Temozolomide treatment of a resistant prolactinoma

BC Whitelaw, D Dworakowska, T Hampton, N Thomas, SJB Aylwin, King’s College Hospital, Denmark Hill, London

Case history:
A 16 year old man presented in 2007 with bitemporal hemianopia and left sided headaches. MRI scan showed a sella, suprasellar and left parasellar tumour. Serum prolactin levels were 129,000 mU/l. He was commenced on cabergoline and the dose was titrated up to 1mg daily. Serum prolactin fell to a nadir of 40,000 mU/l and there was an improvement in visual fields. However his headaches persisted and neuroimaging did not show any significant shrinkage of the tumour.

Trans-sphenoidal surgery was performed in December 2007. Histology demonstrated a pituitary adenoma with strongly positive immunohistochemical staining for prolactin. Ki67 labelling index was 4%. MGMT immunostaining was <5%. Post-operatively there was a persistent left quadrantanopia. MRI scans in 2008 and 2009 showed significant residual tumour. Over the next two years prolactin levels rose gradually to 49,000 mU/l despite cabergoline. The patient experienced severe and intractable headaches.

At this point the treatment options included further surgery, radiotherapy or chemotherapy. Temozolomide chemotherapy was commenced in November 2009.

Results:
Prolactin fell from 49,000 to 5000 mU/l after 6 cycles of temozolomide. The headaches resolved. MRI shows a reduction in tumour size.

Conclusion and points for discussion:
We present a case of an excellent clinical, biochemical and radiological response to temozolomide, used as a third line therapy. Current clinical practice is to use temozolomide as a salvage therapy after all conventional modalities of treatment have failed.

Temozolomide is well tolerated in the majority of patients and is a highly effective treatment for resistant prolactinomas. We suggest that consideration should be given to using temozolomide earlier in the treatment algorithm