

TITLE: Chicken or the Egg: Phenytoin toxicity induced Othello Syndrome, in the setting of Right Prefrontal Insult

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BACKGROUND: Delusional jealousy, sometimes referred to as Othello syndrome¹ after Shakespeare's Othello who murders his wife due to his false belief she was unfaithful, is a relatively rare psychiatric disorder with a prevalence rate of 1.1% amongst psychiatric inpatients². While the diagnosis of delusional disorder, jealous subtype (DSM-5 297.1, F22) stipulates symptoms not better explained by another medical condition³, this delineation is not straightforward in clinical practice, especially in cases where psychiatric and neurologic vulnerabilities are interactive⁴.

OBJECTIVE: Here we describe a unique presentation of delusional disorder, jealous subtype, exacerbated by Phenytoin toxicity in the context of pre-existing CNS insult.

CASE OVERVIEW: "John" is a 50-year old man admitted to Pine Rest for suicidal crisis and overdose on Phenytoin (plasma Phenytoin= 52 mcg/mL, reference range 10.0-20.0 mcg/mL) prescribed for seizure prophylaxis after craniotomy and excision of right prefrontal cavernous angioma in 2012. The frequency and severity of John's clinical target symptoms (suicidality, delusions of jealousy) showed interval improvement in conjunction with downtrends of daily serum Phenytoin levels. Full remission was achieved after addition of the second-generation antipsychotic Olanzapine.

SIGNIFICANCE: We propose a "two-hit" model of clinical decompensation, in which delusional disorder, jealous subtype arose from the interaction of John's prior neurologic vulnerabilities (first hit) and the acute precipitant of Phenytoin toxicity (second hit).

SOURCES:

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