

Ogilvie's Syndrome Secondary to Parkinson's disease: A Dangerous Misdiagnosis

Parkinson Hastalığına Sekonder Ogilvie Sendromu: Yanlış Bir Tanı

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Abstract

Autonomic dysfunction may develop as part of the process of Parkinson's disease (PD). Gastrointestinal dysfunction is also one of the most common manifestations of dysautonomia. Paralytic ileus, which is characterized by severe colonic dilatation without mechanical obstruction, usually develops in PD, called pseudo-obstruction of the colon (Ogilvie's syndrome). However, causes of mechanical obstruction should be considered in the differential diagnosis. In this study, we aimed to present a PD patient who was initially thought to have Ogilvie's syndrome but was found to have mechanical ileus.

Keywords: Parkinson's disease, Primary dysautonomia, ileus, Colonic pseudo-obstruction.

Özet

Parkinson hastalığının (PH) sürecinin bir parçası olarak otonomik disfonksiyon gelişebilmektedir. Gastrointestinal disfonksiyon da disotonominin en yaygın belirtilerinden biridir. Parkinson hastalığında genellikle kolonda psödoobstrüksiyon (Ogilvie sendromu), olarak adlandırılan mekanik bir obstrüksiyon olmadan ileri derecede kolon dilatasyonu ile karakterize paralitik ileus gelişmektedir. Ancak ayırıcı tanıda mutlaka mekanik obstrüksiyon yapan nedenler düşünülmelidir. Biz bu çalışmada öncelikle Ogilvie sendromu düşünülen ancak kitleye ikincil mekanik ileus saptanan PH hastasını sunmayı amaçladık.

Anahtar Kelimeler: Parkinson hastalığı, Primer disotonomi, İleus, Kolonik psödo-obstrüksiyon.

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Received 28.12.2022 Accepted 04.01.2023 Online published 06.01.2023

1. Introduction

Autonomic dysfunction is a common, very important and, sometimes devastating feature of Parkinson's disease (PD) (1). Although it is often associated with advanced PD, it has been detected in the bulbus olfactorius, spinal cord, peripheral autonomic ganglia, submandibular gland, cardiac nerves, and enteric nervous system (ENS) before Lewy bodies appear in the Substantia nigra pars compacta (SNc) (2). The enteric nervous system (ENS) involvement is also responsible for gastrointestinal dysmotility that can lead to megacolon or intestinal obstruction, including acute colon pseudo-obstruction (Ogilvie's syndrome) (3).

In this study, we present a case of mechanical ileus that developed in a patient with PD and presented as Ogilvie's syndrome.

2. Case

A 59-year-old female patient presented to the emergency department with complaints of inability to pass gas and stool for eight days. She has been followed up with the diagnosis of Parkinson's disease (PD) for 15 years and underwent deep brain stimulation (DBS) surgery four years ago. In her medical history, no additional disease or a history of intra-

abdominal surgery was found other than PD. In her neurological examination, there was mild bradykinesia in her left upper extremity and small shuffling steps and a reduction in the arm swing on the left side during gait. Abdominal examination revealed diffuse tenderness and distension. There was no defense or rebound. Bowel sounds were reduced. Blood hemogram and biochemistry values were normal except for microcytic anemia (Hb: 10.7 (reference value:11,7-15,5 g/dL) MCV: 69 RDW: 17.4). There was the diffuse gas appearance and air-fluid levels on standing straight abdominal X-ray (AXR) (Fig.1). Oral intake of the patient was closed and intravenous fluid therapy was started and a nasogastric tube was inserted. A rectal tube was applied to provide decompression. In the abdominal computed tomography (CT), the rectum was normal, the distal sigmoid colon and other colonic and ileal loops were dilated (Fig.2). In the follow-up, the patient's abdominal distension increased and intestinal obstruction findings continued, was operated on with the suspicion of colonic pseudo-obstruction by general surgery. A 1.5 cm mass in the sigmoid colon was resected in the patient and a diagnosis of colon adenocarcinoma was made as a result of the pathology.



Figure 1. Abdominal X-ray (AXR) shows the diffuse gas appearance and air-fluid levels.

