUBIC
RADIATES TO TIP OF PENIS – IRRITATION OF TRIGONE
INFECTION / STONE
PERINEAL PAIN
PROSTATITIS / UTERINE / RECTUM

URITHERAL PAIN
OCCURS DURING VOIDING

ALTERED BLADDER FUNCTION
URGENCY – DEDTRUSOR INSTABILITY
INVESTIGATION OF URINARY TRACT

- URINE
- DIPSTICKS - BLOOD, PROTEIN, NITRITES, PH, SP.GR screening tests

RBC’s
SCHISTOSOMA – OVA
FISTULA – BOWEL AND URINARY TRACT CYTOLOGY: POORLY DIFFERENTIATED TRANSITIONAL CELL CARCINOMA
BLADDER TUMOUR ANTIGEN
Figure 14.2: Whitlow on man (courtesy of Dr. Hamed Dervar).
• CULTURE : MID STREAM SPECIMEN
• STERILE PYURIA: TUBERCULOSIS LOWENSTEIN JENSEN
• CHLAMYDIA
• BIO-CHEMICAL – GLUCOSE Hb, BILIRUBIN
• 24 hr specimen – calculus disease, OXALATE, CALCIUM, URIC ACID

❖ RENAL FUNCTION TEST

70 % KIDNEY FUNCTION LOST – FOR CLINICAL RENAL FAILURE
RENAL PLASMA FLOW IMPAIRED
HYPERTENSION, RENAL ARTERY STENOSIS
LOSS OF GLOMERULI – NEPHRITIS, CORTICAL NECROSIS
TUBULAR FUNCTION – PYELO NEPHRITIS
ALL ABOVE IS AFFECTED IN OBSTRUCTIVE NEPHROPATHY
CREATININE CLEARANCE / CHROMIUM LABELLED EDTA
IMAGING

PLAIN X- RAY ABDOMEN (KUB AREA)
SOFT TISSUE SHADOWS
RENAL CALCULI – COURSE OF URETER
TIPS OF TRANSVERSE PROCESSES
SACRO-GLIAC JOINT
ISCHIAL SPINE
URIC ACID CALCULI
PELVIC PHLEBOLITH
STONE LOW CALCIUM

INTRAVENTOUS UROGRAM (IVU)
IODINATED – NOT ABSORBED BY TUBULES
ANAPHYLACTIC REACTION
PREPARATION: BOWELS EVACUATED LAXATIVES,
ACTIVATED CHARCOAL
DYE INJECTED
EARLY FILM – NEPHROGRAM PHASE
DELAYED – FUNCTION
**Figure 74.3** Normal intravenous urogram showing the outline of both kidneys with the collecting system and upper ureters highlighted by the contrast medium.
• LATER FILMS – DISTORTION - TUMOURS
• POST EVACUATION FILM – BLADDER
• TUMOUS, DISTORTED ANATOMY

• RETRO GRADE URETEROGRAM

CYSTOSCOPE – CATHETER – URETERIC ORIFICE
CONTRAST
INTRALUMINAL LESIONS
PELVI URETERIC OBSTRUCTION
TUMOURS – BRUSH BIOPSY
INFECTION – RISK – NEPHROSTOMY – PCN STENTING
Figure 74.5 Retrograde ureterogram demonstrating the collecting system. The radiolucent filling defect in the renal pelvis represents a stone.
• ANTIGRADE PYELOGRAPHY
• PER CUTANEOUS NEPHROSTOMY
• PCNL
• DRAIN INFECTED KIDNEY

❖ DIGITAL SUBTRACTION ARTERIOGRAPHY

ARTERIAL / VENOUS INJECTION OF DYE
SELECTIVE ARTERIOGRAPHY – HYPERNEPHROMA
VENOGRAM – NOT USED
CYSTOGRAPHY

❖ URETHROGRAPHY

ASCENDING – URETHRAL STRICTURE
TRAUMA
DIVERTICULA
FALSE PASSAGES
Figure 74.7 Ascending urethrogram demonstrating a tight stricture in the bladder.
• WATER SOLUBLE CONTRAST

❖ ULTRASONOGRAPHY

• SIZE OF KIDNEY - HYDRONEPHROSIS
• CORTEX THICKNESS – CYST – TUMOURS
• VOLUME OF URINE IN BLADDER
• SCROTAL CONTENT

TRANS RECTAL USG
CARCINOMA PROSTATE
GUIDED FNAC
CT. SCAN /MRI/PET

- RENAL CELL CARCINOMA
- SIZE, SITE, DEGREE OF INVASION
- RENAL HILAR NODES
- INVASION OF RENAL VEIN / IVC
- TESTICULAR TUMOURS
- STAGING / RETROPERITONEAL NODES
- BLADDER / PROSTATIC CANCER

RADIO ISOTOPE SCANING

ASSESS THE FUNCTION
DTPA – INULIN – FILTERED BY GLOMERULI
- NOT ABSORBED BY TUBULES
Figure 74.8 Computerised tomography showing renal cell carcinoma of the right kidney.
• Tc $^{99m}$ DTPA
• ISOTOPE BONE SCAN – SKELETAL METASTASIS

❖ CYSTOSCOPY

• REGID / FIBRO OPTIC
• DIAGNOSTIC / THERAPEUTIC LOWER URINARY TRACT
• BIOPSY / RGP