

# A Rare Syndrome After Intracranial Hemorrhage Operation: Ogilvie Syndrome

## Intrakraniyal Kanama Operasyonu Sonrası Nadir Görülen Sendrom: Ogilvie Sendromu

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**ABSTRACT** Ogilvie syndrome (colonic pseudoobstruction); it is an acute and excessive dilatation of the colon with clinical and radiological colon obstruction, although there is no mechanical obstruction in the colon. In this syndrome, severe nausea-vomiting, abdominal pain and abdominal distension are seen as clinical findings. Although its etiology is not known exactly, it is assumed to occur due to autonomic nervous system dysfunction. This syndrome, which is seen especially after major trauma or operations, can cause an increase in morbidity and mortality; early diagnosis and treatment is very important in order to prevent important complications such as perforation and ischemia. In this case report, we aimed to present 2 patients who developed Ogilvie syndrome after postoperative neurosurgical surgery.

**Keywords:** Colonic pseudoobstruction; Ogilvie syndrome; intracranial hemorrhage

**ÖZET** Ogilvie sendromu (kolonik psödoobstrüksiyon); kolonda mekanik bir obstrüksiyon olmadığı hâlde klinik ve radyolojik olarak kolon obstrüksiyonu ile kolonun akut ve aşırı derecede dilatasyonudur. Bu sendromda klinik bulgu olarak; ciddi bulantı-kusma, karın ağrısı ve abdominal distansiyon görülür. Etiyolojisi tam olarak bilinmemekle birlikte, otonom sinir sistemi disfonksiyonuna bağlı olduğu varsayılmaktadır. Özellikle majör travma veya operasyonlar sonrasında görülen; morbidite ve mortalitede artışa neden olabilen bu sendromun, perforasyon, iskemi gibi önemli komplikasyonlarını önleyebilmek için erken tanı ve tedavisi çok önemlidir. Bu olgu sunumunda, postoperatif nöroşirürjik cerrahi sonrası Ogilvie sendromu gelişen 2 hastayı sunmayı hedefledik.

**Anahtar Kelimeler:** Kolonik psödoobstrüksiyon; Ogilvie sendromu; intrakraniyal kanama

Ogilvie syndrome (colonic pseudoobstruction); is acute and excessive dilatation of the colon without mechanical obstruction.<sup>1</sup> Its etiology is not fully known. Approximately 90% of patients have non-colon diseases such as metabolic or organic dysfunctions, postoperative or posttraumatic conditions.<sup>2</sup> While it is common after pelvic fractures and spine surgery, it can also be seen with hospitalization in the intensive care unit, infection and pharmacological agents used. Few cases have been reported after central nervous system pathologies or operations. It is thought to occur as a result of

centrally affecting the autonomic nervous system.<sup>3</sup> In this case report, we aimed to present 2 patients who developed Ogilvie syndrome while they were being followed up in the service after postoperative neurosurgical surgery at different times.

### CASE REPORT

#### CASE 1

A 60-year-old female patient was transferred to the service after being followed up in the intensive care unit for 2 days after intracranial hematoma

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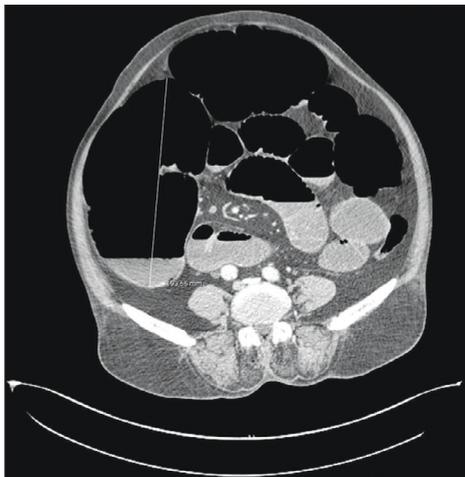
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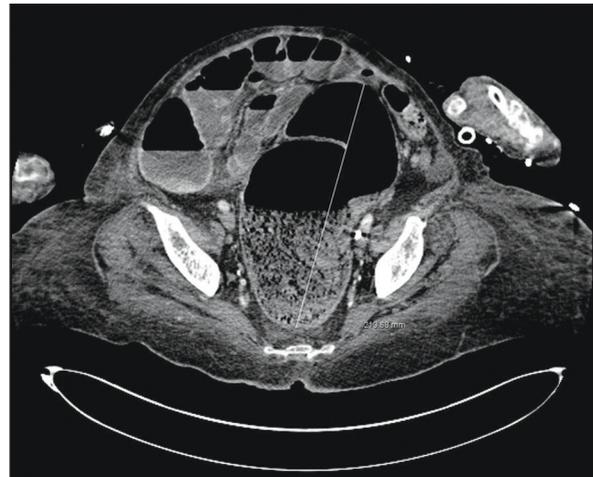
evacuation. In her anamnesis, it was learned that she had hypothyroidism for 5 years, diabetes mellitus (DM) for 10 years and irregular medicament use. The patient, who could not be mobilized in the service follow-ups, developed abdominal distention, nausea-vomiting complaints on the postoperative 5<sup>th</sup> day. The patient who did not have gas-stool output was evaluated by general surgery. In the computed tomography (CT) of the patient, who had acute abdomen on physical examination and no stool contamination on rectal examination, dilatation in the distal colon and air-fluid levels were observed (Figure 1). The patient, who did not have any pathology that would cause colon obstruction in the foreground, was taken to emergency operation. Ogilvie syndrome was considered because the patient who underwent intraoperative colonic decompression surgery had recently undergone major surgery, was old, had known DM, hypothyroidism, and did not have a mechanical pathology that could cause obstruction. Ogilvie syndrome was considered. The patient, whose postoperative treatment was performed in the intensive care unit, was extubated on the 1<sup>st</sup> postoperative day. The patient was transferred to the service for the completion of the treatment process after his vital signs were stable and his symptoms regressed in the intensive care follow-ups. Informed consent was obtained from the patient's family.



