

## CASE REPORT

# Aches, pains and headache: an unusual combination of hypothyroidism, vitamin D deficiency, cervical radiculopathy and cortical vein sinus thrombosis

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## SUMMARY

A young obese woman was admitted with vague aches and pains, including a headache. At first a provisional diagnosis of depression/myofascial pain syndrome was considered. Later, on evaluation, she was diagnosed to have hypothyroidism and vitamin D deficiency. One week into treatment, her neck pain and headache got worse. Examination of the fundus showed tortuous vessels, papilloedema and intraretinal haemorrhages. MR venogram of the brain was performed, which revealed the presence of thrombosis in the left transverse sinus, left sigmoid sinus and left internal jugular vein. This report is an unusual presentation of neuropsychiatric symptoms in a patient where overlapping diagnoses confound the clinical picture and test the clinical acumen of the physician. A careful history followed by a focused clinical examination and evaluation will help to delineate potential confounders. The report further highlights the importance of clinical medicine even in this era of 'investigative medicine'.

## BACKGROUND

Aches and pains are some of the leading causes of patient visits to the physician.<sup>1</sup> Among these, fibromyalgia syndrome (FMS) is a common musculoskeletal pain disorder characterised by generalised body pain, hyperalgesia, and several other functional and emotional comorbidities.<sup>2</sup> The myriad symptoms that the patient expresses are seldom accompanied by objective findings. To add to the physician's frustration, often the test results are unrevealing. Any number of organic and functional illnesses may mimic the constellation of symptoms that the patient has, as was the case in this patient.

## CASE PRESENTATION

A 23-year-old woman was admitted with vague aches and pains, including headache, of unspecified duration. At admission, she appeared depressed; her parents attributed her symptoms to her inability to find a suitable job after finishing nursing school. Apart from this she was self-conscious of her obesity (body mass index, 37 kg/m<sup>2</sup>) and also had low self-esteem. She had a history of tonsillectomy at the age of 8 years and a history of Dengue 1 year earlier. Three weeks prior to admission in our hospital she had fever and cough for which she was treated with amoxicillin. She had myopia and had been regularly using eyeglasses since the age of 10 years. Her physical examination was unremarkable except for the obesity. Provisionally, we

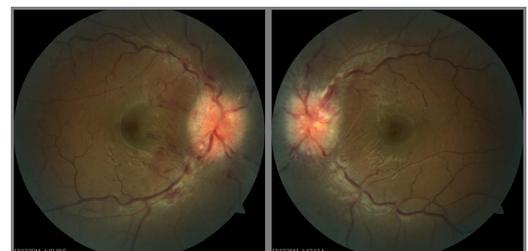
considered a diagnosis of depression/myofascial pain syndrome and proceeded to investigate her.

Hormonal assessment led to the diagnosis of primary hypothyroidism (thyroid-stimulating hormone 5.48 mIU/mL; normal 0.465–4.68). Free T3 and free T4 levels were normal. She was also detected to have low vitamin D levels (25-hydroxyvitamin D 8.8 ng/mL; normal 30–100). The rest of the hormonal milieu and electrolytes were normal. Consequently, the patient was started on replacement doses of thyroxine and vitamin D.

One week into her treatment, her neck pain and headache, which, according to the patient, had subsided in the interim, worsened. She also reported blurred vision. An examination of the fundus revealed the presence of tortuous vessels, papilloedema and intraretinal haemorrhages (figure 1). Hence a MR venogram (MRV) and MRI of the brain and spine, respectively, were carried out. The MRV revealed the presence of thrombosis in the left transverse sinus, left sigmoid sinus and left internal jugular vein (figure 2). The MRI of the spine revealed the presence of a paracentral disc osteophyte complex at C3–C4 level and C4–C5 level causing encroachment into the left lateral recess. Following the diagnosis of cortical venous sinus thrombosis, the patient was evaluated for prothrombotic states including levels of antithrombin III, factor V Leiden mutation, lipoprotein-A, homocysteine, protein C and protein S, antinuclear antibody, rheumatoid factor (RF) and antiphospholipid antibody. Her lipoprotein-A levels were found to be elevated (lipoprotein-A 37.7 mg %; normal <30).

