Psychological Medicine

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Cite this article: Almeida e Melo J, Gama Marques J (2023). Olfactory reference plus Truman symptoms in one patient with Gilbert syndrome and antiphospholipid antibodies (Hughes disease) secondary to probable chronic Lyme neuroborreliosis. *Psychological Medicine* **53**, 4294–4295. https://doi.org/10.1017/S0033291721005481

Received: 10 December 2021
Revised: 16 December 2021
Accepted: 20 December 2021
First published online: 11 January 2022

Keywords:
Gilbert; Hughes; Lyme; olfactory reference syndrome; Truman

Author for correspondence:
João Gama Marques,
E-mail: joaogamamarques@gmail.com

CAMBRIDGE UNIVERSITY PRESS

Olfactory reference plus Truman symptoms in one patient with Gilbert syndrome and antiphospholipid antibodies (Hughes disease) secondary to probable chronic Lyme neuroborreliosis

João Almeida e Melo[1] and João Gama Marques[1,2]

[1]Clínica Universitária de Psiquiatria e Psicologia Médica, Faculdade de Medicina, Universidade de Lisboa, Lisbon, Portugal and [2]Serviço de Psiquiatria Geral e Transcultural, Hospital Júlio de Matos, Centro Hospitalar Psiquiátrico de Lisboa, Lisbon, Portugal

Abstract

After reading an article in the journal, regarding affective disorders in patients with rare illnesses, the authors would like to discuss a case of non-affective psychosis, presenting with olfactory reference and Truman symptoms, in a patient with three unusual conditions: Gilbert disease, Hughes syndrome and Lyme neuroborreliosis.

Introduction

We recently read an interesting article in your journal regarding affective disorders in patients with rare illnesses (Uhlenbusch, Swaydan, Höller, Löwe, & Depping, 2021). Therefore we would like to discuss a case of non-affective psychosis presenting with olfactory reference and Truman symptoms, in a patient with three unusual conditions: Gilbert disease, Hughes syndrome and Lyme neuroborreliosis.

A 22-year-old white man, was brought to the psychiatry outpatient clinic for schizophrenia diagnosis review. The patient had been asymptomatic until 6 months earlier, when he started to have olfactory reference syndrome (ORS) complicated by persecutory and grandiose delusions 'I felt my body odor different, because of toxins (…) my life was on live streaming online'(sic). He reported neonatal jaundice, childhood tainted by recurrent ear infections and attention deficit hyperactivity disorder. His mother had systemic lupus erythematous, and his three brothers were described as anxious. He had regular contact with countryside farm animals. Urine was negative for drug abuse. Bloodwork revealed positive anti-Beta2-glycoprotein IgM antibody, plus a uridine 5′-diphospho-glucuronosyltransferase A1 (UGTA1) gene mutation. Lumbar puncture was positive for anti-*Borrelia burgdorferi* IgG. Electroencephalography was normal. Brain magnetic resonance imaging (MRI) showed hyperintense T2 signals in subcortical bilateral frontal areas. Neuropsychological assessment revealed frontal lobe and dysexecutive syndromes. After almost 4 years of follow-up, total remission was achieved under injectable 350 mg paliperidone quarterly.

ORS happens whenever a patient believes that emits a foul or offensive odor that makes people react negatively (Feusner, Phillips, & Stein, 2010). The Truman syndrome consists of persecutory, grandiose and reference delusions, in which the patient believes that he is being filmed for the entertainment of others (Madeira et al., 2016). Gilbert syndrome is an inherited disorder of bilirubin metabolism, with intermittent unconjugated hyperbilirubinemia in the absence of hepatocellular injury or hemolysis, recently linked to a higher risk of psychosis (Pommerening Dornelles, Gama Marques, & Ouakinin, 2019). Lyme disease is a tick-borne infection caused by the spirochete *Borrelia burgdorferi*, with a wide range of clinical manifestations, including central nervous system involvement (Koola et al., 2015). Hughes disease, also known as the antiphospholipid antibody syndrome (APS), is an acquired systemic disorder associated with circulating autoantibodies to phospholipids that can manifest as psychosis (Graf, 2017).

