

## Von Wahl Sign in Sigmoid Volvulus Patient with Cerebrovascular Disease

### Serebrovasküler Hastalığı Olan Sigmoid Volvulus Hastasında Von Wahl İşareti

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#### ABSTRACT

In addition to radiological imaging, physical examination is also of great importance in the diagnosis of sigmoid volvulus. The presence of a palpable sigmoid colon on abdominal examination is known as the von Wahl sign. A 77-year-old female patient with a history of paraplegia caused by CVD was admitted to the emergency service with abdominal pain and obstipation. Abdominal examination of the patient revealed asymmetric distension in the abdomen in inspection and von Wahl sign in palpation. The coffee bean appearance on the plain radiograph supported the sigmoid volvulus. Successful colonoscopic detorsion was applied to the patient. Six months later, sigmoid volvulus recurrence occurred in the patient who refused elective surgery. Sigmoid colon resection and Hartmann's procedure were performed. The patient, who developed respiratory failure, died on the second postoperative day. In addition to imaging in patients with neurodegenerative disease, findings such as von Wahl sign in the physical examination are supportive in the diagnosis of sigmoid volvulus.

**Keywords:** Sigmoid volvulus, colon, von Wahl sign, coffee bean sign, endoscopy.

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#### ÖZET

Sigmoid volvulus tanısında radyolojik görüntülemelerin yanı sıra fizik muayenin de önemi büyüktür. Karın muayenesinde palpable sigmoid kolonun varlığı von Wahl sign olarak bilinmektedir. SVH nedenli parapleji öyküsü olan 77 yaşında kadın hasta acil servise karın ağrısı ve gaz-gayta çıkaramama yakınması ile başvurdu. Hastanın karın muayenesinde inspeksiyonda batında asimetrik distansiyon, palpasyonda von Wahl sign bulgusu mevcuttu. Direk grafideki kahve çekirdeği görünümü sigmoid volvulusu destekledi. Hastaya başarılı kolonoskopik detorsiyon uygulandı. Elektif operasyonu kabul etmeyen hastada altı ay sonra tekrar sigmoid volvulus gelişti. Sigmoid kolon rezeksiyonu ve Hartmann's prosedürü uygulandı. Solunum yetmezliği gelişen hasta postoperatif 2.günde exitus oldu. Nörodejeneratif hastalığı olanlarda görüntülemelere ek olarak fizik muayenedeki von Wahl sign gibi bulgular sigmoid volulus tanısında destekleyicidir.

**Anahtar Sözcükler:** Sigmoid volvulus, kolon, von Wahl sign, kahve çekirdeği işareti, endoskopi.

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## INTRODUCTION

Sigmoid volvulus is the rotation of the sigmoid colon around itself. As a result, obstruction and closed-loop obstruction develop in the left colon. Various specific clinical and radiological findings have been described in the diagnosis of sigmoid volvulus. As a result of the displacement of the rotating sigmoid colon from the left lower quadrant to the right upper quadrant, there is a gap in the left iliac fossa" (1). In some patients with a thin abdominal wall and severe dilation of the sigmoid colon, palpability of distended sigmoid colon is known as the "von Wahl sign". While there are sigmoid volvulus-specific appearances such as coffee bean, omega, inverted U, and horseshoe on plain abdominal X-ray, whirl sign for sigmoid volvulus has been described on computed tomography (2).

In our clinical experience, asymmetric abdominal distention and von Wahl sign findings on physical examination of sigmoid volvulus patients were two important findings at the time of diagnosis. We wanted to share the importance of this examination finding through one of our patients who developed sigmoid volvulus with a diagnosis of cerebrovascular disease (CVD).

## CASE REPORT

A 77-year-old female patient with a history of paraplegia due to CVD was admitted to the emergency service with abdominal pain and constipation. Abdominal examination of the patient revealed asymmetric distension in the abdomen on inspection and von Wahl sign in palpation (Figure 1). There was no stool in the rectal examination. The present findings were consistent with the sigmoid volvulus, and a standing direct abdominal radiography supported this diagnosis. (Figure 2). Successful colonoscopic detorsion was applied to the patient. Then, an elective operation was planned for the patient. However, the operation was not accepted by the relatives of the patient. The patient presented again with an attack of sigmoid volvulus six months later. Colonoscopic detorsion was tried but not successful. Thereupon, the patient was taken into operation and gangrene was found in the sigmoid colon on exploration. Sigmoid colon resection and Hartmann's procedure were performed. The patient, who developed respiratory failure during intensive care follow-ups, died on the second postoperative day.



