

Case Report

Guillain-Barré syndrome as a first presenting manifestation of gallbladder carcinoma: paraneoplastic or coincidence?

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Keywords: Guillain Barré syndrome, gallbladder carcinoma, paraneoplastic neurological syndrome

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Received: Sep 2019, Accepted revised version: Dec 2019, Published: Dec 2019

Competing Interests: Authors have declared that no competing interests exist

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Introduction

Guillain-Barré syndrome (GBS) is an immune-mediated acute polyradiculopathy. The onset is usually preceded by an upper respiratory tract infection or a diarrhoeal illness [1]. Paraneoplastic neurological syndromes (PNS) are rare and often associated with malignancy. GBS is a non-classical PNS [2]. Gallbladder carcinoma (GBC) is an aggressive malignancy that predominantly occurs in the elderly and presents in an advanced stage [3]. There have been a few reported cases of advanced GBC and GBS in the literature [4]. We report a case of early GBC presenting with GBS as the first presentation.

Case presentation

A 73-year-old female presented with progressive walking difficulty and paraesthesia of the limbs of three weeks duration. It was slowly ascending in nature, without any respiratory involvement or autonomic instability. She had no preceding history of diarrhoea or upper respiratory tract infection and denied any constitutional symptoms. She had a history of hypertension. On examination, the power of the upper and lower limbs was grade 3 with global areflexia. There was no sensory impairment. The cranial nerves were normal. The rest of the systemic examination was unremarkable.

Our clinical diagnosis was GBS and she was started on intravenous immunoglobulin. The bedside lung function test was within normal limits. Complete blood count, renal functions and liver biochemistry were normal apart from the reversed albumin and globulin, 31.1 g /L and 51.2 g /L respectively. The erythrocyte sedimentation rate was 96 mm in the first hour and C-reactive protein was 18 mg/L. Myeloma screening was negative. Cerebrospinal fluid (CSF) analysis revealed protein – 24mg / dl, lymphocytes – 01 / μ l and no polymorphs, indicating no significant cyto-albumin dissociation. Nerve conduction studies showed that the compound muscle action potential (CMAP) amplitude was reduced and terminal latency prolonged which was compatible with axonal degeneration with secondary demyelination. Considering the clinical context, axonal type GBS was considered and paraneoplastic neuropathy was a differential diagnosis. Ultrasound scan of the abdomen demonstrated a suspicious lesion in the

gallbladder. Contrast studies of computed tomography (CT) confirmed the radiological diagnosis of gallbladder carcinoma without any distant metastasis or local infiltration. Endoscopic studies of the gastrointestinal tract were normal. Onconeural antibodies were not done.

After five doses of immunoglobulin, the muscle power of the limbs were improved to some extent - grade 4 and the disease did not progress. Unfortunately, the patient refused both surgical and oncological management. She was re-admitted after eight months with disseminated GBC and died.

Discussion

The primary presentation of GBC as a paraneoplastic neurological syndrome (PNS) is an extremely rare event [3]. In our patient, GBS was suspected based on the classic clinical features of symmetrical, ascending, flaccid paralysis with global areflexia. It was supported by the nerve conduction studies which are, however, operator dependent and less sensitive to GBS. CSF analysis of our patient showed no cyto-albumin dissociation. Generally, cyto-albumin dissociation can be seen in 82–90 % of patients with GBS 10–14 days from the onset of the illness. But a normal CSF profile is found in 10% of GBS patients throughout the disease [5].

GBS is a medical emergency, which usually presents with acute onset, rapidly progressive, ascending paralysis [5]. Our patient presented with 2 weeks duration of symptoms. The slow progression, without respiratory involvement or autonomic fluctuation, with high ESR and globulin levels made us suspect a paraneoplastic neuropathy. Malignancy screening became positive for GBC without metastasis. Magnetic resonance imaging (MRI) of the spine is needed to visualize spinal metastasis but was not done performed due to improvement of weakness following immunoglobulin therapy.

GBC is a devastating disease with poor outcome. Incidence increases with age and females are more affected than males. The clinical presentation of GBC is usually at the advanced stage with obstructive jaundice, biliary colic and constitutional symptoms. The early stage of the disease is mostly identified incidentally when cholecystectomy is performed for other indications [6]. In our patient it was detected while investigating a paraneoplastic origin for GBS.

GBS is a non-classical PNS and usually not associated with known onconeural antibodies. Our patient presented with a non-classical neurological syndrome. The occurrence of malignancy within two years of diagnosis of the neurological syndrome but without onconeural antibodies, gives a diagnosis of “possible” PNS [2, 3]. It can be a coincidental association of two different disorders of a malignancy and a neurological syndrome. However, both GBS and PNS are immune-mediated.

Conclusion

The first presentation of an early stage of GBC as GBS is a very rare event. This can be easily missed if the focus is only on treating GBS. It is important to look for a paraneoplastic origin when an elderly patient presents with progressive neuropathy.

Declarations

Consent

Written informed consent was obtained from the patient for publication of this Case Report.

Acknowledgements

We would like to acknowledge the contribution of Dr. Arjuna Fernando, Consultant Neurologist and also the Department of Radiology and Gastrointestinal Surgery for their assistance.

Authors' contributions

JR and MI diagnosed the case. JR researched the background literature and wrote the first draft. MI reviewed and approved the manuscript. All authors provided care for the patient. All authors read and approved the final manuscript.

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