

Psychology in Pathology- Wilson's disease

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Abstract : There are a number of disorders/diseases that have such unique presentation that these symptoms thus presented make them a singular criterion disease. And yet, these disorders have such variety of symptoms with such commonality, that they evade detection by diagnosticians for a prolonged period. Wilson's disease is a genetic condition which causes excessive copper build-up in the body resulting in damage to the liver and brain. In addition to hepatic and neurological problems, patients present with Psychiatric symptoms as well. This paper discusses the current understanding of the disease with respect to the psychiatry.

IndexTerms – Wilson's disease, Psychiatry, Genetic.

I. INTRODUCTION

There are a number of disorders/diseases that have such unique presentation that these symptoms thus presented make them a singular criterion disease. And yet, these disorders have such variety of symptoms with such commonality, that they evade detection by diagnosticians for a prolonged period. One such disorder is the Wilson's disease. Named after one S.A.K. Wilson, who is credited with describing the disease for the first time; Wilson's is defined as

"Progressive lenticular degeneration is a disease which occurs in young people, which is often familial but not congenital or hereditary; it is essentially and chiefly a disease of the extrapyramidal motor system, and is characterized by involuntary movements, usually of the nature of tremor, dysarthria, dysphagia, muscular weakness, spasticity, and contractures with progressive emaciation; with these may be associated emotionalism and certain symptoms of a mental nature. It is progressive, and, after a longer or shorter period, fatal. Pathologically it is characterized predominantly by bilateral degeneration of the lenticular nucleus, and in addition cirrhosis of the liver is constantly found, the latter morbid condition rarely, if ever, giving rise to symptoms during the life of the patient." (Weiss, K. H., et al., 2019)

In simpler terms, Wilson's is a genetic disease which renders the patient's body unable to process Copper. Copper is one of the micro-nutrients required by the human body for synthesizing cells, manufacturing energy and iron absorption. (Latorre, M., et al., 2019) The over accumulation of this element in our liver and brain and lack of proper circulation results in damage of the aforementioned organs.

First symptoms to notice are liver related- problems, Neurological symptoms and Psychiatric manifestations (Vierling, J. M., et al., 2019). One part of Wilson's particularly stands out- Kayser Fleischer ring (KF ring). These KF rings are formed by the accumulation of copper around the cornea. Another aspect is the Sunflower cataract; deposition of copper on the cataract which appears in the shape of a sunflower. Although quite interesting, these symptoms are not limited to Wilson's disease only. (Pandey, N., et al., 2019; Low, Q. J., et al., 2020)

Interesting presentations or not, the aspect that is the primary focus of this paper is the Psychiatry. Often, psychological symptoms are misdiagnosed as mental disorders especially when the liver and nervous system seem fine. There are multiple case studies which point to misdiagnoses for years because the patients only present psychiatric symptoms and were treated for only those; actual disease escaping further investigations. (Zimbrea, P. C., 2019)(Chakroun, M., et al., 2020) There is also a lack of awareness of the Psychiatry of the disease especially in children. (Fernando, M., et al., 2020)

Although the psychiatric symptoms vary, they are extremely common. Symptoms like depression and suicidal thoughts, among others; have been one of the signs presented initially before the diagnoses of Wilson's (Lee, J. A., et al., 2019; Irvin, S., et al., 2019; Braga, C. M., et al., 2019; Kulak-Bejda, A., et al., 2020). There is absolutely no distinguishing variable for these symptoms and therefore, any clinician would not have a chance of suspecting any other disease.

In some cases, psychiatric symptoms remain even after treatment. (Vives-Rodriguez, A., & Robakis, D;2019;) and in others, although treatment causes the symptoms to subside, some patients are still left with lasting neurological impairment (Dusek, P., et al., 2019)

The crux of the matter is, delay in diagnosis is due to a need for study of the presentation of Psychiatric symptoms. (Spirina, I. D., et al., 2019)

Faucher, M., & Demily, C. (2019) state "... Hereditary Metabolic disorders (like Wilson's) that present purely with psychiatric symptoms are very difficult to diagnose due to low awareness of these rare diseases among psychiatrists and neurologists".

Additionally, the treatment for Wilson's, primarily Zinc derivatives, causes further side effects (Litwin, T., et al., 2019; Wu, L. M., 2020) Hence, there is not only a need to understand the psychiatry but a need to find other safer treatment plans.

II. CONCLUSION

Although once very rare, Wilson's is not an uncommon disease anymore. In such diseases, early diagnosis is crucial. However, since the disease can manifest as Psychiatric symptoms; diagnosis is significantly delayed. The rigid bifurcation of the disease of the mind and the body and their training leads to misdiagnoses. Clinicians should not look at psychological symptoms as a manifestation of the mind exclusively. Training and awareness in the specific field of diseases presenting with Psychiatric symptoms is required.

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