P043 FASCINATING PHOSPHATE: SEEK AND YOU WILL FIND
Jyoti Bakshi and Clare Batten
London Northwest London NHS Trust, Rheumatology, London,
UNITED KINGDOM

Background/Aims
A 62-year-old accountant was referred to the metabolic bone clinic with a 2 year history of thoracic back pain and a persistently raised ALP. There were no associated red flags for her back pain. She had a history of a gluteal lump, thought to be benign, for which she had declined excision. She has hypertension and had a previous navicular fracture. Medications included bendroflumethiazide and Adcal D3. She had restriction in neck movements and was tender to percussion in the thoracic spine. There was no proximal weakness or focal neurology. Systems and joint exam were unremarkable.

Methods
The case is discussed below.

Results
Salient abnormal results on presentation were a raised ALP of 207 and corrected calcium of 2.34; PTH was elevated at 8.2 (NR:1.6-6.9), Vitamin D 79 and a low phosphate of 0.34 (NR:0.8-1.50). Alkaline phosphatase isoenzymes showed the raised level came from bone. Protein and urine electrophoresis were normal. A bone density scan was normal, and a recent thoracic MRI showed only degenerative change. An isotope bone scan was requested and was reported to show increased activity in the nasal bone, maxilla and both orbits, raising the possibility of Paget’s disease. However, when reviewed in the Radiology meeting with a skull x-ray, the appearances were not felt to be in keeping with Paget’s. Despite physiotherapy, hydrotherapy, acupuncture and neuropathic medication the patient’s back pain continued. Her phosphate remained low and her calculated tubular reabsorption of phosphate from a 24h urine collection (TmP/GFR) was low at 0.42mmol/l (NR 0.80-1.35). She was started on phosphate replacement and calcitriol, and Adcal D3 was continued. The Fibroblast Growth Factor (FGF) 23 levels were sent and came back significantly elevated at 1380 (NR <100). A 68Ga DOTA-TATE scan (whole body PET/CT scan), confirmed the right gluteal lump as the source of the FGF 23. The patient went on to have an excision biopsy and histology confirmed a mesenchymal tumour of the right buttock. Her phosphate replacement was gradually weaned, but on reducing the dose phosphate levels dropped and her symptoms returned. The repeat TmP/GFR was again low at 0.61, and FGF' 23 levels were still raised at 204. A repeat 68Ga DOTA-TATE scan, 4 years after the first one, showed recurrence of the right gluteal lesion and a possible small lesion in the left gluteal muscle. She has been sent for further excision.

Conclusion
Tumour induced osteomalacia (TIO) is a rare condition and should be considered in cases of hypophosphataemia. Classical symptoms are proximal weakness and muscle and bone pain. They are typically associated with small benign tumours (most commonly mesenchymal tumours) which may be difficult to find. Excision is curative but if small amounts of tumour remain, relapses may occur.

Disclosure
J. Bakshi: None. C. Batten: None.