A 61-year-old man complaining of several years of progressive and intractable fatigue and episodic frontal headache was referred to haematology with a persistent pancytopenia: White blood count 2.4x10^9/L (normal range 4-10x10^9/L), Haemoglobin 113g/L (130-180g/L), Platelets 122x10^9/L (140-400x10^9/L). Bone marrow aspirate demonstrated a multilineage myelodysplasia with no excess of blasts. Trephine biopsy showed a mildly hypoplastic bone marrow with a cellularity of 45% and no evidence of infiltration. Bone marrow cytogenetics demonstrated a normal karyotype.

During routine follow-up, thyroid function testing was performed: FT₄ 4.60pmol/L (7.5-21.1pmol/L) and TSH of 10.00mIU/L (0.34-5.6mIU/L). He was referred to endocrinology where further endocrine testing demonstrated: testosterone undetectable (6.1-27.1nmol/L), LH 0.4 IU/L (1.2-8.6 IU/L), FSH 1.5 IU/L (0-19 IU/L), 9am cortisol 41nmol/L (200-750nmol/L), impaired short synACTHen test and prolactin 206mIU/L (56-278mIU/L). Visual field testing demonstrated a bitemporal superior quadrantanopia and magnetic resonance imaging of the head showed a large suprasellar mass abutting the optic chiasm. Following the initiation of hormone replacement therapy and subsequent transphenoidal adenectomy, we observed a rapid correction of his pancytopenia: White blood count 8.3 x10^9/L, Haemoglobin 132g/L, Platelets 186x10^9/L, normalisation of his blood film and eradication of his symptoms. Pancytopenia associated with panhypopituitarism is limited to isolated case reports and is predominantly associated with Sheehan’s syndrome. To our knowledge this is the first reported case which demonstrates not only pancytopenia, but also abnormal haemopoiesis consistent with myelodysplasia in the context of a non-functioning pituitary macroadenoma. In this patient, we have demonstrated that with pituitary hormone replacement, this myelodysplastic picture can be reversed.