

INTRODUCTION

Women of reproductive age with recent substantial weight gain often present with **intractable headaches** and blurred vision, and 15–57% also have obesity-related PCOS.¹ In the absence of papilloedema, they are frequently undertreated.^{2,3}

This study aims to improve awareness, recognition, and management of **Idiopathic intracranial hypertension without papilloedema (IIHWOP)** in this clinical subgroup and the use of Exenatide.^{4–8}

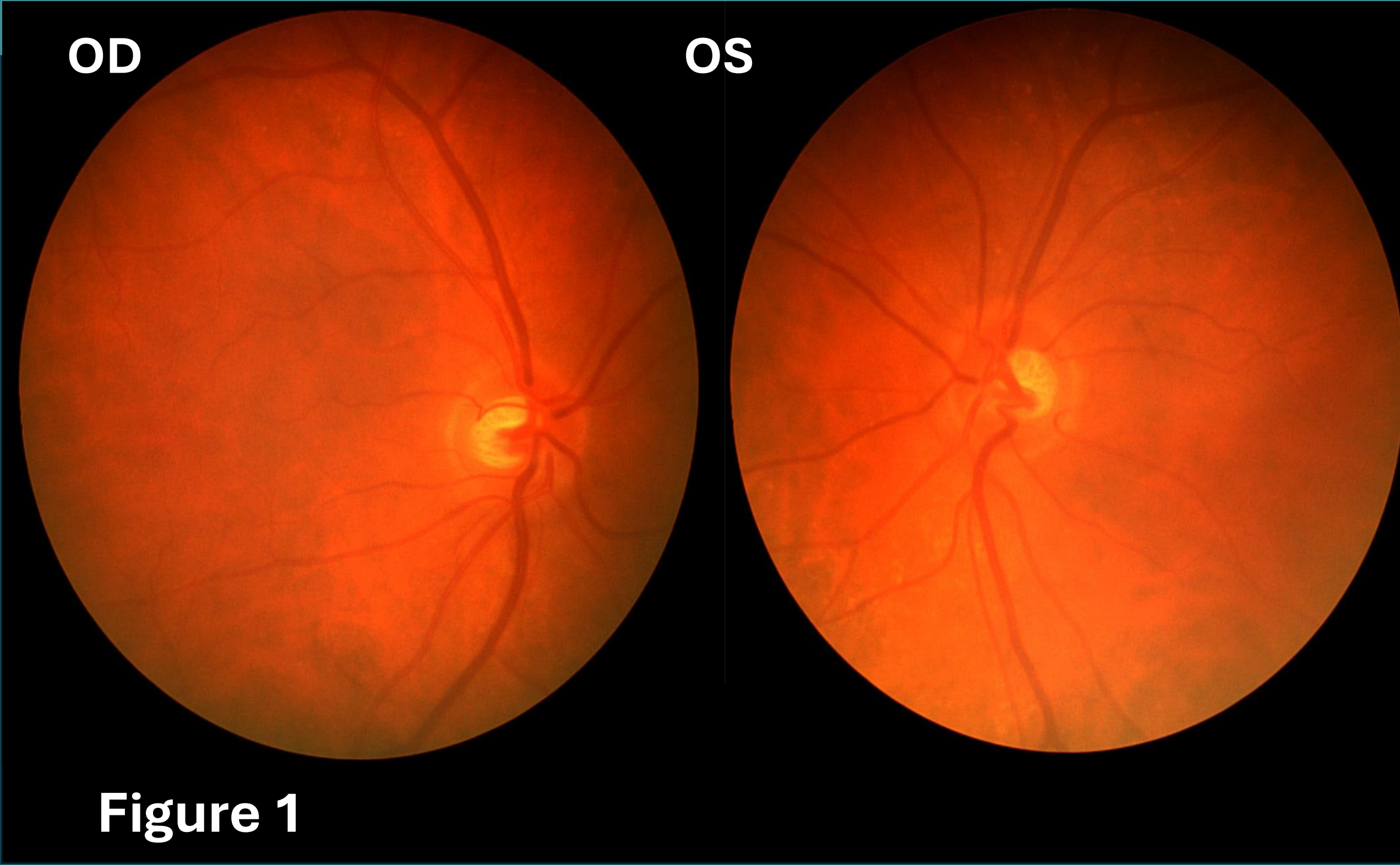


Figure 1

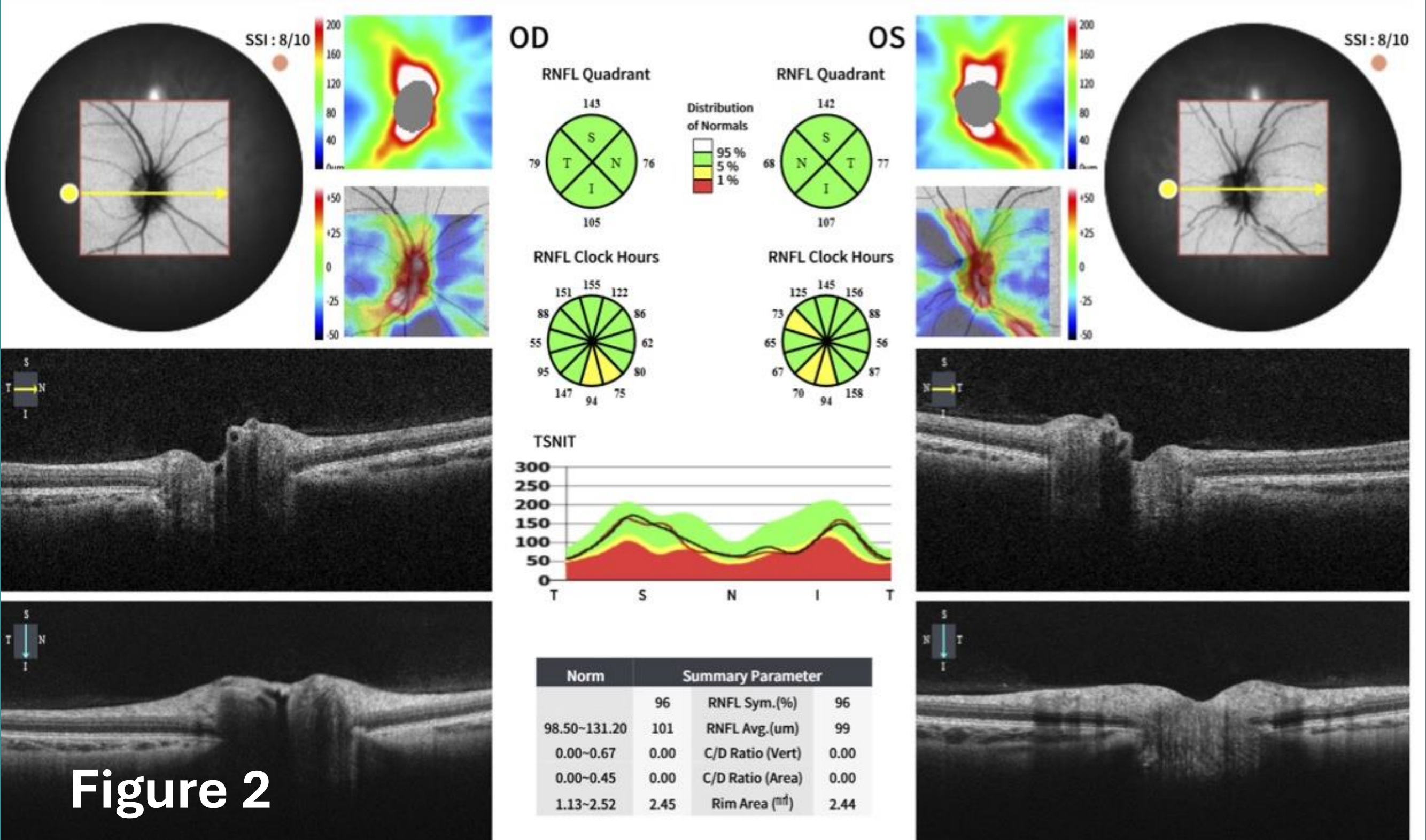


Figure 2



CONCLUSION

IIHWOP reported in 5.7% of patients with IIH, is likely **more common** than originally recognised and should be considered in obese women with chronic daily headaches refractory to conventional therapy.^{2,3}

IIHWOP typically spares visual acuity, but reduced binocular vision may occur due to diplopia from raised intracranial pressure compressing the abducens nerve and impairing convergence.^{2,3} Pulsatile tinnitus is also a common feature, reflecting altered intracranial venous flow. The mean CSF opening pressure in IIHWOP is usually lower than in classic IIH.^{2,3} Weight loss remains the cornerstone of IIH management and a first-line intervention in PCOS.^{2–6}

