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CASE REPORT

A Unique Manifestation of Postural Orthostatic Tachycardia Syndrome (POTS) Resembling Symptoms of Irritable Bowel Syndrome

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Abstract

Postural orthostatic tachycardia syndrome (POTS) exhibits a broad spectrum of presentations, with severity varying from individual to individual. These diverse symptoms vary from person to person but usually presents with palpitations, dizziness, blurred vision, mental fatigue, collapse, shortness of breath and chest pain. It may also manifest with less usual presentations including abdominal symptoms that can often go misdiagnosed or undiagnosed for a long time. A case of a 29 years-old woman, who was hospitalised for evaluation of persistent abdominal discomfort accompanied by bloating and chronic episodes of watery diarrhoea is presented. Diagnosis of POTS was established. It's crucial to consider POTS in the differential diagnosis for patients displaying autonomic symptoms, including those related to the abdomen.

Key words: Postural orthostatic tachycardia syndrome; Irritable bowel syndrome; Dizziness.

Introduction

Postural orthostatic tachycardia syndrome (POTS), characterised by orthostatic intolerance, often exhibits a variety of presentations that may be misdiagnosed or undiagnosed for an extended period.[1] Here, a case displaying symptoms resembling irritable bowel syndrome (IBS) and a significant delay in diagnosis is presented.

Case history

A 29-year-old woman with a medical history of asthma, migraines and a prior appendectomy underwent exploratory laparoscopy and hysteroscopy under the surgical team's care to investigate recurring abdominal pain and occasional dyspareunia. The examination revealed no signs of endometriosis or other significant pathologies to account for her symptoms. Following the procedure, the patient experienced seizure-like episodes, later diagnosed as pseudo seizures after consultation with a neurologist. Due to her ongoing chronic abdominal symptoms, the gastroenterology team was consulted. The patient described episodes of persistent abdominal pain accompanied by bloating and intermittent bouts of chronic watery diarrhoea. She had undergone previous investigations (Table 1) with another gastroenterologist, all of which yielded normal results, leading to a diagnosis of diarrhoea-predominant IBS.

Table 1: Results of performed diagnostic tests in patient with recurring abdominal pain

Test	Result
White blood cells count (WBC)	8.4 x 10^9/L
Haemoglobin	13.2 x 10^{12}/L
Platelets	188 x 10^9/L
Alanine transaminase (ALT)	16 u/L
Aspartate transaminase (AST)	29 u/L
Alkaline phosphatase (ALP)	79 u/L
Gamma-glutamyl transferase (GGT)	61 u/L
Total bilirubin	24 umol/L
Urea	5.9 mmol/L
Creatinine	64 umol/L
Sodium (Na^+)	137 mmol/L
Potassium (K^+)	4.2 mmol/L
Chloride (Cl^-)	97 mmol/L
Erythrocyte sedimentation rate (ESR)	3 mm/h
C-reactive protein	4 mg/L
Thyroid stimulating hormone (TSH)	1.62 mUl/mL
Calcium (Ca^{2+})	2.31 mg/dL
Magnesium (Mg^{2+})	0.88 mmol/L
Phosphorus blood test (PO_4)	1.07 mmol/L
Stool microscopy, culture and sensitivity	Negative
Faecal calprotectin	36 µg/g
Faecal elastase	341 µg/g
Upper endoscopy including biopsies	Normal
Lower endoscopy including biopsies	Normal
CT of abdomen and pelvis	Negative
Barium follow-through	Negative
Transpelvic ultrasound	Negative
Phaeochromocytoma screen	Negative
Lead level	Undetectable
Angioedema screen	Negative
Porphyria screen	Negative

Table 2: Results of performed diagnostic tests in patient with recurring abdominal pain, suspecting postural orthostatic tachycardia syndrome (POTS)

Position	Blood pressure	Heart rate
Lying flat	136/84 mm Hg	108 bpm
Standing 1 min	139/88 mm Hg	145 bpm
Standing 3 min	136/94 mm Hg	152 bpm
Standing 5 min	142/92 mm Hg	149 bpm
Standing 10 min	140/93 mm Hg	152 bpm

While the patient was in the hospital, it was observed that she had a resting tachycardia, with a heart rate ranging from 95 to 103 beats per minute (bpm). She also reported occasional posture-related dizziness, raising the suspicion of POTS. To investigate further, blood pressure and heart rate were measured while the patient was lying flat, as well as in the standing position immediately and at 1, 3, 5 and 10-minute intervals (Table 2). During this test, the patient reported some dizziness and nausea and loud borborygmi sounds were noted. A tilt table test was subsequently performed, which confirmed the diagnosis of POTS.

The patient was commenced on propranolol 20 mg twice daily, which led to a marked improvement in her symptoms and was subsequently discharged.

Discussion

POTS syndrome is a type of orthostatic intolerance characterised by an unusual autonomic reaction causing symptoms that emerge while maintaining an upright posture. These diverse symptoms vary from person to person but usually presents with palpitations, dizziness, blurred vision, mental fatigue, collapse, shortness of breath and chest pain. It may also manifest with less usual presentations including abdominal symptoms that can often go misdiagnosed or undiagnosed for a long time. Here is presented such case that was left undiagnosed for a prolonged period, due to the wide variety in symptoms causing diagnostic uncertainty.[1-3]

POTS typically affects young patients, with females being impacted at a ratio of 5:1 compared to males and more commonly occurs between the age of 15 to 50.[4]

To diagnose POTS, the following criteria must all be met:[3, 5-7]

- A sustained heart rate increase of 30 beats per minute or more (or 40 beats per minute or more for patients aged 12 to 19) within 10 minutes of assuming an upright posture.
- No significant orthostatic hypotension, defined as a blood pressure drop of 20/10 mm Hg or more.
- Frequent symptoms of orthostatic intolerance that worsen in standing posture and quickly improve upon lying down.
- Symptoms persisting for 3 months or more.
- No other underlying conditions that could account for sinus tachycardia.

Conclusion

POTS is often misdiagnosed or diagnosed late, which may significantly affect the patient's well-being and daily activity. However, other causes must be ruled out first to make an accurate diagnosis. POTS should be considered early in the differential diagnosis, especially in young women of childbearing age who complain of orthostatic intolerance.

Ethics

Our institution does not require ethics approval for reporting individual cases or case series. A written informed consent for anonymised patient information to be published in this article was obtained from the patient.

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Conflicts of interest

The authors declare that there is no conflict of interest.

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Data access

The data that support the findings of this study are available from the corresponding author upon reasonable individual request.

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