

Urine Pyrroles and Other Orthomolecular Tests in Patients With ADD/ADHD

Authors:¹ James A. Jackson, MT(ASCP)CLS, PhD, Mary Braud, MD; Sharon Neathery, MT

¹The Center for the Improvement of Human Functioning International, Inc., 3100 N. Hillside Avenue, Wichita, KS, 67219

Abstract *Attention Deficit Disorder (ADD), Attention Deficit Hyperactivity Disorder (ADHD) and autism are usually diagnosed by a series of symptoms while in orthomolecular medicine, they are classified by a series of laboratory tests of the blood, hair and urine. The tests are classified as histapenia (low blood histamine), histadelia (high blood histamine), pyrroluria (high urine pyrroles), cerebral allergies (blood test) and/or hypoglycemia. Out of 2,200 patients recently seen at The Center, 14% were classified as psychiatric. Sixty five patients had urine pyrroles performed with positive rate of 51%. Plasma and urine vitamin C were performed on 24 patients. Eight patients had low plasma vitamin C and 15 had zero urine vitamin C. The tests mentioned in this article are almost unknown to traditional medical doctors. At The Center these tests have proven their value many times over and do have a place in treating patients, especially children diagnosed with mental dysperceptions.*

Introduction

Pyrroluria (Mauve Factor, kryptopyrrole) has been used to help diagnose mental disorders for years.^{1,2} Dr. Hugh D. Riordan, the late founder of The Center and a Board Certified Psychiatrist started using urine pyrroles to help diagnose mental disorders over 35 years ago. He, along with Abram Hoffer, Carl Pfeiffer, D. G. Irvine, M. Mahon, A. Sohler, H. Osmond, Bill Walsh, and others found this test very useful in testing for mental dysperceptions.³⁻⁶ Statistics from The Center for Disease and Prevention (CDC) estimates that 4.4 million youths between the ages of 4-17 have been diagnosed with ADHD and 2.5 million of these youths are receiving medication treatment for this disorder. In 2003, 7.8% of school age children were reported to have an ADHD diagnosis by their parent. It is also estimated that 3-5% of school aged children are diagnosed with ADHD and that three times as many boys

as girls suffer from this disease. Some consider ADD and ADHD to be the same disease which may be classified as inattentive, hyperactive-impulsive, or both (<http://www.cdc.gov/ncbddd/adhd/index.html>).

Unlike many diseases that are confirmed by laboratory tests, patients with ADD or ADHD are diagnosed by a series of symptoms contained in the *Diagnostic and Statistical Manual of Mental Disorders-IV* published by the American Psychiatric Association. A physical examination and tests for vision and hearing loss are useful to rule out other conditions.

With Orthomolecular Medicine, disorders affecting the brain, or mental dysperceptions, are classified, in part, by a laboratory capable of biochemical testing of the blood, urine and hair. These tests are classified as histapenia (low histamine), histadelia (high histamine), pyrroluria, cerebral allergies and/or hypoglycemia.⁸ Other factors may be also

be checked. These may include neurotransmitters, stress, diet (especially food allergens), genetics and neurotoxins (mercury). We have recently completed data entry (histories and laboratory test results) for over 2,200 co-learners/patients. These data are stored in statistical clusters of symptoms classes or illness categories. The five most represented illness categories are:

1. Metabolism = 19% - Metabolic irregularities including obesity, thyroid, diabetes, and chronic fatigue syndrome.
2. Skin and Musculoskeletal = 15% - Skin and musculoskeletal conditions including arthritis and fibromyalgia.
3. Cancer = 14% - These include cancers of the breast, prostate, colon, lung, ovaries, lymphoma, renal, liver, etc.
4. Psychiatric = 14% - Psychiatric issues include depression, schizophrenia, autism, ADD and ADHD.
5. Circulation = 11% - These include hypertension, various heart problems, etc.

