



## “First episode psychosis following the anti-COVID vaccination: a case reports”

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**Objectives:** To analyze the apparition of acute psychotic symptomatology following anti-COVID vaccination (with *AstraZeneca*) in an attempt to describe a possible inflammatory trigger related to this vaccine.

**Methods:** We reported two patients with first-episode psychosis after anti-COVID vaccination admitted in the psychiatric ward of our hospital. We described the sociodemographic, clinical and biological parameters, treatment and outcome.

**Results:** In relation with clinical presentation, in both cases, the apparition of psychotic symptomatology was acute (12 hours and 7 days) and with an atypical profile (cycloid psychosis-like phenotype and marked cognitive impairment with oro-mandibular movements, respectively). Plus, the duration of untreated psychosis was short (12 hours - 7 days) and the positive score at the Positive Scale at Positive and Negative Syndrome Scale at hospital admission was high (42 and 37). According to biological parameters, we did not find alterations in CSF routine parameters (cells, proteins, LDH) and neuronal autoimmunity biomarkers (pex Ab NMDAR) in serum and CSF were negative. Interleukins in serum were undetectable (IL 1beta, IL 6, IL 10), but IL 1 beta in CSF was high, in both cases. Psychopharmacological treatment during

admission was olanzapine for both patients, nevertheless the first patient experienced extrapyramidal symptomatology with olanzapine and needed ECT (6 sessions) and methylprednisolone at high doses. Both showed clinical improvement since the second week of admission, reaching clinical remission after one month.

**Conclusions:** To our knowledge, it is the first time a case reports evokes a possible link between anti-COVID vaccination and a first-episode psychosis, which could be mediated by disturbing the inflammation homeostasis.