Assessment of Computerized Tomographs Online Reliability Study (TRACTORS) for acute stroke evaluation. Telemed J E Health. 2003;9:227—33.
13. Pervez MA, Silva G, Masrur S, Betensky RA, Furie KL, Hidalgo R, et al. Remote Supervision of IV-tPA for Acute ischemic stroke by telemedicine or telephone before transfer to a regional stroke center is feasible and safe. Stroke. 2010;41:e18—24.
14. Silverman IE, Beland DK, Chhabra J, McCullough LD. The drip-and-ship approach: starting IV t-PA for acute ischemic stroke at outside hospitals prior to transfer to a regional stroke center. Conn Med. 2005;69:613—20.

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Intracranial hypertension syndrome in a patient with psoriasis receiving ustekinumab☆

Síndrome de hipertensión intracraneal en una paciente con psoriasis tratada con ustekinumab

Dear Editor,

Ustekinumab is a human IgG1k monoclonal antibody that binds to the p40 subunit of interleukins IL-12 and IL-23; these cytokines are involved in the pathogenesis of psoriasis. The efficacy and safety of the drug for treating moderate to severe psoriasis were evaluated in the PHOENIX 1 and 2 studies (the latter had a follow-up period of up to 5 years). Adverse drug reactions included infections and tumours.[1] We describe the case of a patient with psoriasis and receiving ustekinumab who developed intracranial hypertension syndrome but showed no abnormalities in aetiological studies.

The patient was a 27-year-old woman with a 13-year history of plaque psoriasis; she had previously been treated with methotrexate and cyclosporine, with no response. She had a non-hormonal intrauterine device and was not obese. In April 2016, the patient received a 45-mg injection of ustekinumab; she received another injection on week 4, and subsequently every 12 weeks. Six months after treatment onset (after the fourth dose), the patient began to experience blurred vision in the right eye and recurrent episodes of complete vision loss (black-outs) lasting several seconds, also in the right eye. She also developed oppressive right-sided hemicrania continua of mild to moderate intensity. The patient was evaluated at our hospital's neurology department in December 2016. The neurological examination detected bilateral papilloedema predominantly affecting the right eye, and normal visual acuity and visual field. All analyses yielded normal results (complete blood count, haemostasis tests, biochemical study, liver profile, hormone analysis, autoimmunity study, infectious serology study). Brain MRI, MRI angiography of the venous sinuses, and visual evoked potentials revealed no alterations. Ocular ultrasound revealed bilateral optic nerve sheath thickening (up to 6.1 mm) and optic disc swelling (up to 1 mm), particularly in the right eye. These findings indicate intracranial hypertension. A lumbar puncture revealed a CSF opening pressure of 30 cm H_2O; a CSF analysis revealed no alterations (infectious serology study, oligoclonal bands, molecular biology analysis). Treatment with ustekinumab was discontinued in December 2016. In January 2017, the patient was started on acetazolamide, which improved the headache and reduced the frequency of the episodes of vision loss. An ocular ultrasound performed in February 2017 also showed slight improvements, with an optic nerve sheath thickness of 5.7 mm in the right eye and 5.6 mm in the left. Papilloedema persisted. The ocular ultrasound revealed no thickening of the optic nerve. Two months later, the patient was fully asymptomatic; acetazolamide was progressively withdrawn. In the absence of any other findings that may explain the symptoms, the patient was diagnosed with intracranial hypertension syndrome probably secondary to treatment with ustekinumab.

Intracranial hypertension syndrome is characterised by elevated CSF pressure, frequently above 25 cm H_2O. The condition has been found to be associated with a number of drugs, including amiodarone, cytarabine, corticosteroids, ciclosporin, LH-RH analogues, levothyroxine, lithium, rofecoxib, levonorgestrel, growth hormone, tetracycline, retinoids, and even some medicinal herbs used in southern India.[2,3] In patients with psoriasis, intracranial hypertension has also been associated with methotrexate[4] and acitretin.[5] A complete aetiological study should be conducted to rule out such other causes as cerebral venous sinus thrombosis or CNS infection.[2] Clinical trials of ustekinumab report no adverse reactions involving the CNS, although some authors have described various neurological adverse effects: Gratton et al.,[6] for example, report a case of reversible posterior leukoencephalopathy, whereas Stöllberger and Finsterer[7] report a case of varicella zoster virus meningitis. Interestingly, Abdelnabi et al.[8] report a case similar to our own, a young woman developing intracranial hypertension secondary to treatment with ustekinumab, although in their case the patient presented memory alter-

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ations after drug discontinuation. To our knowledge, this is the second reported case of intracranial hypertension associated with ustekinumab.

References

1. Langley R, Lebwhol M, Krueger G, Szapary P, Wasfy Y, Chan D, et al., PHOENIX 2 Investigators. Long-term efficacy and safety of ustekinumab, with and without dosing adjustment, in patients with moderate-to-severe psoriasis: results from the PHOENIX 2 study through 5 years of follow-up. Br J Dermatol. 2015;172:1371—83.
2. Friedman D. The pseudotumor cerebri syndrome. Neurol Clin. 2014;32:363—96.
3. Thon OR, Gittinger JW Jr. Medication-related pseudotumor cerebri syndrome. Semin Ophthalmol. 2017;32:134—43.
4. Sur S, Chauhan A. Methotrexate-induced pseudotumor cerebri and psychosis in a case of rheumatoid arthritis. J Neuropsychiatry Clin Neurosci. 2012 Fall;24:E18.
5. Katz HI, Waleen J, Leach EE. Acitretin in psoriasis: an overview of adverse effects. J Am Acad Dermatol. 1999;41 3 Pt 2:S7—12.
6. Gratton D, Szapary P, Goyal K, Fakharzadeh S, Germain V, Saltiel P. Reversible posterior leukoencephalopathy syndrome in a patient treated with ustekinumab. Arch. Dermatol. 2011;147:1197—202.
7. Stöllberger C, Finsterer J. Varicella zoster virus meningitis under ustekinumab because of plaque psoriasis. J Dermatol. 2017;44:703—5.
8. Abdelnabi M, Short J, Khoromi S, Ehrlich A. Intracranial hypertension and memory loss in a patient treated with ustekinumab. Australas J Dermatol. 2015;56:146—7.

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