CATECHOLAMINE METABOLITES

HVA (Homovanillic acid)
VMA (Vanillylmandelic acid, HMMA)

Relevant disorders

Neuroblastoma, phaeochromocytoma

Indication for Test

Quantitative measurement of HVA/VMA excretion is used to identify and monitor cases of neuroblastoma. It is also used to aid in the diagnosis of phaeochromocytoma. Catecholamine estimation is also required as most phaeochromocytoma secrete nor-adrenaline. It is common to have a raised VMA and a normal HVA in cases of phaeochromocytoma.

Methodology

Stable isotope dilution GC-MS.

Sample requirements

24 hour urine collection acidified with 10 ml 6M HCl or a random urine sample which must be acidified on receipt in the lab.
Random urines are adequate for screening but elevated results should be checked on timed urine collections. Results are related to creatinine.

5ml minimum sample.

Transport information/Contact Information

Send by first class post.

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Turn Around Time

5 – 14 days (but if requested urgently can be performed more quickly).

Reference Ranges

	HVA (µmol/mmol creatinine)	VMA (µmol/mmol creatinine)
Infant	4 - 25	2 - 12
1 – 5 years	2 - 15	2 - 9
Above 5 years	2 - 13	1 - 7

N.B: these reference ranges are only valid with data produced by the Department of Clinical Chemistry, Sheffield Children's NHS Foundation Trust.

References

- Ann Clin Biochem 1988;25:620-4 Neuroblastoma - when are urinary catecholamines and their metabolites "Normal"?

- Ann Clin Biochem 1994, 31: 1-11 Paediatric reference ranges for urinary catecholamines/metabolites and their relevance in neuroblastoma diagnosis.