The Association for Clinical Biochemistry & Laboratory Medicine

Better Science, Better Testing, Better Care

Summary of Endocrinology Society Guidelines

Title	**Pituitary Incidentaloma: An Endocrine Society Clinical Practice Guideline**
Journal Reference	Freda P U, Beckers A M, Katznelson L, Molitch M E, Montori V M, Post K D, Vance M L. Pituitary Incidentaloma: An Endocrine Society Clinical Practice Guideline. *J Clinical Endocrinol Metab.* 2011; 96(4):894-904. *This guideline was produced in the USA.*
Date of Review:	22nd August 2018
Summary of Condition (Max 250 words)	Pituitary incidentalomas are previously unsuspected lesions discovered on imaging studies performed for an unrelated reason e.g. head trauma, rather than symptoms related to the lesion, which may include vision loss and clinical manifestation of hormone excess/deficiency. *Initial Evaluations:* • Visual field testing and MRI scans to better delineate the nature and extent of the incidentaloma. • Clinical and laboratory evaluation for hypopituitarism. • Assessment for prolactin and GH hypersecretion, due to the availability of effective treatment. • The guidelines are unclear with regards to glucocorticoid excess; they state that all patients should be screened for ACTH hypersecretion, but later state that glucocorticoid excess should be considered only when suspected clinically, e.g. in patients with Cushing's-associated morbidities. *Follow-up:* • MRI scans at 6 months for macroincidentalomas (>1cm in size) or 1 year for microincidentalomas (<1cm). If there is no change, the frequency can be reduced. • Clinical and biochemical evaluation for hypopituitarism at 6 months for macroincidentaloma. Yearly follow up thereafter. • Follow-up biochemical evaluations for microincidentalomas may only be necessary in patients whose clinical picture and MRI change over time. *Treatment:* Patients should be referred for surgery if they have any of the following: • A visual field deficit/abnormality • Compression of optic nerve/chiasm • Pituitary apoplexy with visual disturbance

	• Hormone hypersecretion other than hyperprolactinaemia. Surgery should be considered for: • Significant growth of the incidentaloma • Loss of endocrine function • A lesion close to the optic chiasm or for patients planning to become pregnant • Unremitting headache. There is insufficient evidence for medical therapy in incidentalomas, other than dopamine agonists for symptomatic hyperprolactinaemia.
Overview of assays (Max 150 words)	*Evaluation for prolactin, GH and ACTH Hypersecretion:* • For large macroincidentalomas, the laboratory should ideally measure prolactin on diluted serum samples to ensure that levels are not falsely low due to high dose hook effect. • Screening for GH-secreting tumours should be done using IGF-1. If this is elevated, further evaluation for GH excess is suggested. • Screening for ACTH hypersecretion should be undertaken when there is clinical suspicion. Routine measurement of plasma ACTH levels is not recommended - screening for Cushings should be performed as per the Endocrine Society Guideline for that topic. *Screening for Hypopituitarism:* • Free T4, TSH, morning cortisol, testosterone, LH +FSH and IGF-1 testing may be considered as a broad approach to detect deficits in the gonadal, cortisol and GH axes. • If these baseline measurements suggest hypopituitarism, further stimulation tests of the adrenal or GH-IGF-1 axes should be performed. No specific cut-offs are given in these guidelines.
Lab professionals to be made aware *Please select/highlight appropriate choices*	✓ Laboratory Manager ✓ Chemical Pathologist ✓ Clinical Scientist ✓ Biomedical Scientist
Impact on Lab	☐ Moderate
Please detail the impact of this guideline (Max 150 words)	This guideline contains some information that is of relevance to the clinical biochemistry laboratory, particularly regarding the analysis of prolactin in patients with large macroincidentalomas; the guidelines recommend that prolactin measurement in these patients is performed on dilution to avoid false negative results from a high dose hook effect. In practice, this will require good communication between the laboratory and the local endocrine team to help identify the patients whose prolactin should be checked on dilution.

		Further review of current service provision is unlikely to be required given that the majority of relevant biochemical analytes are part of most laboratories' routine repertoire. Some more specialist assays such as IGF-1, GH and ACTH are readily available in larger laboratories. Clinical scientists/chemical pathologists should be aware of the initial evaluation/follow-up pathways for pituitary incidentalomas.

Impact on Lab

- **None**: This guideline has no impact on the provision of laboratory services
- **Moderate**: This guideline has information that is of relevance to our pathology service and may require review of our current service provision.
- **Important:** This guideline is of direct relevance to our pathology service and will have a direct impact on one or more of the services that we currently offer.

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