Progress

His serum prolactin was found to be elevated at 2683 μl/L with evidence of secondary hypogonadism (serum testosterone 6.3 nmol/L, FSH 9.2 U/L, LH 0.9 U/L, serum oestradiol 48 pmol/L). Serum ESR was 14 mmol/hr, serum electrophoresis, LFT’s and ACE 37 U/L, i.e. normal. Corrected calcium was 2.34 mmol/L, urine electrophoresis and Chest Radiograph were normal. MRI pituitary (2011) showed an expansion in the pituitary stalk measuring 5mm with minimal mixed signal. Radiologists suggested this finding’s differentials for this appearance could be granulomatous disease, amyloid or neoplastic change within. The patient was discussed with neurosurgeons at the joint pituitary clinic; it was recommended not to biopsy the lesion & treat his prolactin medically.

Recent literature notes that patients in dialysis-dependent kidney failure are at significant risk for a recently described scleroderma-like disorder called nephrogenic systemic fibrosis. 2

Nephrogenic systemic fibrosis (NSF) is associated with dermopathy and multi-organ dysfunction. No prior reports note pituitary involvement. Gadolinium-based contrast agents have been implicated in the development of nephrogenic systemic fibrosis. 3

Our patient had a normal prolactin prior to receiving gadolinium for his MR Renal Angiogram prior to commencing dialysis. We hypothesise his pituitary stalk thickening, which did not change post-bromocriptine is secondary to NSF.

Discussion

- The Royal College of Radiology Guidelines 4 state that:
  - NSF may develop from the day of exposure for up to 3 months.
  - Patient risk factors – renal impairment (GFR <60, dialysis patients included), patients awaiting/post-liver transplant and patients under the age of one.
  - Contrast risk factors – NSF has occurred post Omniscan, Magnevist and Optimark.
- Preventing NSF – use the lowest dose of contrast agent possible, avoid the above-mentioned agents and try not to re-scan within one week.

References

1. Byrne, T. N. Endocrinology. MGH Neuroendocrine Clinic Center Bulletin. Spring 2008, Volume 14 No 1