In looking at the psychiatric group of patients, we decided to see how many patients recently visited the center with prior diagnoses of ADD or ADHD. At The Center, the laboratory protocol for ADD/ADHD includes the measurement of food allergies,⁹⁻¹¹ urine pyrroles,¹²⁻¹⁴ blood histamine, red blood cell fatty acids, water and fat soluble vitamins, amino acids, essential and toxic minerals (on blood, urine and hair), depending on the physical examination, history and past history of the patient. To see if there

were any correlation between urine pyrroles and the diagnosis of ADD/ADHD, we examined the charts of 68 patients with this as one of their diagnosis. Sixty-five (96%) had urine pyrroles ordered.

Thirty-three (51%) had positive pyrroles. Ages of the patients ranged from 2 to 54-years old. Fifty-four (83%) of the patients were 15 years of age or younger. Eleven of the positive pyrrole patients had more than one urine pyrrole test performed during follow-up visits. The others did not return for follow up visits; most were from out-of-state. **Table 1** (below) shows more data from these patients.

The highest pyrrole level of 481 $\mu\text{g/dL}$ (normal = 0 to 20 $\mu\text{g/dL}$) was from a ten-year old boy. A level of 192 $\mu\text{g/dL}$ was found in a 5-year old girl and levels of 123 $\mu\text{g/dL}$ and 114 $\mu\text{g/dL}$ were found in two boys, both 11 years of age. **Table 2** (p.41) shows the response of the urine pyrroles in the patients who were treated over a period-of-time at The Center. According to Dr. Carl Pfeiffer in his book "Nutrition and Mental Health"¹⁵ patients with pyrroluria will see the urine pyrroles start to decline in one month if the treatment is working. It may take a year for the pyrroles to return to normal.

The CDC reports that 3 times more boys than girls have ADHD. This ratio holds true for the patients at The Center, 76% males, 24% females. However, in pyrroluria, the ratio is more females than males.¹⁵ In our small population group, 27 males (82%) had elevated pyrroles while only 6 females (18%) had elevated pyrroles. According to other re-

Table 1. Urine pyrrole results on ADD/ADHD patients.

Number	Males(%)	Females(%)	Age-Years	Positive pyrroles(%)
65	52(80%)	13(20%)	Range=2-54 Mean= 13.2	33 (51%) Range= 20 to 481 $\mu\text{g/dL}$ Mean= 54.9 $\mu\text{g/dL}$ Males= 27 (82%) Females= 6 (18%)

Table 2. Responses of patient's urine pyrroles over a period of time.

Male-10 yrs	Male-11 yrs	Male-13 yrs	Female-42-44 yrs	Female-3-5 yrs old	Male-2-3 yrs
Initial result = 481 µg/dL*	123 µg/dL	25 µg/dL	36 µg/dL	46 µg/dL+	31 µg/dL
one month = 35 µg/dL*	61 µg/dL	NA	NA	NA	NA
four months = 13 µg/dL	19 µg/dL	28 µg/dL	37 µg/dL	NA	NA
five months = 14 µg/dL	NA	NA	NA	50 µg/dL	NA
ten months = NA	NA	14 µg/dL	NA	26 µg/dL	NA
one year = 12 µg/dL	NA	NA	NA	29 µg/dL	19 µg/dL
two years = NA	NA	NA	18 µg/dL	192 µg/dL	NA

Note- normal urine pyrroles by our method is 0 to 20 µg/dL

*These results were rechecked several times. +This patient was seen over a 2-year period, pyrroles were progressing downward until she stop coming as a patient for over 1-year.

search, pyrroles may be found in the urine of normal patients (11%), "disturbed children" (24%), psychiatric patients (42%) and schizophrenic patients (52%).¹⁶ More data is definitely needed to see if the findings of this small group hold up.

