Jealousy's Stroke: Othello Syndrome Following a Percheron Artery Infarct

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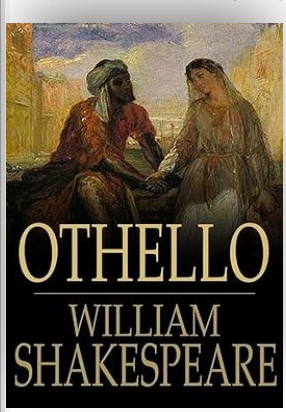
Neurovasculaire

Definitions & Background

- **Jealousy** is the experience of harboring resentful suspicions about one's partner's attraction to or involvement with another person.
- **Pathological jealousy** is baseless, without evidence and overwhelming. It can result in distress or harmful behavior.
- **Delusional jealousy** is a persistent, unfounded belief a « **delusion** », that the partner is being unfaithful, without any real evidence to support such suspicions, while rejecting every evidence proving the contrary.



- The delusional jealousy aka **"Othello syndrome"** is named after Shakespeare's play « **Othello** » and refers to the psychoses in which delusions of infidelity predominate.
- **Present in :**
  - Psychiatric conditions
  - Neurological disorders : mainly in neurodegenerative diseases, as a side effect of parkinson's disease, or occasionally after a stroke

Case description

- H.S is a 50-year-old right-handed woman
- 3 decades of a joyful jealousy free mariage
- Medical history :
  - High blood pressure
  - No other risk factor of stroke
  - No prior personal or family history of psychiatric disorders
  - No use of psychoactive substance

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Bi-Thalamic stroke

She presented An acute headache and a brief loss of consciousness followed with confusion and memory disturbance + visual hallucinations and vertical gaze abnormalities.
All laboratory tests and cardiovascular examamination were unmarketable.

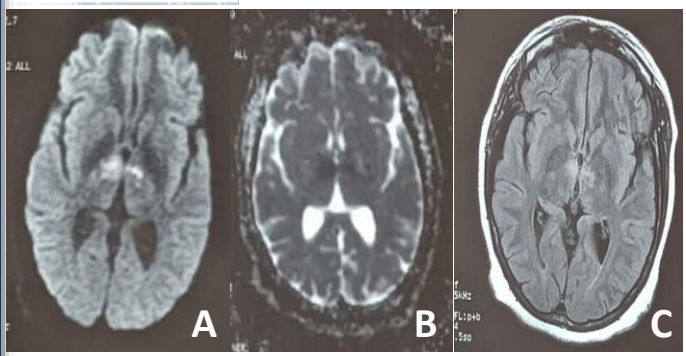
Few days later

Delusional jealousy
Accusing her younger sister of having an affair with her husband

Agression of the husband with a bladed weapon

Incriminating the daughter of her friend

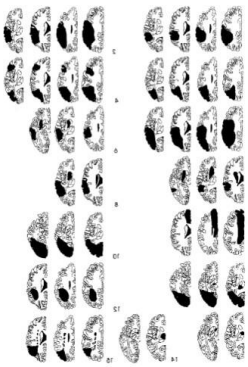
Starting on a treatment with neuroleptics. She had a better response to ***Olanzapine*** than Quetiapine



Axial sections of a cerebral MRI illustrating the case's bilateral thalamic lesions, through various sequences arranged from left to right: (A) Diffusion Weighted Imaging, (B) Apparent Diffusion Coefficient, (C) T2 FLAIR.

Discussion

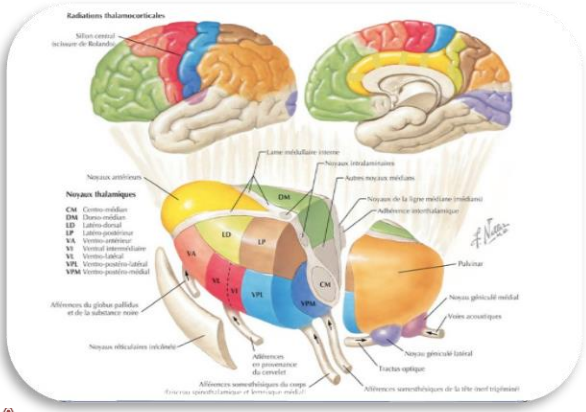
About Post stroke Psychosis and delusional jealousy :



- Psychosis is the **third** most common psychiatric symptom in 5%.
- Delusional disorders are the most prevalent from with a prevalence of 4,67%.
- **Delusional jealousy** ranks as the second most common type after persecutory delusion, in 5,7%.
- No specific brain lesions are exclusively responsible for jealousy delusions, but lesions in the right hemisphere are the most described
  - In the frontal, posterior, parietal, and thalamic areas.

In this case, our patient experienced a ***bi-thalamic infarct predominantly on the right side*** following ***a percheron artery infarct***

- **Thalamic** strokes disrupt **the frontal-subcortical-thalamic circuitry**, crucial for executive functions, and the **dorsomedial nuclei**, leading to alterations in limbic circuitry and emotional regulation. This would result in :
  - Impairments in impulse control and judgment
  - Behavioral disorders due to a flawed interpretation of a partner's actions as infidelity.
  - Perceptual Disorders and Hallucinations
  - Atypical bipolar disorder with psychotic features



Risque

- Forensic challenges, with a serious concern of **dangerous** and **hostile behaviors** => Our patient was **verbally and physically aggressive** toward her husband

Treatment

- Antipsychotics are applied in 78% of cases, with a symptom remission rate of 70%.

Conclusion

- Othello syndrome represents **a challenging post-stroke complication**, highlighting the intricate relationship between neurological damage and psychiatric manifestations. **Recognizing and promptly addressing this syndrome is crucial, given its potential for dangerous outcomes**

References

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