**FIGURE 1:** Case 1 dilated colon image in abdominal CT.  
CT: Computed tomography.

## CASE 2

A 72-year-old female patient was followed up in the service after ventriculoperitoneal shunt insertion. During this period, the patient was admitted to the intensive care unit due to the sudden development of unconsciousness in the patient who was hypertensive. In her anamnesis; it was learned that she had hypertension for 5 years and heart failure for 2 years. In the brain CT, bleeding was detected in the intraparenchymal area. She was operated by a neurosurgeon. The patient was admitted to the postoperative intensive care unit. During the follow-up, the patient who developed abdominal distention on the postoperative 4<sup>th</sup> day and had no stool output, showed distention in the colon and air-fluid levels in the abdominal CT (Figure 2). Ogilvie syndrome was diagnosed after other diagnoses that could cause obstruction were excluded. There was no abnormal finding in the laboratory results of the patient. The patient was administered 2 mg of neostigmine intravenously in approximately 5 minutes. The dose was repeated approximately 6 hours later. The patient was started on metoclopramide treatment prokinetic. The patient's symptoms regressed on the 3<sup>rd</sup> day of treatment. In the follow-ups, the patient was transferred to the service on the 7<sup>th</sup> day of her hospitalization. Informed consent was obtained from the patient's family.



**FIGURE 2:** Case 1 dilated colon image in abdominal CT.  
CT: Computed tomography.

## DISCUSSION

Ogilvie syndrome was defined in 2 cases by Heneage Ogilvie in 1948, and is a syndrome characterized by acute and excessive distension of the colon, seen without mechanical obstruction.<sup>1</sup> Patients have nonspecific findings such as nausea, vomiting, abdominal pain and distention. The diagnosis was made after excluding acute abdomen-like clinical findings and other obstructive diagnoses in our patients. Abdomino-pelvic CT with intravenous contrast is the standard diagnostic test with 96% sensitivity and 93% specificity. It confirms colon dilatation and excludes mechanical obstruction.<sup>4</sup> In our cases, the preliminary diagnosis was confirmed by CT after physical examination and clinical history (Figure 1).

Although its etiology and pathogenesis have not been explained, its incidence increases in metabolic or organic dysfunctions, postoperative or posttraumatic conditions.<sup>5</sup> In fact, it is stated that this rate increases to 50-60% after surgical procedure or trauma.<sup>6</sup> Ogilvie syndrome was observed in 2 of our patients after surgery. It is most commonly seen in patients in the 6<sup>th</sup> decade and mostly in men with additional diseases such as diabetes mellitus, metabolic disorders, respiratory failure, hyperparathyroidism, Parkinson's disease, heart failure and hypothyroidism.<sup>7</sup> Our predisposing factors for Ogilvie syndrome are in case 1; had DM and hypothyroidism and case 2 had hypertension and heart failure. In both of our cases, advanced age, recent neurosurgical major surgeries were common predisposing factors. Contrary to expectations, 2 of our patients are women.

The most serious morbidity is the risk of colon perforation. Dilated colon with pneumoperitoneum, free peritoneal fluid or pneumatosis intestinal on CT leads to strong suspicion of perforation that requires urgent laparotomy. Its incidence has been reported to be approximately 15-20%, and the mortality risk after perforation is as high as 50%.<sup>2,4</sup> The colon can tolerate dilation but the risk of perforation increases with the increase in the diameter of the colon. Although a margin greater than 9 cm is accepted for perforation in the literature, Vanek et al. accepted the

maximum tolerable cecum diameter of 12 cm because more than a quarter of patients beyond this limit were perforated.<sup>8,9</sup> In our case, the diameter of the colon reached 21.3 cm at its widest point, and emergency decompression surgery was performed (Figure 2).

Several therapeutic approaches can be considered in Ogilvie syndrome: conservative treatment, pharmacological treatment and surgery. While the mortality of operated patients varies between 30-50%, the rate is between 14-30% in non-operated patients.<sup>4</sup> Conservative treatment was successful in 70% of 1,027 cases examined by Wegener, but conservative treatment should not be continued for more than 3 days, since the risk of perforation increases in treatment exceeding 6 days.<sup>4,10,11</sup>

Neostigmine, one of the pharmacological treatments, is a reversible cholinesterase inhibitor that reverses parasympathetic blockade and restores colonic motility.<sup>12,13</sup> Neostigmine was compared with placebo in 3 prospective randomized studies, and it was found to be statistically significantly more effective than placebo in all 3 studies (85-91% vs. 0%).<sup>14-16</sup> Neostigmine treatment was also applied in case 2.

In conclusion, Ogilvie syndrome is a very rare syndrome that is difficult to diagnose and can cause serious complications such as ischemia and perforation. Early diagnosis and appropriate treatment are important in terms of reducing mortality and morbidity.

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### Conflict of Interest

*No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.*

### Authorship Contributions

**Idea/Concept:** Özlem Canpolat, Pınar Karabacak; **Design:** Özlem Canpolat, Hacı Ömer Osmanlioğlu; **Control/Supervision:**

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