Clinical Guideline
SUSPENDED ADRENAL ‘INCIDENTALOMA’

SETTING
Trust-wide

FOR STAFF
Part 1 - Medical staff, including radiologists, who identify a possible case
Part 2 – Specialist medical staff within Endocrine Team

PATIENTS
Patients with an unexpected adrenal lesion following diagnostic imaging

BACKGROUND
‘Incidentaloma’ is an internationally accepted term for a lesion incidentally discovered through diagnostic imaging, without prior clinical suspicion of tumour / disease.

Published evidence \(^{1,2}\) suggest the following pathology for adrenal incidentalomas:

- Endocrine inactive adenoma 41 - 85\% of cases
- Metastases 15 - 19\% 
- Cortisol secreting adenoma 5 - 10\% 
- Adrenocortical carcinoma 2 - 10\% 
- Phaeochromocytoma 3 - 8\% 
- Conn’s 2 - 5\% 
- Other causes 2 - 9\% 

Part 1
REFERRAL TO ENDOCRINE TEAM

Medical staff that identify a possible adrenal incidentaloma should refer the patient to the Endocrine Team for further investigation.

Referral details should include

- Hospital Registration Number
- Surname
- Forname
- Date of Birth
- Date of diagnostic imaging
- Imaging report number

Part 2
ENDOCRINE TEAM ONLY (overleaf)
Part 2
ENDOCRINE TEAM ONLY

The algorithm below describes the diagnostic pathway
There are no long term data to be confident of the appropriate duration of imaging or hormonal surveillance but abnormal secretion has been detected during prolonged follow-up. The risk of endocrine abnormalities was higher in patients with a baseline lesion ≥ 3cm. This guideline is consistent with recent clinical practice guidelines.

ASSESSMENT OF ENDOCRINE STATUS
Careful personal and family history and full examination Proceed as appropriate if underlying endocrinopathy suspected

RECOMMENDED OUT-PATIENT TESTS IF NO ENDOCRINE PHENOTYPE SUSPECTED
1. Two 24 hour urine collection samples for catecholamines (N.B. regional laboratories may use alternative baseline screening tests) to help exclude phaeochromocytoma. Ideally avoid interfering medication including paracetamol, many antihypertensives, catecholamine containing drugs & some antidepressants). Plasma metanephrines may be indicated, especially in the context of a genetic phaeo-paraganglioma syndrome.
2. 1mg overnight dexamethasone suppression test to exclude subclinical Cushing’s (*see below). (1mg dexamethasone at 11PM followed by serum cortisol at 9 am next morning. The morning cortisol should ideally be <50nmol/l. Values 50nmol/l-138nmol/l fall into an area of clinical uncertainty and surgery may be discussed as an option especially in the presence of diabetes or hypertension. In the absence of any classic phenotype further Cushing’s investigations probably only helpful if overnight result >138nmol/l or clinical progression. However, UFC (urinary free cortisol), low dose dexamethasone suppression test, morning ACTH or midnight salivary cortisol may be considered.
3. Aldosterone/Renin ratio (ARR) only in hypertensive patients to exclude Conn’s syndrome. Aldosterone and renin levels are affected by many anti-hypertensive agents. Ideally use doxasozin alone for 4-6 weeks pre-testing. Correct potassium to normal pre test. If ARR sufficiently elevated (refer to local laboratory range) then proceed to a confirmatory test e.g. saline infusion or fludrocortisone suppression and adrenal CT. Adrenal vein sampling should be considered unless patient <40years.

BIOCHEMICALLY FUNCTIONING
(Include subclinical Cushing’s in this category but remember that surgery for this indication remains controversial. Consider presence of diabetes, hypertension or other CV risk and patient choice when counselling)

Consider surgery. Refer to neuroendocrine tumour (NET) MDT. Remember the need for peri- and post-operative steroids if evidence of endogenous hypercortisolaemia. Post-operatively ensure resolution of any abnormal biochemistry. If adrenal carcinoma suspected measure testosterone, DHEA, 17OHP & androstenedione and CT chest. FDG-PET can be a useful tool for identifying adrenal malignancy.

BIOCHEMICALLY NON-FUNCTIONING

Less than 4cm in size
Baseline malignancy risk ~ 2%

4cm or greater in size
Baseline malignancy risk
Size 4-6cm ~ 6% risk, Size >6cm ~ 25% risk

Hounsfield units less than 10, benign appearance on CT & no personal history of malignancy

Hounsfield units more than 10 (? fat poor benign adenoma in 25 % cases) or history of malignancy

Repeat CT scan 6 months after baseline scan and calculate contrast washout at 10 minutes.
Consider MR in women of reproductive age or where there is impaired renal function or known contrast sensitivity

Contrast washout greater than 60% in 10 minutes – likely fat poor benign adenoma

Contrast washout less than 60% at 10 minutes or an increase in size >1cm.

1. No repeat imaging required.
2. Hormonal surveillance at baseline and at 2 years. Hormonal surveillance at 4 years if baseline size ≥ 3 cm. Up to 20% will become hormonally active.
3. Consider surgery if mass becomes hormonally active.
4. When discharging to GP care recommend referral for re-evaluation if symptoms dictate as rarely functional activity has been described after prolonged follow-up.

Version 1 Sept 2011 - Review Sept 2014  Author Dr Karin Bradley, Endocrinology Consultant
It is worth noting that a phaeochromocytoma is extremely unlikely if Hounsfield units are less than 10. A phaeochromocytoma diagnosis becomes more likely if the Hounsfield units are more than 10 and the lesion is more than 3cm in size.

Various medications may interfere with dexamethasone metabolism and this should be taken into account when interpreting the overnight dexamethasone suppression test. These include sertraline, fluoxetine, paroxetine, trazodone, citalopram, bupropion, venlafaxine, atorvastatin, simvastatin, verapamil, diltiazem, amlopidine, nifedipine, felodipine, irbesartan, losartan, olanzapine, quetiapine, proton pump inhibitors, propranolol, pioglitazone, clonazepam and topiramate.

REFERENCES

5. AACE/AAES Medical Guidelines for the Management of Adrenal Incidentalomas . Endocrine practice 2009; 15 (Suppl 1)

QUERIES

Endocrine Specialist Registrar (referrals) bleep 6216
Endocrine Consultants via switchboard
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