Macroprolactinoma

Macroprolactinoma is a prolactinoma more than 10 mm in diameter, usually associated with serum prolactin levels above 500 ng per mL.

Macroprolactinomas may behave invasively and infiltrate the skull base, causing a subsequent thinning that can also lead to a bone defect and a direct route of entry for pathogens.

Dopamine agonists are the first-line treatment modality, with cabergoline being preferred to bromocriptine, because of its better tolerance and feasibility of administration. Cabergoline therapy has been reported to achieve normalization of prolactin levels and gonadal function and reduction of tumor volume in >50% of patients with macroprolactinoma. Resistance or intolerance to dopamine agonists are the main indications for transsphenoidal adenomectomy in patients with macroprolactinoma. External radiation therapy has been used in patients with poor response to medical and surgical procedures. Clinically significant tumor growth may occur during pregnancy in women with macroprolactinomas, especially if they have not received prior surgical or radiation therapy. Visual fields should be assessed periodically during pregnancy and therapy with dopamine agonists is indicated if symptomatic tumor growth occurs. Cystic and giant prolactinomas as well as the rare cases of malignant prolactinomas have special peculiarities and entail a therapeutic challenge [1].

Case reports

2016

A 70-year-old man presenting with pituitary apoplexy from a macroprolactinoma and ventriculitis. It was not possible to distinguish a bacterial meningitis or chemical meningitis origin, on the basis of his clinical presentation, laboratory studies and imaging, highlighting the importance of prompt imaging and attainment of CSF cultures, in making the diagnosis [2].

2015

A 34-year-old male admitted to hospital with fever (38°C), headache, stiffness in the neck, diplopia and neurological impairment. Brain magnetic resonance imaging showed two bilateral abscesses in the fronto-parietal areas with intracranial venous sinus thrombosis and a pituitary neuroendocrine tumor that extended from the suprasellar region, eroding the sellar floor into the sphenoidal sinus. Laboratory hormone measurements showed increased levels of prolactin and low levels of FSH, LH and testosterone. The patient received antibiotic treatment and surgery was performed. The patient developed central deafness as a neurological deficit. It is advisable to include pituitary neuroendocrine tumor in the differential diagnosis of meningitis even though its onset as intracranial abscess and rectus sinus thrombosis is extremely rare [3].

1)
Iglesias P, Díez JJ. Macroprolactinoma: a diagnostic and therapeutic update. QJM. 2013 Jun;106(6):495-504. doi: 10.1093/qjmed/hcs240. Epub 2013 Jan 16. Review. PubMed PMID: 23329574.
2)
Jayasekera BA, Hall J, Pearce S, Jenkins AJ. Ventriculitis from a pituitary prolactinoma: bacterial or

chemical? Br J Neurosurg. 2016 Jul 11:1-2. [Epub ahead of print] PubMed PMID: 27400138.
3)

Rubio-Almanza M, Cámara-Gómez R, de San Román-Mena LP, Simal-Julián JA, Ramos-Prol A, Botella-Asunción C, Merino-Torres JF. Brain abscess as the initial presentation of a macroprolactinoma: Case report. Neurocirugia (Astur). 2015 Jan-Feb;26(1):48-51. doi: 10.1016/j.neucir.2014.10.002. Epub 2014 Dec 6. PubMed PMID: 25487178.