This is, to our knowledge, the second case of Truman syndrome and ORS presenting simultaneous in the same patient. While in the first described patient the authors raised the hypothesis of schizophrenia (Bardanca, Vivanco, González, Ventoso, & Vázquez, 2006), we believe that would not be appropriate in our case report. Based on the presence of brain MRI findings showing hyperintense T2 signal focal areas in the subcortical white matter of both frontal lobes plus the anti-*Borrelia burgdorferi* IgG in the cerebrospinal fluid, and the anti-Beta2-glycoprotein IgM in the serum of the patient, the first diagnostic hypothesis to be considered was an organic psychosis secondary to chronic neuroborreliosis with

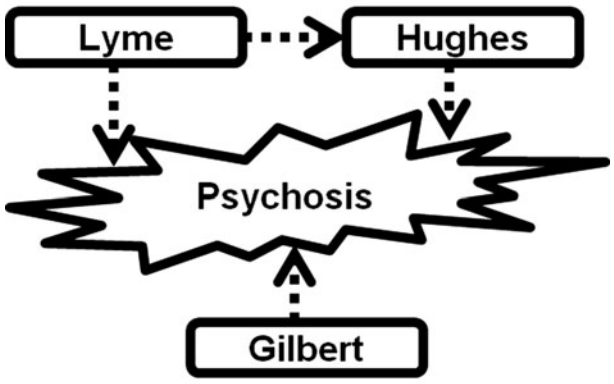

Fig. 1. Gilbert disease, Lyme neuroborreliosis and Hughes disease, contributing to psychosis.

concomitant antiphospholipid antibodies, in a patient with familial nonhemolytic jaundice. The brain MRI findings in our patient are highly suggestive of evidence of recurrent thrombosis of small arteries (Chaturvedi & McCrae, 2017) that could be better explained in such a young patient, by the presence of anti-Beta2-glycoprotein IgM in blood tests. On the other hand, there is also some literature regarding the high frequency of APS in patients with chronic Lyme disease, raising the possibility that these ones may be of significance for neuropsychiatric symptomatology (Greco, Conti-Kelly, & Greco, 2011). Since this patient has so many medical causes that could explain his symptoms and once it is very difficult to affirm which one contributed more to them, we believe that a possible synergistic contribution to an organic psychosis, combined between the three different entities discussed here, deserved further investigation before assuming the diagnosis of schizophrenia (Fig. 1).

Acknowledgements. None.

Financial support. None.

Conflict of interest. None.

References

Bardanca, S. G., Vivanco, E. F., González, M. J. A., Ventoso, C. A., & Vázquez, M. S. (2006). Esquizofrenia y síndrome de gilbert: A propósito de un caso. *Cadernos de Atención Primaria*, *13*(3), 203–205. https://dialnet.unirioja.es/servlet/articulo?codigo=2320408.

Chaturvedi, S., & McCrae, K. R. (2017). Diagnosis and management of the antiphospholipid syndrome. *Blood Reviews*, *31*(6), 406–417. https://doi.org/10.1016/j.blre.2017.07.006.

Feusner, J. D., Phillips, K. A., & Stein, D. J. (2010). Olfactory reference syndrome: Issues for DSM-V. *Depression and Anxiety*, *27*(6), 592–599. https://doi.org/10.1002/da.20688.

Graf, J. (2017). Central nervous system manifestations of antiphospholipid syndrome. *Rheumatic diseases clinics of North America*, *43*(4), 547–560. https://doi.org/10.1016/j.rdc.2017.06.004.

Greco, T. P., Conti-Kelly, A. M., & Greco, T. P. (2011). Antiphospholipid antibodies in patients with purported "chronic Lyme disease." *Lupus*, *20*(13), 1372–1377. https://doi.org/10.1177/0961203311414098.

Koola, M. M., Sullivan, K. M., Earl, A. K., Feldman, S. M., Richardson, C., Vyas, G. R., … Kelly, D. L. (2015). Undiagnosed Lyme disease in adults with schizophrenia. *Schizophrenia Research*, *168*(1–2), 579–580. https://doi.org/10.1016/j.schres.2015.06.029.

Madeira, L., Bonoldi, I., Rocchetti, M., Brandizzi, M., Samson, C., Azis, M., … Fusar-Poli, P. (2016). Prevalence and implications of Truman symptoms in subjects at ultra-high risk for psychosis. *Psychiatry Research*, *238*, 270–276. https://doi.org/10.1016/j.psychres.2016.02.001.

Pommerening Dornelles, E., Gama Marques, J., & Ouakinin, S. (2019). Unconjugated bilirubin and schizophrenia: A systematic review. *CNS Spectrums*, *24*(6), 577–588. https://doi.org/10.1017/S109285291800161X.

Uhlenbusch, N., Swaydan, J., Höller, A., Löwe, B., & Depping, M. (2021). Affective and anxiety disorders in patients with different rare chronic diseases: A systematic review and meta-analysis. *Psychological Medicine*, *51*(16), 2731–2741. https://doi.org/10.1017/S0033291721003792.

https://doi.org/10.1017/S0033291721005481 Published online by Cambridge University Press