Exenatide, the most extensively studied GLP-1 receptor agonist, has demonstrated dual benefits.^{5–8} In IIH, it acts on GLP-1 receptors within the choroid plexus, reducing CSF secretion via Na⁺/K⁺-ATPase inhibition, thereby lowering intracranial pressure.⁷ In PCOS, exenatide improves insulin sensitivity, decreases compensatory hyperinsulinaemia, and restores hypothalamic–pituitary–ovarian axis function. Importantly, GLP-1 receptors are also expressed in ovarian tissue, where **exenatide** may directly enhance granulosa cell activity, support follicular maturation, and promote ovulation.^{5–8}

IIHWOP should be recognised in obese women with PCOS who present with intractable headaches and diplopia. GLP-1 receptor agonists may represent a promising dual therapeutic option in this group, acting directly on the choroid plexus and ovarian tissue, and indirectly through weight loss.^{4–8}

METHODS

We present a case of a woman with refractory headaches and intermittent visual disturbance evaluated for suspected IIHWOP. A focused literature search was conducted using PubMed, Cochrane Library, and Embase to identify studies relating to IIHWOP, obesity, PCOS and the exenatide

RESULTS

A 27-year-old woman with PCOS presented with intermittent visual blurring, diplopia, and chronic headaches following a 14 kg weight gain over eight months. Monocular visual acuity was 6/5 bilaterally, with reduced binocular acuity of 6/12. Fundoscopy and OCT was normal with **no papilloedema** (Figs. 1–2). MRI revealed an enlarged pituitary fossa, partial empty sella, and optic nerve sheath dilatation, while lumbar puncture confirmed an elevated opening pressure of 280 mmH₂O with normal CSF constituents, supporting a diagnosis of IIHWOP (Fig.3 A,B).

Initial treatment with acetazolamide was discontinued due to intolerance.

The GLP-1 receptor agonist exenatide resulted in early improvement in headache frequency and diplopia. Continued treatment was associated with weight reduction and further improvement in visual symptoms, insulin resistance, and menstrual regularity. The literature search found similar results regarding **exenatide**.

