ASY-801.5: Indications for Short Metyrapone Test

Assessment of hypothalamic pituitary adrenal function especially:

a  Following pituitary surgery  

b  Equivocal short synacthen test  

c  Contraindications to insulin tolerance test  

Note: anticonvulsants may alter test results.

ASY-801.6: Protocol

a  The test may be conducted as an inpatient or outpatient at the discretion of the endocrinologist.  

b  Where there is a high probability of adrenal insufficiency, important co-morbidities, compliance issues or social factors (such as transportation difficulties, geographic location), inpatient testing is recommended with overnight admission to Ward 26.  

c  The requesting physician must prescribe Metyrapone. This is dispensed from the hospital pharmacy only. Metyrapone capsules can be couriered to the patient via the hospital mailroom.  

d  Patient should be euthyroid.  

e  Patient takes 30 mg/kg metyrapone between 23.00 and 24.00 with milk and a snack.  

i  2.0 g for < 70 kg  

ii  2.5 g for 70 – 90 kg  

iii  3.0 g for > 90 kg  

f  Measure 08.00 cortisol, 11-deoxycortisol and ACTH.  

i  Complete documentation on ASY-801.9:  

ii  Baseline lying (5 min) and standing (2 min) BP.  

g  Endocrine registrar to be notified where systolic BP <110 mmHg. A drop of 20mmHg in systolic BP on standing is considered of significance.

ASY-801.7: Side effects

In a large series from Ireland (Fiad et al, Clin. Endocrinol 1994; 430: 603-9), side effects from the overnight metyrapone test using this dose occurred in only 7 out of 398 patients having 576 tests.

Side effects included nausea and vomiting (3 patients), dizziness (2 patients), nightmares (2 patients) and one patient with unusual limb sensations and faintness.

ASY-801.8: Interpretation

ASY-801.8.1: Normal result

A normal response to metyrapone is considered to be an ACTH >20 pmol/L and 11 deoxycortisol >200 nmol/L, Jubiz et al, Arch Intern Med: 472, 1970 (usually with cortisol <200 nmol/L). Some authors suggest ACTH should rise >30pmol/L (Steiner et al, Exp Clin Endo 102:33, 1994). Recent studies suggest cortisol and 11 deoxycortisol >450nmol/L indicates adequate HPA function (Berneis et al, JCEM 87: 5740, 2002).