OBJECTIVE

Alberta clinicians optimize laboratory testing for investigation of suspected pheochrmocytoma and refer to an endocrinologist as soon as possible

TARGET POPULATION

Patients with typical symptoms, hypertension refractory to multiple drug regimens, accelerated hypertension, known familial syndromes, paradoxic hypertensive responses to antihypertensives, hypertensive episodes during surgical procedures, incidental findings of an adrenal tumor

EXCLUSIONS

None

RECOMMENDATIONS

- ✓ Refer patients suspected of having pheochromocytoma to an endocrinologist as soon as possible
- ✓ Request a 24 hour urine collection for metanephrines – this is the primary test for investigation
- ✓ Repeat test if results are borderline
- X Discontinue anti-hypertensive agents, if possible, prior to specimen collection. Duration of withdrawal varies with the class of drug.

Clinical Features of Pheochromocytoma	
• Sustained (more common) or paroxysmal hypertension • Cold sweats and pallor • Palpitations • Nausea	• Anxiety • Weakness • Dyspnea • Headache

Table 1: Clinical Features of Pheochromocytoma

BACKGROUND

Pheochromocytoma is a rare cause of hypertension, accounting for less than 1% of all hypertensive patients.[1,2] Approximately 10% of pheochromocytomas are malignant. In 10% of adults and 35% of children, pheochromocytomas are extra-adrenal in location. Ten percent of pheochromocytomas occur in patients with multiple endocrine neoplasia type II (medullary carcinoma of the thyroid, primary hyperparathyroidism, pheochromocytoma), in which the incidence of pheochromocytoma is 40%.

Metanephrines have a high sensitivity for diagnosis, detecting 70 to 91% of tumors, however many drugs including anti-hypertensives interfere with the assay.[1-3] The specificity is over 80%.[2,3]

A diagnosis of pheochromocytoma should be considered for any patient with typical symptoms, hypertension refractory to multiple drug regimens, accelerated hypertension, known familial syndromes, and paradoxic hypertensive responses to anti-hypertensives i.e., beta blockers, hypertensive episodes during surgical procedures and incidental findings of an adrenal tumor.

REFERENCES

1. Bravo EL. Evolving concepts in pathophysiology, diagnosis and treatment of pheochromocytoma. Endocr Rev. 1994;15:356-68.
2. Gifford RW, Manger WM, Bravo EL. Pheochromocytoma. Endocrinol Metab Clin North Am. 1994;23:387-404.
3. Eckfeldt JH, Engelman K. Diagnosis of Pheochromocytoma. Clin Lab Med. 1984;4(4):703-16.

SUGGESTED CITATION

Toward Optimized Practice (TOP) Endocrine Working Group. 2008 January. Laboratory endocrine testing: pheochromcytoma clinical practice guideline. Edmonton, AB: Toward Optimized Practice. Available from: http://www.topalbertadoctors.org

For more information see www.topalbertadoctors.org

GUIDELINE COMMITTEE

The committee consisted of representatives of family medicine, general medicine, medical biochemistry, pathology, internal medicine, endocrinology, laboratory technologists and the public.

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