Hypopituitarism associated with mycotic aneurysm of the cavernous carotid artery in a renal transplant recipient

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Hypopituitarism is a rare complication of aneurysms projecting into the sellar region or cavernous sinus thrombophlebitis [1]. Infective intracavernous aneurysms are rarely described in renal transplant recipients [2]. We report a case of hypopituitarism associated with mycotic aneurysm of the internal carotid artery (ICA) in a renal transplant recipient after successful treatment of a post-transplant lymphoproliferative disorder.

A 23-year-old man presented with horizontal diplopia. He had received a cadaveric renal transplant 2 years before. Six months after transplantation, he was diagnosed with post-transplant lymphoproliferative disorder located in the nasopharynx. Complete remission was achieved after withdrawal of immunosuppression and treatment with immunotherapy. Low-dose corticosteroids were initiated to prevent graft rejection. One year later, the patient was admitted with visual disturbances and horizontal diplopia. A cranial CT scan revealed gross mucosal thickening in the right maxilar and sphenoidal sinuses. Two days later, he developed pain in the right eye, proptosis and chemosis along with epistaxis. A cavum biopsy ruled out lymphoma relapse. The following day, he developed right III, IV, V and VI nerve palsy along with left hemiparesia and fever. Empirical therapy with meropenem and voriconazole was initiated. Propionibacterium spp. was isolated from blood cultures and long-term antibiotherapy was maintained. Magnetic resonance (MR) angiography showed narrowing of the sphenoidal sinus, an aneurysm of the intracavernous portion of the right ICA with extension into the pituitary fossa and an area consistent with ischaemic infarction. Twenty-four hours later, an angiography revealed a pseudoaneurysm in the C5 portion of the right ICA siphon (Figure 1A) and balloon occlusion was performed (Figure 1B). After the procedure, his neurological symptoms improved. Hypotonic polyuria was documented and 1-desamino-8-arginine-vasopressin was intravenously administered. Basal endocrine studies revealed anterior pituitary failure and undetectable levels of prolactin. The patient was discharged on prednisone, l-thyroxine, testosterone and desmopressin. One year later, MR imaging confirmed radiological cure of the aneurysm (Figure 2). Two weeks after testosterone and desmopressin withdrawal, endocrine tests were indicative of persistent anterior hypopituitarism but posterior pituitary function was normal.

Although the majority of mycotic aneurysms are secondary to bacterial endocarditis, sinusitis and cavernous sinus infection are known to cause ICA aneurysm. In our case, sinusitis caused by Propionibacterium spp. might have led to the development of a cavernous sinus thrombophlebitis and subsequently, the mycotic aneurysm. To our knowledge, only one case of ICA mycotic aneurysms has been previously reported in a renal transplant recipient [2], although this case occurred during the acute phase of transplantation.

Nowadays, endovascular techniques are the preferred method of treatment of life-threatening large mycotic aneurysms [2–3]. ICA occlusion after endovascular intervention might have precipitated the development of hypopituitarism in our case, which is of special interest because the long-term follow-up. The prolactin deficit seen in our patient suggests destruction of pituitary tissue that can be due either
from direct pressure necrosis of expanding sellar lesion or from stalk compression cutting off the blood supply to the pituitary via [4]. Resolution of diabetes insipidus supports the hypothesis that some symptoms can transiently appear in the post-occlusion period secondary to aneurysm swelling rather than to a low flow rate in the meningohypophyseal artery [5].

Conflict of interest statement. None declared.

References


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