NONCONVULSIVE STATUS EPILEPTICUS INDUCED BY CISPLATIN: A CASE REPORT

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CASE REPORT

In 2013 a 44 year old woman underwent a surgical complete exeresis of a poorly differentiated adenocarcinoma of the biliary tract. Two years later a PET showed a local recurrence and a chemotherapy with Cisplatin (CDDP) 25 mg/mq and gemcitabine 1000 mg/mq was started. Premedication with Dexhamethasone and Ondansetron was administered. The patient had no other significant comorbidities.

Six days after the first cycle of chemotherapy the patient developed cognitive and motor slowing and aphasia. The remaining neurological examination was unremarkable, without meningeal involvement. No fever or infectious symptoms were reported.

Blood tests were normal, in particular there was no increase in inflammatory markers, electrolyte or metabolic abnormalities. A brain CT scan was normal. The electroencephalogram showed a symmetrical subcontinuous activity at 4 Hz with interposed biphasic elements in a diffuse projection (Fig 1). The cerebrospinal fluid examination was normal, including bacteriological and virological analysis. A brain magnetic resonance imaging with contrast was normal, as well as the research of paraneoplastic autoantibodies (Hu, Yo, Ri, CV2, Amphiphysin, NMDA).

Lorazepam 4 mg IV was administered, with only partial response (Fig. 2). Therefore an intravenous infusion with phenytoin at a dose of 17.5 mg/kg was started. During the infusion the patient experienced a generalized tonic-clonic seizure. In the following days a progressive improvement and normalization of clinical and electroencephalographic aspects was observed (Fig. 3).

DISCUSSION

This case describes the possible occurrence of status epilepticus during therapy with CDDP. Since the patient had a negative history for epilepsy and the radiological and biochemical findings did not demonstrate structural, metabolic or immunological abnormalities, it was supposed that the clinical picture could be secondary to central nervous system toxicity induced by CDDP.

In literature there are reported cases of posterior reversible encephalopathy (PRES) and seizures in concomitance with the use of cisplatin. Therefore in most of the described cases electrolyte disturbances (particularly hypomagnesemia), metabolic or structural brain abnormalities potentially triggering the clinical manifestations coexisted.
In addition to our report, in scientific literature a single case of non-convulsive status epilepticus related to the use of CDDP in a patient with cervical cancer without other favoring conditions was described.

A vascular damage and a demyelinating process have been suggested as possible mechanisms of cisplatin-associated encephalopathy.

Fig. 1 - EEG (14/10/2015 h 11)- «sub continuous symmetric 4 Hz activity and biphasic diffuse epileptiform elements»

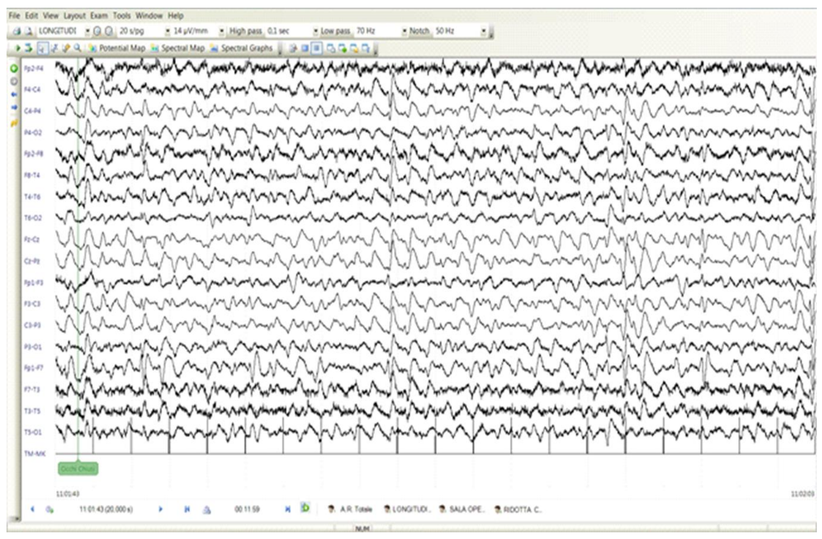

Fig. 2 - EEG (14/10/2015 h 16, after lorazepam 4 mg iv administration) – «reduction of epileptiform activity that persist in anterior bilateral regions, with 4-5 seconds periods of simmetric delta activity»

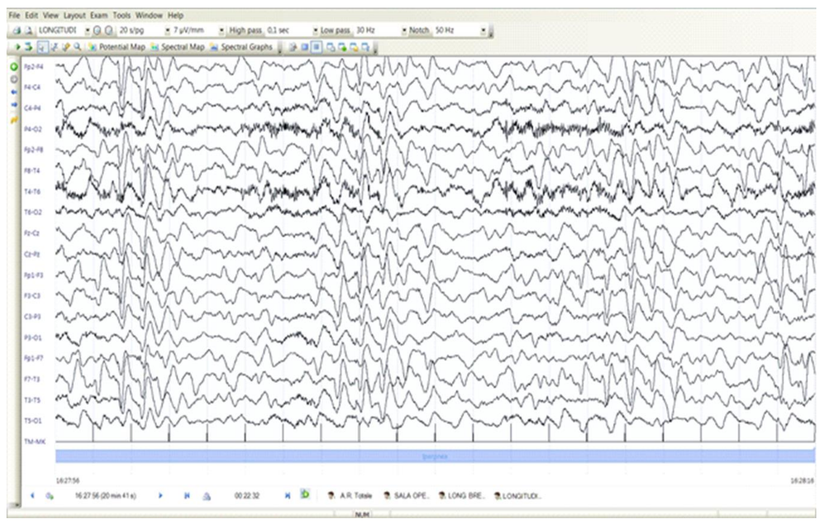

Fig. 3 - EEG (15/10/2015) - «6-7 Hz simmetric activity. Slow and diffuse epileptiform elements persist, without clinical correlates»

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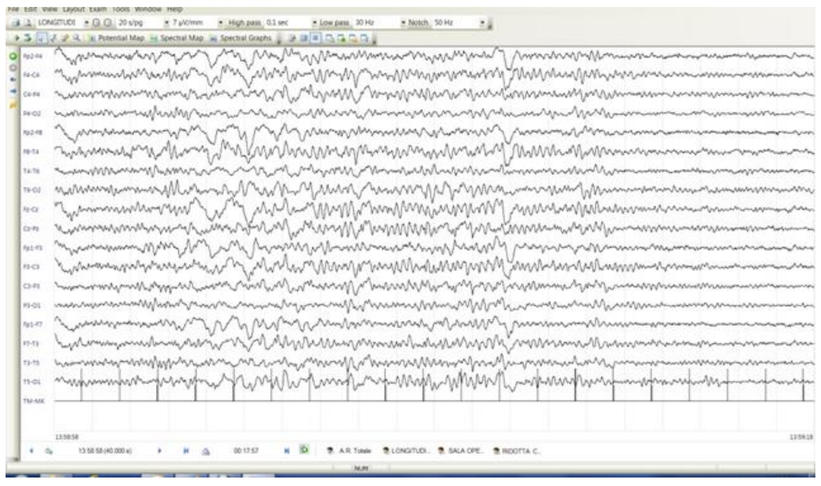

CONCLUSION

We recommend to take into account the possible central nervous system toxicity of cisplatin in case of encephalopathy, once other potentially causal medical conditions are excluded.

Bibliografia

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