A CASE OF NON ALCOHOLIC WERNICKE KORSAKOFF SYNDROME RESULTING FROM MALNUTRITION DUE TO PSYCHOSIS

R. Saraiva, M. João Gonçalves, A. Carolina Sereijo, L. Castanheira, A. Catarina Cordeiro, B. Corte Real, T. Queirós, R. Barandas, R. Coentre, M. Manuela Abreu

Department of Psychiatry, Centro Hospitalar Universitário Lisboa Norte, Lisboa, Portugal

Background and Objectives

Wernicke Korsakoff Syndrome consists of two interrelated entities that represent different stages of the same pathophysiological process. **Wernicke's Encephalopathy (WE)** is a brain disease that results from **thiamine deficit** and **Korsakoff Syndrome (KS)**, characterized by different neurocognitive and psychopathological manifestations, occur **after an untreated WE**, and is often **irreversible**. WKS more frequently affects people who have a nutritional deficiency related to alcoholism. However, the syndrome can result from an **inadequate supply of thiamine** from reduced food intake or **poor nutrition of any cause**.

We report a case of Non-Alcoholic WKS that resulted from malnutrition due to psychosis, followed by a brief literature review on the topic.

Case Report

Identification and Background: - 42-year-old man. Divorced. **Living alone** for the last 5 years - **No history** of medical or **psychiatric illnesses** or of **alcohol use**. - Found at home **emaciated** with signs of **severe self-neglect**.

Emergency Room (ER) Evaluation: - Temporal disorientation, **anterograde** and **retrograde amnesia**, **grandiose** and **persecutory delusions**, **confabulations** and **auditory hallucinations**. - **Low weight** - **Stopped eating** because he **thought** the **food** was **poisoned**. - Appendicular **ataxia** and horizontal **nystagmus**. - Emergency analytical evaluation and cranial CT without acute changes. - Diagnoses of **Psychosis** and **WKS** assumed → admitted in a psychiatric ward; **Intravenous thiamine (1500 mg per day)** was initiated

Inpatient's Investigation: – **Positive psychotic symptoms** were present at least for the last **6-9 months**. - **Disruption of daily life** for the last **2 years** (lost his job, stopped paying his depth and bills, didn't have electricity, water nor hygiene conditions at home). - **Cranial Magnetic Resonance Imaging (MRI)** in fig. 1. - Innocent complete analytical evaluation (including infectious diseases and endocrinology screenings). - Diagnostic lumbar puncture with cerebrospinal fluid (CSF) direct and culture infection and CSF's antineuronal antibodies negative tests. - Montreal Cognitive Assessment (**MOCA**): **17/30** on the **1st week**.

Evolution: - **Slow and modest improvement** of cognitive functions → **1500 mg** per day **intravenous thiamine** for **30 days** → Some evident cognitive improvements and **remission of confabulatory activity** → transition to 100 mg 3id of oral thiamine. - Risperidone dose adjusted to 6 mg per day → remission of psychotic symptoms. - **Cranial MRI** repeated at the **8th week** of instay (fig. 2).

Discharge: - Despite improvements some degree of **episodic memory**, **sustained attention** and **executive functions deficits** persisted. **MOCA**: on 8th week **25/30**. Partially independent in the daily life activities - **Maintained horizontal nystagmus** and **ataxia** with instability of gait. - **No psychotic symptoms**.

Fig. 1 – 1st week Cranial MRI scan - T2 Flair symmetric hypersignal of the medial strand of thalamus

Fig. 2 – 8th Week Cranial MRI Scan - resolution of the thalamic hypersignal

Discussion and Conclusions

WKS can occur in **any condition that causes thiamine deficiency**, having already been identified after several organic and **psychiatric disorders**. In this case, a **psychotic process** with at least 2 years of evolution, **underlies the WKS**. The patient **dramatically restricted his diet** based on **poisoning delusional ideas** and **daily life disorganization**, which led to **malnourishment** which ultimately culminated in the **thiamine deficit** and **consequent WKS**. The WKS diagnosis is supported by the WE's **clinical triad** of **altered mental status**, **ocular motility abnormality (nystagmus)** and **ataxia**; the typical **KS's memory abnormalities** (including **confabulations**); and the **typical MRI's abnormalities** and evolution after **thiamine reposition**. Unfortunately, blood thiamine was not measured. Alcohol use and other possible causes of thiamine deficit were excluded. WKS is still under-recognized among malnourished patients who have psychiatric disorders and don't use alcohol or suffer from anorexia nervosa. **We should therefore be watchful to the signs and symptoms of WKS, independently of the presence or not of history of alcohol consumption.**

References

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