Pituitary Collision Tumor

Collision tumors of the sellar region are relatively uncommon and consist mainly of more than one type of pituitary neuroendocrine tumor or a cyst or cystic tumor. The association of a pituitary neuroendocrine tumor and a craniopharyngioma is particularly rare. This study describes a rare occurrence in which a pituitary neuroendocrine tumor and a craniopharyngioma coexisted in the sellar region. The case involves a 47-year-old woman who underwent transsphenoidal surgery with subtotal tumor resection and reoperation using an interhemispheric transcallosal approach for total microsurgical resection of the tumor because the visual acuity in her left eye had re-deteriorated. Histopathological and immunohistochemical examinations of the excised tissue revealed a pituitary neuroendocrine tumor in the first operation and a craniopharyngioma in the second operation. Retrospective analysis found the coexistence of a pituitary neuroendocrine tumor and a craniopharyngioma, known as a collision tumor. Instead of the transsphenoidal approach, a craniotomy should be performed, to explore the suprasellar region [1)].

Shakally et al. presented a case of pituitary collision tumors with nonfunctioning pituitary neuroendocrine tumor (NFPA) and craniopharyngioma. In order to look for any common activated pathway, they examined WNT/β-CATENIN signaling activation, known to be involved in tumorigenesis in both craniopharyngioma and NFPA. They found nuclear accumulation of β-CATENIN protein and expression of LEF1 protein, markers of active β-CATENIN signaling in the craniopharyngioma but not in the pituitary neuroendocrine tumors. In this case, the NFPA is invasive macroadenoma, which is a frequently identified type of pituitary neuroendocrine tumor in collision tumor cases. Recurrence of this tumor was first observed after 8 years of follow-up. Based on this case, we suggest that pituitary collision tumors require long-term follow-up [2)].

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pituitary neuroendocrine tumor and Craniopharyngioma Collision Tumor [3)].

In the pituitary sella, collision tumors are exceedingly rare, and not much is known about their etiology and prognosis.

A 74-year-old man presented with a concomitant primary pituitary lymphoma (diffuse large B-cell non-Hodgkin’s lymphoma; DLBCL) and follicle-stimulating hormone (FSH)-adenoma diagnosed histologically after clinical features of apoplexy prompted urgent surgical decompression and resection. Strong immunoreactivity for FSH by the lymphoma was evident. Full-body workup demonstrated no other source for the lymphoma. He subsequently underwent 4 cycles of chemotherapy and has been in remission for over 32 months. His ophthalmoplegia at presentation persisted with no further deficits.

Four cases of collision tumors of primary pituitary lymphoma and adenoma have previously been reported. This case represents the first combination of an FSH-adenoma and a DLBCL in the literature. Prompt involvement of the hematology-oncology team contributed to the good outcome seen in this case. The putative role played by pituitary hormones in tumorigenesis is reviewed in this case report. The association is either a chance occurrence or due to the induction of lymphoma cell proliferation

by the binding of FSH produced by the adenoma to the FSH receptors on the lymphoma cells [4].

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