## TREATMENT

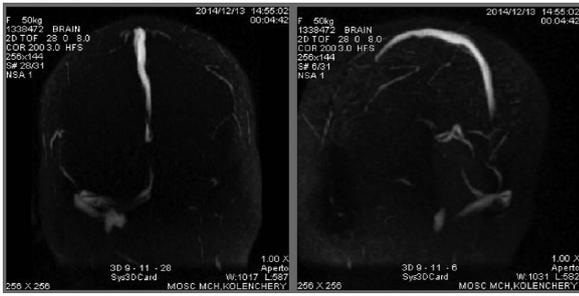
The patient was given low-molecular-weight heparin (LMWH), enoxaparin 40 mg subcutaneously twice daily for 1 week. The last 48 h of enoxaparin was overlapped with oral anticoagulants



**Figure 1** Retinal images showing tortuous vessels, papilloedema and haemorrhages.



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**Figure 2** Brain MRI showing loss of normal signal intensity in the left transverse sinus, left sigmoid sinus and left internal jugular vein, suggestive of thrombosis.

(nicoumalone) and the dose titrated to achieve an international normalised ratio of 2.5. A soft cervical collar was ordered for cervical radiculopathy.

### OUTCOME AND FOLLOW-UP

After the initiation of LMWH, there was a gradual improvement in the patient's headache and vision, and she was discharged soon thereafter. She was called for review after 1 month, by which time she had become asymptomatic.

### DISCUSSION

FMS is a common musculoskeletal pain disorder characterised by generalised body pain, and several functional and emotional comorbidities.<sup>2</sup> Any number of organic and functional illnesses may mimic the constellation of symptoms that the patient has, as was the case in this patient. In about half of the patients with FMS, anxiety and depression are seen.<sup>3</sup> Hypothyroidism can also cause subtle to frank mental changes. Vitamin D deficiency is also known to cause headache and chronic musculoskeletal pain.<sup>4</sup> It is also known to be independently associated with depression in overweight women.<sup>5</sup> In the case reported here, the patient was obese and had vitamin D deficiency and hypothyroidism. Unlike the conditions aforementioned, cortical vein sinus thrombosis may be more explicit in its presentation. However, the index of clinical suspicion may be low in the

absence of profound symptoms and coexistence of illnesses that mimic FMS.

This report is an unusual presentation of neuropsychiatric symptoms in a patient where overlapping diagnoses confound the clinical picture and test the clinical acumen of the physician. A careful history followed by a focused clinical examination and evaluation will help to delineate potential confounders.

### Learning points

- ▶ Vague psychosomatic symptoms in a patient should not be dismissed as trivial; a pertinent history and examination is essential.
- ▶ Although the dictum in medicine is to rationalise the multiple signs and symptoms that a patient has to a single diagnosis, there can always be exceptions.
- ▶ In any case of unexplained headache, visual examination of the fundus is required.

**Competing interests** None declared.

**Patient consent** Obtained.

**Provenance and peer review** Not commissioned; externally peer reviewed.

### REFERENCES

- 1 Schneider M, Veron H, Ko G, *et al*. Chiropractic management of fibromyalgia syndrome, a systematic review of the literature. *J Manipulative Physiol Ther* 2009;32:25–40.
- 2 Okifuji A, Hare BD. Management of fibromyalgia syndrome: review of evidence. *Pain Ther* 2013;2:87–104.
- 3 Yunus MB. Fibromyalgia and overlapping disorders: the unifying concept of central sensitivity syndromes. *Semin Arthritis Rheum* 2007;36:339–56.
- 4 Prakash S, Kumar M, Belani P, *et al*. Interrelationships between chronic tension-type headache, musculoskeletal pain, and vitamin D deficiency: is osteomalacia responsible for both headache and musculoskeletal pain? *Ann Indian Acad Neurol* 2013;16:650–8.
- 5 Moran LJ, Teede HJ, Vincent AJ, *et al*. Vitamin D is independently associated with depression in overweight women with and without PCOS. *Gynecol Endocrinol* 2015;31:179–82.

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