Orbital Apex Syndrome Presenting with DKA

Ten years male patient known case of Type 1 diabetes mellitus presented in diabetic keto acidosis (DKA) with history of sudden onset right ocular swelling progressing to complete loss of eye movements with ptosis over 5 days. There was associated history of fever, mild to moderate grade along with vomiting and decreased visual acuity. Patient left insulin for 1 day because of vomiting that lead to precipitation of DKA. There was no history of black discharge from nose, sinusitis or involvement of other eye.

Examination revealed proptosis, complete ophthalmoplegia, and loss of corneal reflex along with 6/18 vision in right eye. Fundoscopy showed no disc abnormality. Investigation included blood glucose 320 mg/dl, acidosis (pH 7.2), HCO3 10mmol/l, urinary ketones strongly positive, total leucocytes count 12100/cmm, differential leucocytes count – polymorph 60, lymphocyte 34, monocytes 4 eosinophil 2 and serum creatinine 1.8mg/dl. CT scan cranium and orbit with contrast was inconclusive with no evidence of cavernous sinus thrombosis. Antinuclear antibodies and antiphospholipid antibodies were negative.

Visual loss from optic neuropathy and ophthalmoplegia involving multiple cranial nerves are the hallmarks of an orbital apex syndrome. Historically, the terms superior orbital fissure, orbital apex and cavernous sinus have been used to define the anatomic locations of a disease process.1 Orbital apex syndromes may result from a variety of inflammatory condition (Tolosa Hunt syndrome), infectious, neoplastic, iatrogenic/traumatic, and vascular conditions. Management is directed at the underlying cause and may be guided by surgical biopsy. Corticosteroids may be useful if an inflammatory etiology is suspected, but it should be used with caution.

Initially patient was managed along the lines of DKA along with broad spectrum antibiotics and heparin. DKA resolved within 2 days without any improvement in eye signs. Then considering a noninfective cause of orbital apex syndrome a trial of steroid (prednisolone 10 mg bd; 1 mg/kg) was given, patient responded with residual deficit of some restriction of eye movements after 7 days.

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