## Case 11: Pituitary Metastasis ─ Approaches to Diagnosis and Management

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History:
A 68-year-old male, presented 16-months after a stable, post-chemotherapy, right upper lobe pulmonary adenocarcinoma, with a 2-month history of headaches, right-sided visual disturbance, low libido and tiredness. He denied increased thirst and nocturia.
Examination:
There were no signs of hypersecretory endocrine conditions, and he had left-sided blindness from previous trauma, and right-sided superior temporal quadrantanopia, with intact cranial nerves.
Investigations:
1) normal renal and liver function; 2) normal adjusted calcium; 3) normal IGF-1; 4) secondary hypogonadism: LH <0.1 IU/L (1.5-9.3), FSH 0.3 IU/L (2-20) and 9am testosterone <0.4 nmol/L (8.4-28.7); 5) secondary hypothyroidism: TSH 2.12 mU/L (0.5-6.0) and FT4 8.8 pmol/L (11.5-22.7); 6) suboptimal short synacthen test (0min: 195 nmol/L and 30min: 506 nmol/L (>580)) and, 7) normal prolactin.
An MRI brain with gadolinium showed a 2cm x 2cm x 1cm intra and suprasellar, poorly enhancing mass, with significant compression of the optic chiasm ─ a possible metastasis involving the pituitary and hypothalamus.
Management:
Under hydrocortisone cover, because of the large suprasellar component, he had an elective craniotomy to decompress the optic chiasm. Histopathology confirmed a metastatic adenocarcinoma from the pulmonary primary lesion.
Postoperatively, he had ACTH deficiency and was replaced with hydrocortisone, and required Desmopressin for cranial diabetes insipidus.
He received adjuvant pituitary radiotherapy, and a bone scan confirmed he had metastasis to the bones for which he received lumbosacral radiotherapy.
The patient died 6-months from diagnosis of the pituitary metastasis.
Discussion: [1, 2]
Pituitary metastasis is mainly asymptomatic and can be missed due to symptoms common to advanced malignancy. The commonest presentation is diabetes insipidus. The primary sites are usually the breast and the lung (70%). Adequate replacement therapy, metastatic tumour resection, adjuvant radiotherapy and/or chemotherapy are advised for improved quality of life. The median survival time is 6 months.
References:
1. Komninos J, Et Al. 2004 Tumors Metastatic to the Pituitary Gland. J Clin Endocrinol Metab, 89(2):574-580
2. Morita A and Laws ER 1998 Symptomatic pituitary metastases. J Neurosurg 89:69-73



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