

A rare case of pineal non-germinoma

Therese McCartney*, Rebecca Gregory,
Kyle Crawford, Judith Carsar, David Conkey, Bode Oladipo

Introduction

Germ-cell tumors arise in the midline structures of the body. Malignant pineal germ cell tumours are rare, accounting for <1% of intracranial tumours in adults. They can be subdivided into non-germinomatous germ-cell tumors and germinoma (1). Due to their anatomical location, the clinical presentation and treatment is often complex (2).

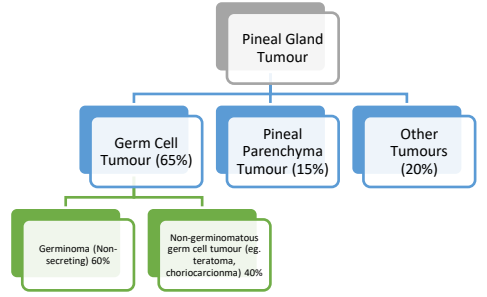


Fig 1 types of pineal tumor (1).

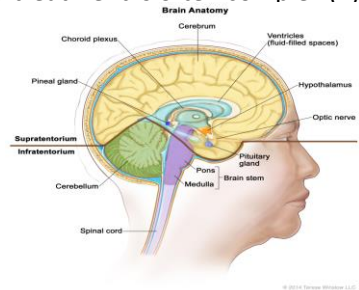


Fig 2 anatomical location of pineal gland (2).

Background

A 26-year-old professional sportsman from Northern Ireland presented with headache and a collapse episode in Germany.

- MRI showed a tumour in the pineal region, and fourth ventricle with obstructive hydrocephalous.
- He had multiple interventions including complex surgical resection, post-operative imaging confirmed persistent disease with clinical deterioration.
- Histology confirmed non-germinoma germ cell cancer.
- He transferred to Belfast for ongoing management.

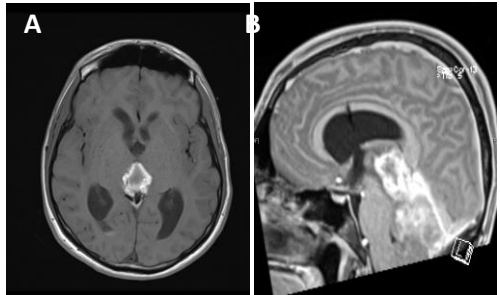


Fig 3 A+B Preoperative T1 weighted MRI; appearances showing pineal non germinoma

Discussion

- Patient arrived in Belfast via air ambulance and was noted to be aphasic with communication limited to yes/no hand squeezing. Mobility was significantly impaired due to persisting neurological deficit and deconditioning.
- Germ cell tumours are notably chemotherapy sensitive. He proceeded to cisplatin/etoposide/ifosphamide chemotherapy, with excellent clinical response.
- With the support of the multidisciplinary team, his speech returned and mobility was regained.
- He underwent consolidated craniospinal radiotherapy, and has since returned to full fitness. A complete radiological tumour response has been sustained on serial imaging.



Conclusion

This rare and complex case, made all the more challenging by his severe neurological deficit at presentation, highlights the effectiveness of intensive chemotherapy/radiotherapy with multidisciplinary input in successfully treating this condition even in the most severe cases.

References
1. Fietz et al. Successful treatment of extracranially metastasized pineal gland germinoma with high-dose methotrexate. Annals of oncology volume 13, issue 10, p1681-1685 Oct 01 2002
2. https://www.ncbi.nlm.nih.gov/books/NBK65982/figure/CDR0000062900__1238/

*therese.mccartney@northerntrust.hscni.net