A young woman with central nervous system inflammatory disease diagnosed with thyroid papillary carcinoma

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Background

CNS inflammatory diseases other than multiple sclerosis (sometimes referred to as "CIDOMS") represent challenging scenarios in the Neurology department, since incidence, clinical workout, and therapeutic strategies of these specific conditions are often unknown. Here we report the still unsolved case of a young woman with neurological deficits and unclear radiological, neurophysiological, and laboratory findings.

The case

A 36 years old woman with no previous history of neurological diseases has a history of fever (up to 39°C), headache, and impaired urination, that she first imputed to a lower urinary tract infection. Then, the patient complained about difficulty in walking and tingling feet paraesthesias. Besides, neurological examination revealed mild cerebellar signs. Contrast-enhanced MRI showed a thin enhancement in the temporal mesial region (probably a developmental venous anomaly) and some uncertain small subependimal and cerebellar white matter signal alterations. The patients had oligoclonal bands (type 3 pattern) at CSF analysis. Infective diseases screening panel: all negative. Autoimmunity screening panel: presence of antithyroid peroxidase auto-antibodies at a low titre. Since clinical presentation with fever and headache was suggesting for meningitis, the patient was first treated with acyclovir and ceftriaxone, without clinical improvement. Then, dexamethasone was added to therapy, with subjective and objective benefit. At further investigations a thyroid nodule was found, and biopsy revealed papillary carcinoma. At one month-follow-up, a complete resolution of the neurological signs and symptoms was observed and MRI was stable; the management of the papillary carcinoma is still ongoing.

Discussion

The interpretation of this case is unclear. MRI findings were nonspecific and only partially consistent with clinical presentation; CSF findings suggested a blood-brain barrier damage with intrathecal synthesis of antibodies. Thus, what is the most likely diagnosis? Post-viral inflammatory encephalomyelitis, demyelinating disease, lymphoproliferative CNS disorder, autoimmune encephalomyelitis, and vasculitis are all possibly accountable. Moreover, is there a role for the papillary carcinoma, or it was just an accidental finding? To our knowledge, descriptions in the literature of thyroid papillary carcinoma-associated CNS involvement, except for metastases and a case report of SIADH[1], are anecdotic[2]; however, the occurrence of a paraneoplastic CNS disorder, although common paraneoplastic auto-antibodies were tested negative, cannot be certainly ruled out. In a recent retrospective description of 64 cases of CIDOMS[3], 16 of them (25%) remained undiagnosed. Besides, the same paper remarked the high amount of resources required in the clinical management of these undetermined CNS inflammatory states, compared, for example, to multiple sclerosis.

References

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