**Figure 1:** Von Wahl Sign and asymmetric distension on physical examination.



**Figure 2:** Coffee bean sign in the plain abdominal X-ray.

## DISCUSSION

It may be difficult to diagnose sigmoid volvulus in patients with neurodegenerative diseases such as spinal cord injury and CVD (3). In the differential diagnosis of sigmoid volvulus, there are different spectrum diagnoses such as colorectal neoplasms, pseudo-obstruction of the colon, and paralytic ileus. Plain abdominal X-rays have diagnostic value in 57-90% of the patients (4). In the plain abdominal X-ray taken with the patient in the supine position, the rotating sigmoid colon rises above the transverse colon. However, the dilated sigmoid colon in the paralytic ileus is under the transverse colon. In the literature, this finding is known as a northward orientation (5). In our patient, there was a coffee bean appearance on plain abdominal X-ray and supported the diagnosis of sigmoid volvulus.

Neurodegenerative diseases cause constipation and dolichocolon, and the frequency of sigmoid volvulus is increased in these patients (6, 7). In endemic regions such as Turkey sigmoid volvulus is encountered frequently. In our study involving 184 patients, we had 10 (5.4%) sigmoid volvulus patients with Alzheimer's, CVD, and Parkinson's disease (8). Our patient was diagnosed with CVD and sigmoid volvulus developed secondary to constipation and immobility. In today's technology, these patients can be diagnosed easily with imaging methods. However, suspicion is important in diagnosis. Comorbidity of patients, absence of stool, and asymmetric distension should bring to mind the sigmoid volvulus. Neurodegenerative patients are generally immobile and their anamnesis and examination findings are limited. These patients are usually consulted with surgery during intensive care follow-ups. As in our patient, such patients can be mortal. In patients with these physical examination findings, the diagnosis of sigmoid volvulus should be considered and insistence should be initiated in the emergency detorsion phase.

## CONCLUSION

In the abdominal examination, if the sigmoid colon is palpable (von Wahl sign) in addition to asymmetric distension, the diagnosis of sigmoid volvulus should be kept in mind.

## Conflict of interest

No conflict of interest was declared by the authors.

## REFERENCES

- 1- Raveenthiran V. Emptiness of the left iliac fossa: a new clinical sign of sigmoid volvulus. *Postgrad Med J* 2000;76:638-41.
- 2- Raveenthiran V, Madiba TE, Atamanalp SS, De U. Volvulus of the sigmoid colon. *Colorectal Dis*. 2010 Jul;12(7 Online):e1-17.

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- 3- Pattanakuhar S, Kovindha A. Colonic obstruction in a tetraplegic patient: a common symptom from an uncommon cause. *Spinal Cord Ser Cases*. 2020 Jun 29;6:53.
  - 4- Burrell HC, Baker DM, Wardrop P, Evans AJ. Significant plain film findings in sigmoid volvulus. *Clin Radiol* 1994;49:317-9.
  - 5- Javors BR, Baker SR, Miller JA. The northern exposure sign: a newly described finding in sigmoid volvulus. *AJR Am J Roentgenol* 1999;173:571-4.
  - 6- Margolin DA, Whitlow CB. The pathogenesis and etiology of colonic volvulus. *Semin Colon Rectal Surg* 2007;18:79-86.
  - 7- Sonnenberg A, Tsou VT, Müller AD. The "institutional colon": a frequent colonic dysmotility in psychiatric and neurologic disease. *Am J Gastroenterol* 1994;89:62-6.
  - 8- Uylas, U, Kayaalp C. Different clinicopathological features of non-elderly sigmoid volvulus patients. *Int J Colorectal Dis* 2020;35:1937-42.