Plasma and urine vitamin C were also performed on 24 of the patients. Eight patients had low plasma vitamin C levels, 0.40 to 0.80 mg/dL. The normal value by our HPLC method is 0.6 to 2.0 mg/dL. Fifteen had zero urine vitamin C screening tests using the VitaChek[®] urine strip.¹⁷ Histamine was also performed on 12 of the patients. One nine-year old male had the following results:

Blood histamine = 70 ng/mL (high, histadelia)
 Urine pyrroles = 24 µg/dL (elevated, pyrroluria)
 Plasma vitamin C = 0.4 mg/dL (low, scurvy ?)
 Urine vitamin C = 0.0 mg/dL (low, low tissue saturation)
 RBC zinc = 6.9 µg/mL (low, pyrroluria)
 Magnesium = 4.3 (borderline low)

This patient had severe nutrition problems related to food sensitivity and his absorption pathways. Also, pyrroluria overlaps with both histopenia (low blood histamine) and histadelia (high blood histamine).⁸ This was true in this nine-year old patient where no amount of psychiatric prescription would have worked if his nutrition problems were

not addressed. After a year of correcting his nutrition problems, he was well on his way to good health.

Conclusion

The tests mentioned here are almost unknown to the "traditional" medical doctor or health care worker. They are well known and used extensively by those of us serving in the orthomolecular/alternative/complementary medical field. At The Center these tests have proven their value many times over and do have a place in treating patients, especially children, from the "drug for a symptom" theory.

References

1. McGinnis WR, Tapan A, Walsh W, et al: Discerning the mauve factor. *Alternative Therapies*, 2008; 14(2): 40-50.
2. McGinnis WR, Tapan A, Walsh W, et al: Discerning the mauve factor, part 2. *Alternative Therapies*, 2008; 14(3): 56-62.
3. Hoffer A: Editorial, A brief history of the discovery of kryptopyrrole: a diagnostic test for a subgroup of the schizophrenias. *J Orthomol Med*, 2001; 16(1): 1-2.
4. Irvine DG, Bayne W, Miyashita H, et al: Identification of kryptopyrrole in human urine and its relationship to psychosis. *Nature*, 1969; 224: 811-813.
5. Hinshaw CT: Urinary pyrrole (mauve factor, malvaria, pyrroluria, kryptopyrrole). *Review, (bimonthly publication) The Olive W. Garvey Center*, 1991; No.1.
6. Jackson JA, Riordan HD, Neathery S, et al: Urinary pyrroles in health and disease. *J Orthomol Med*, 1997; 12(2): 96-98.

7. Jackson JA, Riordan HD, Neathery S, et al: Histamine levels in health and disease. *J Orthomol Med*, 1998; 13-14: 236-240.
8. Edelman E: *Natural Healing for Schizophrenia: A Compendium of Nutritional Methods*. Eugene, OR. Borage Books. 2001.
9. Jackson JA, Riordan HD, Neathery S, et al: The cytotoxic food sensitivity test. *J Orthomol Med*, 1995; 10(2): 60-61.
10. Jackson JA, Neathery S, Kirby R: Hidden food sensitivities : a common cause of many illnesses. *J Orthomol Med*, 2007; 22(1): 27-30.
11. Jackson JA, Hunninghake RE, Riordan HD, et al: Agitation, allergies and ADD in an 11-year old boy. *J Orthomol Med*, 1995; 10(3&4): 130.
12. Jackson JA, Riordan HD, Neathery S, et al: Urine pyrroles revisited. *J Orthomol Med*, 2001; 16(1): 47-48.
13. Hoffer A, Osmond H: Malvaria: a new psychiatric disease. *Acta Psychiat Scand*, 1963;39:335-336.
14. Hoffer A: Quantification of malvaria. *Int J Neuropsychiat*, 1966; S2: 559-561.
15. Pfeiffer CC: *Nutrition and Mental Illness: An Orthomolecular Approach to Balancing Body Chemistry*. Rochester, VM. Healing Arts Press. 1987.
16. O'Reilly EM, Hughes G: The incidence of malvaria. *Brit J Psychiat*, 1965; 111: 741-744.
17. Jackson JA, Wong K, Krier C, et al: Screening for vitamin C in the urine: is it clinically significant? *J Orthomol Med*, 2005; 20(4): 259-261.