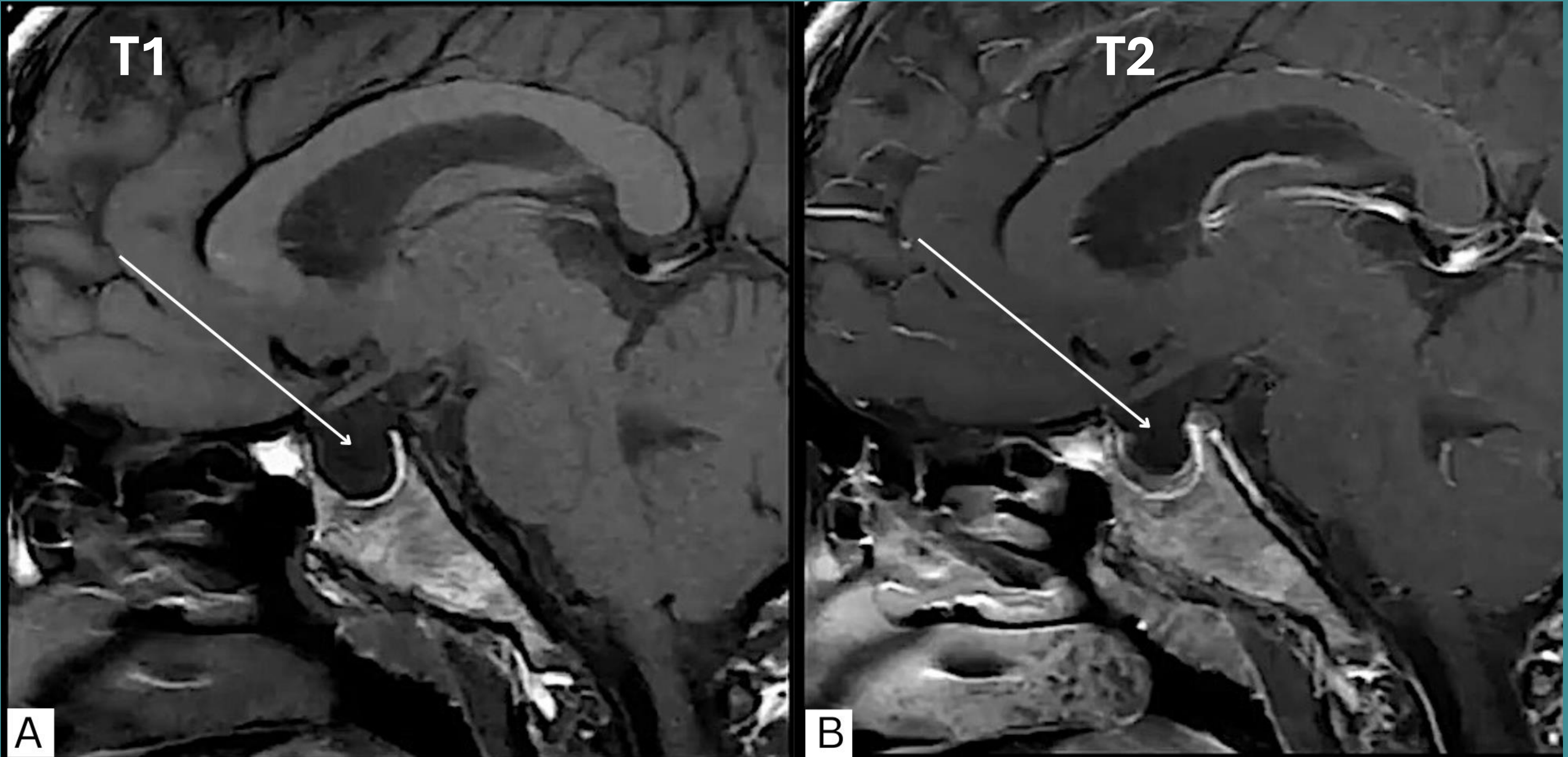
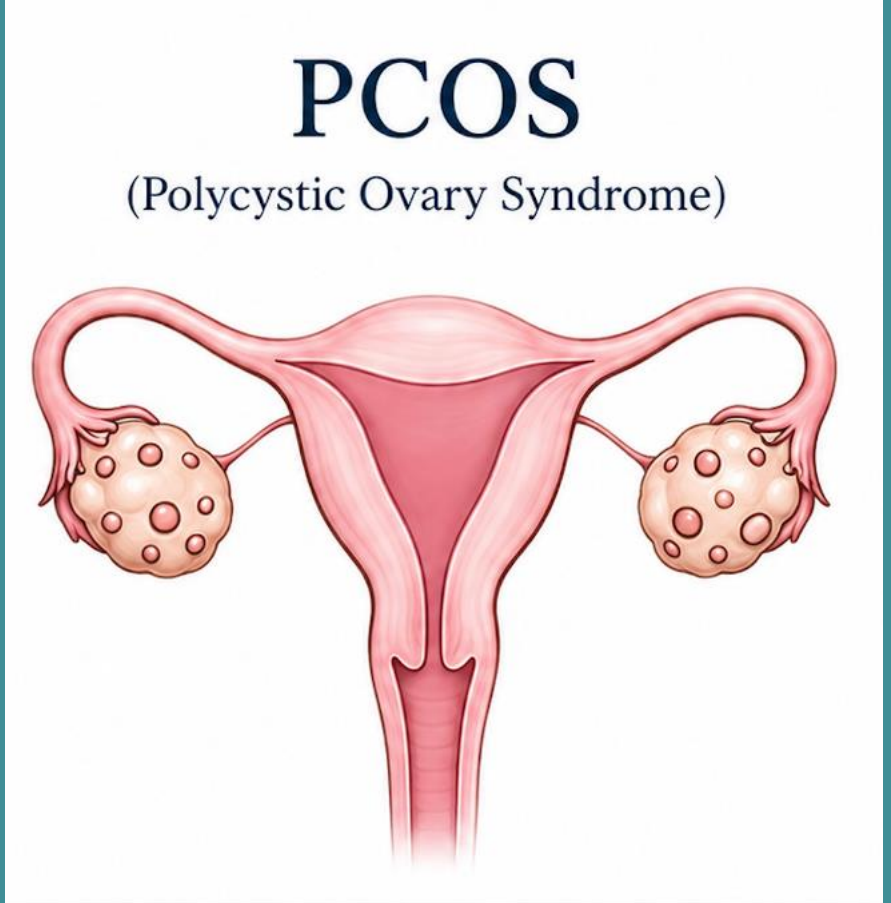


Figure 3. T1, T2 post contrast MRI showing partial empty sella filled with cerebrospinal fluid.



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