RETURN TO FLYING AFTER TRANS-SPHENOIDAL HYPOPHYSECTOMY: A CASE REPORT

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• I have no financial relationships to disclose

• I will not discuss off-label use and/or investigational use in my presentation
OVERVIEW

• Introduction
• Case details
• Pituitary tumors
• Aeromedical concerns
• Aeromedical disposition:
  - USAF
  - IAF
• Comparison of policies
• Conclusion
INTRODUCTION

• Malignancies affect CNS frequently
• Majority of tumors: Metastases
• Pituitary tumors: 3\textsuperscript{rd} most common intracranial neoplasms
• 15\% of all intracranial neoplasms
INTRODUCTION

• Common clinical presentations:
  - Visual impairment/field loss
  - Apoplexy (haemorrhage into tumor)
  - Headache
  - Hypopituitarism
INTRODUCTION

• Post surgical complications:
  - Diabetes insipidus
  - Hyponatremia
  - Hypocortisolism
  - Tumor recurrence/persistent visual impairment
INTRODUCTION

• Aeromedical opinion divided regarding re-flighting post-surgically
• Difference in approach & opinion between USAF and IAF discussed
CASE DETAILS

• 39 yr old USAF transport pilot (C-130)
• Gradual loss of left peripheral visual field Aug 11
• Humphrey 24-2: Bitemporal visual field defect
• Secondary to 2.3 x 2.3 x 2.8 mm pituitary microadenoma
• Non-functioning microadenoma
• Uncomplicated TS Hypophysectomy Aug 11
CASE DETAILS

• Developed diabetes insipidus post-op
• Treated with hydrocortisone (discontinued)
• Humphrey 24-2 Oct 11: WNL bilaterally
• Clinically asymptomatic
• Physician & neurologist review Oct 11: WNL
• No radiological or clinical evidence of residual disease
CASE DETAILS

ACS RECOMMENDED 2 YEAR WAIVER IN OCT 2011
PITUITARY TUMORS

• Primary tumors: Adenomas or carcinomas
• Pituitary adenoma: Benign ant lobe neoplasms
• > 90% of pituitary neoplasms
• Classified by size & hormone secreted
  - Lactotroph
  - Gonadotroph
  - Somatotroph
  - Corticotroph
  - Thyrotroph
  - Mixed
PITUITARY TUMORS

- Field defects seen in 95% patients
- Related to compression of optic nerve
- Surgery: Trans-sphenoidal hypophysectomy
- Improvement seen in 87.6% patients
- 100% patients capable of driving legally


AEROMEDICAL CONCERNS

- Pituitary apoplexy (haemorrhage into tumor)
- Mass effect of tumor
- Post-op complications
  - CSF leak
  - Transient diabetes insipidus
  - Inappropriate ADH secretion

ABSENCE OF COMPLICATIONS: RETURN TO FLYING STATUS POSSIBLE
AEROMEDICAL DISPOSITION: USAF

• Guide for aeromedical disposition: Air Force Waiver Guide
• All pituitary tumors (benign/malignant) disqualifying for flying
• Waivers granted post-surgically:
  - Flying Class-I: AETC Hq
  - Flying Classes-II, III: Major Command Hq
• Reviews at Aeromedical Consultation Service
• 2 year waiver in accordance with policy
AEROMEDICAL DISPOSITION: IAF

- IAF publication on medical examinations and medical boards
- Air (A) & Ground (G) categories
- Upgradation of aircrew done only at boarding centres
- No evidence of tumor recurrence & good general health: Slow upgradation to almost full flying category in tpt/helo stream
- Fighter aircrew: Waiver by DGMS (Air)
- Full flying category (A1G1) after 5 year disease free period
- Annual reviews at boarding centres only
USAF vs IAF: A COMPARISON

- Timeline for putting pilot back in cockpit varies
- More proactive approach by USAF
- Flight surgeon has authority to upgrade med cat in outlying bases
- Only complicated problems referred to ACS
- Major diagnostic tools & services available in outlying bases
- Minimal loss of man hours; higher % of aircrew returning to flight status
USAF vs IAF: A COMPARISON

• IAF: A more conservative approach
• Re-flighting in a more phased manner
• Austere operating environment for flight surgeons in remote bases
• Higher diagnostic facilities quite distant
• Present system seems to be a reasonable solution
• Move towards empowering flight surgeons in the outlying bases
CONCLUSION

• Benign pituitary tumors commonly presenting with visual field defects preclude any flying duties
• Trans-sphenoidal hypophysectomy an excellent treatment modality
• Significant post-op improvement
• Re-flight after complete radiological & clinical resolution
• Enhanced mission effectiveness of organisation