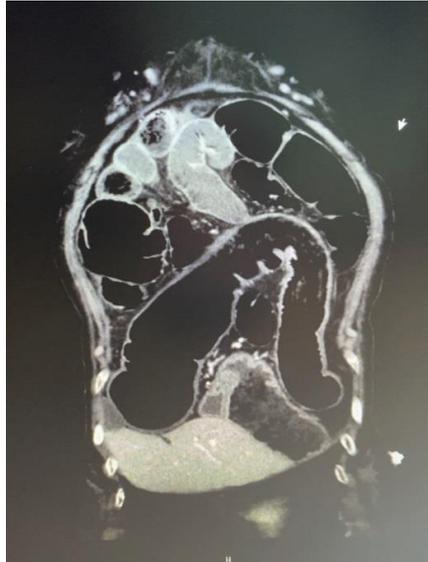


Figure 2. Abdominal computed tomography (CT) shows normal rectum, dilatation of the distal sigmoid colon and other colonic and ileal loops.

3. Discussion

Dysautonomia is a component of the pathogenetic process underlying Parkinson's disease (PD) (4). Constipation is the most common clinical symptom of gastrointestinal (GIT), a dysfunction which is considered a part of autonomic dysfunction. Patients may also suffer from GIT complaints of dysphagia, sialorrhea, flatulence, nausea, vomiting, and gastroparesis as the disease progresses (2).

Although GIT dysfunction is usually reported at the onset of motor symptoms of PD or during disease progression, studies have indicated that patients may develop constipation, in particular, before the onset of motor symptoms of PD (5–8). Studies have revealed Lewy pathology in GIT even years before Lewy bodies appear in SNc in PD and neuronal loss occurs (9–16). Consistent with these clinical and pathological findings, the Braak stage of neuropathological involvement in PD predicts that the autonomic system is involved in the early stages of the disease process (17). Indeed, Lewy bodies have been frequently detected in the autonomic nervous system of individuals with incidental Lewy body disease, presumably reflecting the preclinical stage PD (Braak stages 1-2) (12,17–20).

The enteric nervous system (ENS) plays the most important role in the regulation of the peristaltic reflex of the gastrointestinal tract, and this nervous system is provided by the balance between serotonin 5-HT₄ receptor-mediated excitation and dopamine D₂ receptor-mediated inhibition (2). The vagus nerve is also the most important part of the brain-gut axis that connects the central nervous system to the GIT parasympathetic conduction with vagus nerve brainstem dorsal motor nuclei and ambiguus nuclei also help regulate gastrointestinal motility as sympathetic conduction with fibers from the prevertebral ganglia originating from the thoracic vertebrae (21).

The underlying pathophysiology in PD is the emergence of Lewy bodies in the myenteric plexus where cholinergic and serotonergic (5-HT₄) neurons are densely located. Extra enteric lesions in regions such as the sacral spinal cord (pelvic nerve, etc.), brain stem (dorsal vagal nucleus, Barrington nucleus, etc.), and basal ganglia may also play a role (22).

Ogilvie's syndrome describes an acute colonic pseudo-obstruction responsible for the dilatation of part or all of the colon and

rectum without intrinsic or extrinsic mechanical obstruction in a previously healthy colon (23). This intestinal pseudo-obstruction, also called paralytic ileus, is the most severe presentation of constipation in individuals with PD and constitutes a medical emergency (2). While constipation occurs in up to 81% of PD, there are not many studies on the incidence of intestinal pseudo-obstruction (IPO)(24). In a study conducted for this purpose, the incidence of acute IPO was found to be 2.4% in PD in movement disorders and gastroenterology clinics (25).

Computed tomography (CT) is the best imaging tool with high sensitivity (96%) and specificity (98%) in differentiating obstruction from pseudo-obstruction (3).

Although PD is mostly colonic pseudo-obstruction, conditions that may cause a

mechanical obstruction should not be overlooked in the differential diagnosis. Our case is important because it is colon adenocarcinoma, which is a rare cause of PD colon obstruction.

Mechanical ileus and paralytic ileus are often confused because the symptoms and signs are nonspecific. This situation, which is of critical importance, should be carefully reviewed and evaluated in a comprehensive perspective.

4. Conclusions

Non-mechanical pseudo-obstructive type of colonic obstruction is more frequently observed in patients with Parkinson's disease, but mechanical obstructions that may cause fatal results should not be overlooked in the differential diagnosis.

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Ethics

Informed Consent: The authors declared that informed consent form was signed by the patient.

Copyright Transfer Form: Copyright Transfer Form was signed by the authors.

Peer-review: Internally peer-reviewed.

Authorship Contributions: Medical Practices: AA, NDC, SÖ. Concept: AA, NDC, SÖ. Design: AA, NDC. Data Collection or Processing: AA, NDC, SÖ. Analysis or Interpretation: AA, NDC, SÖ. Literature Search: AA, NDC, SÖ. Writing: AA, NDC, SÖ.

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study received no financial support