Incidental Renal Lesion

Disclaimer

This pathway is about renal lesions that are found incidentally on imaging, usually an ultrasound.

It does not apply to patients with a past history of malignancy, as their risk of underlying malignancy is much higher. Refer these patients directly for a urology assessment.

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**Background**

**About incidental renal lesion**

Most renal lesions are found on imaging which is done for other medical reasons.

Most patients have no symptoms.

**Assessment**

1. Classify renal lesions as *solid* or *cystic*, based on the imaging findings.

**Cystic renal lesions**

- Benign
- Malignant e.g., cystic renal cell carcinoma

**Solid renal lesions**

- Malignant:
  - Renal cell carcinoma
  - Urothelial carcinoma
  - Others
- Benign:
  - Oncocytoma
  - Angiomyolipoma
  - Abscess

2. Assess for symptoms of **paraneoplastic syndrome**. If classic triad of flank pain, gross haematuria, and palpable abdominal mass, indicative of advanced disease.

**Paraneoplastic Syndrome**

- Hypertension
- Anaemia
- Hypercalcaemia
- Pyrexia
- Weight loss
- Polycythaemia
- Raised erythrocyte sedimentation rate
- Abnormal liver enzymes

3. Arrange investigations
   - **Blood tests**, including creatinine if not done recently, as this is required for imaging with contrast.

**Blood tests**

- Haemoglobin (Hb)
- ESR
- Electrolytes and urea with eGFR
- Liver function tests (LFTs)
- Corrected calcium
- Midstream urine (MSU)
- Radiological assessment depends on the **nature of the lesion** found. **3-phase CT** will provide a Bosniak classification of the renal lesion which then informs the management required.

### 3 Phase CT

- Arterial, corticomedullary, nephrographic phases.
- Contrast required for this examination.
- **If there is any suspicion of the lesion involving the collecting system, request a 4th phase (excretory) on CT**

### Nature of lesion

- **No CT required. Simple cyst – no septations, no echoes.**
- **CT required:**
  - Non-simple cyst – contains one or more of septation, calcification, solid components, thickening, nodularity
  - Solid lesion

### Management

The need for further imaging and follow-up is determined by characteristics of the lesion found.

- Cystic lesions – classified by the **Bosniak classification**, which determines whether follow-up and referral is indicated.

#### Bosniak classification

- **Class 1** – simple cyst, no septations or echoes. No further investigation or follow-up is required. Very large simple cysts can be removed for symptom relief.
- **Class 2** – minimally complex, a few thin septa (< 1 mm), thin calcification and non-enhancing. No further imaging or follow-up is required.
- **Class 2F** – minimally complex but with increased number and thickness of septa, thickened calcifications or hyperdensity. These patients require 4-phase CT and referral for urology assessment to guide ongoing surveillance.
- **Class 3** – indeterminate from malignancy, thick and multiple septa, septal nodularity, hypodense. These patients require 4-phase CT and referral for further assessment.
- **Class 4** – clearly malignant. Require 4-phase CT and referral for assessment.

- Solid lesions – refer for [urgent urology referral](#) following investigation with a **3-phase CT**.

### Referral

- Refer all renal masses except simple renal cysts for a [urology assessment](#).
- If a simple cyst is large and causing symptoms, arrange [urology assessment](#).
Australian Family Physician – Incidentally Detected Small Renal Masses: Investigation and Management

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