

## KRYPTOPYRROL IN URINE

The test measures the porphyrin derivative kryptopyrrol (Mauve factor), 2,4 dimethyl-3 ethylpyrrol, in urine. Clinical elevated urinary levels of kryptopyrrol (pyrroluria) have been found in 30-40% of schizophrenic patients, in alcoholics, in hyperactive children, and in stress and violence-prone individuals.

### **PYRROLURIA**

Kryptopyrrol is a porphyrin derivative. Porphyrins are cyclic compounds that readily bind metal ions. They are formed by the linkage of 4 pyrrole rings and constitute haeme-proteins, including haemoglobin, myoglobin and cytochrome P450. The major sites of haeme-biosynthesis are the liver and the erythrocyte producing cells of the bone marrow. The haeme-proteins are constantly being rapidly synthesized and degraded.<sup>1</sup> Inherited or occasionally acquired defect in haeme-synthesis can result in accumulation and increased excretion of porphyrins or porphyrin precursors.<sup>1</sup> Clinical manifestations may be neurovisceral and/or cutaneous. Only a small number of people with inherited enzyme deficiency (porphyrias) will develop an overt clinical disease, mainly because of precipitating factors, such as drug use, lead poisoning, hormonal causes, infection, caloric restriction and alcohol abuse.<sup>3</sup> Kryptopyrrol was present in the urine of patients with hereditary porphyria during attack and in remission, but not in those with latent porphyria.<sup>6</sup>

The condition of pyrroluria is associated with a deficiency of vitamin B6 (pyridoxine) and zinc.<sup>5</sup> Besides the characteristic symptoms, the patients may exhibit white spots on fingernails, loss of dreaming, a distinctive sweetish breath odor and abdominal pain in the left upper quadrant.

### **TESTINDICATIONS**

- Anorexia
- Anemia that does not respond to iron
- Alcoholism
- Autonomic dysfunction
- Chemical exposure<sup>4</sup>
- Cutaneous photosensitivity
- Hyperactivity
- Heavy metal poisoning (lead)
- Menstrual irregularities
- Neuropsychiatric symptoms
- Schizophrenia
- Stress (prolonged)
- Malformation of knee cartilage along with joint pains
- Abdominal pain

### **COMPLEMENTARY TESTS**

- Liver function test
- Lead in blood
- Vitamins in blood (esp. vit. B6):
- Elements in blood (esp zinc)

### **LITERATURE**

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