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**EDİTÖRE MEKTUP / LETTER TO THE EDITOR**

# Sigmoid volvulus: Coincidence with neurological diseases

## Sigmoid volvulus: Nörolojik hastalıklarla birliktelik

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To the Editor,

Sigmoid volvulus (SV) is a rare large bowel obstruction form across the world. However, its incidence is relatively high in some regions including Africa, South America, Eastern Europa, and Asia.[1] SV is also common in Eastern Anatolia, eastern part of Turkey. We treated 1,040 cases with SV in a 55-year period (from June 1966 to July 2021). This is the largest SV series in the world.[2] SV complicating some neurologic diseases including Parkinson's disease (PD) or Alzheimer's disease (AD) is naturally an extremely rare clinical entity worldwide.[3] In this letter, I want to utilize the role of neurologic diseases in the development of SV in addition to the discussion of some theoretical and practical topics on the pathophysiology, clinical presentation, diagnosis, treatment, and observation of this comorbidity.

In our 1,040-case SV series, 8 patients (0.8%) had PD (mean age: 62.6 years, age range: 46-72 years, and male/female ratio: 6/2), while 6 patients (0.6%) were afflicted with AD (mean age: 82.2 years, age range: 65-92 years, and male/female ratio: 5/1). All of our patients were using medication regarding to PD or AD. One patient for each group had recurrent SV. The mean symptom period of SV was 51.2 hours (range: 12-120 hours). Abdominal pain and obstipation were present in the anamnesis of 13 cases (92.9%), while 9 patients (64.3%) had vomiting. Abdominal tenderness and distention were found in the clinical examination of all cases (100.0%), while abnormal bowel sounds (hyperkinetic or hypokinetic/akinetic) were found in 10 (71.4%), muscular guarding with rebound tenderness in 6 (42.9%), and melanotic stool in 3 (21.4%). In addition to the clinical features, SV was diagnosed by X-ray radiography in 6 patients (42.9%), by computerized tomography in 3 (21.4%), by endoscopy in 1 (7.1%), and at laparotomy in 4 (28.6%). In this series, endoscopic decompression was tried in 6 patients with a 83.3% of success rate, while 9 patients (64.3%) including 8 (57.1%) gangrenous cases were treated surgically. Three patients (21.4%) died due to bowel gangrene and related toxic shock. When compared with that of the patients with SV alone, the mean age was higher (71.0 years vs. 59.5 years), the mean symptom period was longer (51.2 hours vs. 37.2 hours), and the gangrene and mortality rates were higher (57.1% vs. 27.5% and 21.4% vs. 8.3%, respectively) in patients with SV complicating PD or AD.

The most known anatomical predisposition inviting SV is dolichosigmoid, in which sigmoid colon and its mesentery are long. Acquired dolichosigmoid principally arises from male sex, old age, high-fiber diet habit, chronic constipation, high altitude, and some disorders including Hirschsprung's disease.[4,5] Similarly, the role of some neurologic disorders, involving PD or AD, is not a mystery. PD causes neuronal destruction in myenteric plexus. Additionally, some of the anti-Parkinsonian drugs may provoke an ileus characterized by delayed colonic transportation. Moreover, some laxatives and enemas, which are frequently required in patients with PD or AD, may lead to damage to myenteric neurons. All of above-mentioned factors result in side effects such as chronic constipation, megacolon and ileus.[1,4,5] As it is understood, chronic fecal

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overloading arising from overeating and chronic constipation extend the colonic transit period, increase intracolonic pressure, and worsen the elastogenesis of the colonic wall, resulting in dolichosigmoid.

Although the incidence of SV complicating neurologic diseases is high in sporadic areas,[1,4,5] a similar tendency is controversial in endemic regions.[2] In our series, although the incidence of SV complicating PD (0.8%) is relatively higher than that of the patients with PD across Turkey, which is 0.2%,[6] the incidence of SV complicating AD (0.6%) is relatively lower than that of general, which is 0.7% in Turkey.[7] A positive correlation is seen between the incidences of SV and PD in our region. Regarding AD, in consideration of the determinedness of the other causative factors, the present rating of AD may principally be ascribed to the numerical density of the patients with SV. In our country and region, as in most of the endemic countries, the high percentage of SV patients may trivialize the incidence of SV patients with AD.

Although abdominal pain, distention, and obstipation are the main clinical features of SV in patients with PD or AD, the clinical presentation may sometimes be complex. Some common symptoms seen in patients with PD or AD may cloud the clinical appearance.[5,8,9] In my experience, particularly the obstipation may mimic the constipation and retard the diagnosis. Additionally, the difficulty in medical history taking due to the primary diseases, PD or AD, makes the problem more difficult. All of above-mentioned are the indicators of poor prognosis, as was demonstrated in our series. As a diagnostic procedure, although X-rays suspect SV, CT is the optimal choice in such cases, while endoscopy helps to treatment in nongangrenous patients in addition to its diagnostic role.[2,5,8,9]. It is clear that emergency surgery is needed in patients with gangrenous bowel and in whom endoscopic decompression is impossible.[10] We must keep in mind that, SV tends to recur in patients with PD or AD[9].

In conclusion, neurologic diseases may predispose the development of SV, particularly in nonendemic areas. Obstructive manifestations must sensitively be followed up in such patients and SV, a relatively poor-prognosis disease, must be suspected without delay.

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