

# Ipilimumab- induced hypophysitis

## A new cause for a rare disease

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### •Introduction:

Ipilimumab is a monoclonal antibody that blocks cytotoxic T-lymphocyte antigen 4(CTLA4) resulting in T-cell activation and antitumor response. It is now licensed for the treatment of non resectable or metastatic malignant melanoma. It generates autoimmunity resulting in various immune related adverse events . Endocrine immune related adverse events include: autoimmune hypophysitis (0-17%) , thyroid disease (0.3- 2.7%), adrenal disease (2.1%) . Most patients develop symptoms of hypopituitarism after the third dose(66%) suggesting cumulative effect.

### Case History:

67 years old man ,known case of metastatic malignant melanoma on Ipilimumab therapy presented one week after his third cycle of therapy with postural dizziness, fatigue ,headache and nausea. On examination: He was lethargic. Bp : 100/60 with postural drop. Otherwise examination was unremarkable.

Blood tests:

- Serum sodium:115mmol/L
- Serum potassium:4.1 mmol/L
- Urea:4.4 mmol/L
- Creatinine: 114mmol/L

### •Pituitary profile:

- Cortisol: 70nmol/L
- ACTH: 11ng/L(normal range 0-46 )
- TSH:0.03 mU/l
- Free T4: 6.6 pmol/l
- Testosterone<0.1
- FSH: 1.3 IU/L
- LH:0.1 IU/L
- Prolactin:450 mU/l.



**Diagnosis:** Ipilimumab induced-hypophysitis  
Patient received pituitary replacement hormones: hydrocortisone, thyroxine and testosterone. His symptoms of lethargy and dizziness improved and his sodium normalized.

### Highlights:

- High index of clinical suspicion of hypopituitarism in patients on ipilimumab. Complete hormonal screening and electrolytes before the beginning of therapy is suggested. And a new hormonal workup after completing the fourth cycle of the drug unless symptoms appear before that.