# Ogilvie's syndrome as a post-operative complication following craniotomy: A case report and literature review

Sir,

Acute colonic pseudo-obstruction or Ogilvie's syndrome (OS) is a rare condition characterised by dilatation of the caecum and colon in absence of any mechanical obstruction.[1] It occurs in 0.22% to 7% of patients undergoing surgery, with a mortality of up to 46%.[2] The patients who have undergone organ transplant, orthopaedic, gynaecologic, and urologic surgeries are prone to developing OS.[1,2] Additionally, patients with metabolic derangement and those suffering from respiratory, neurological, and cardiovascular illnesses are also prone to develop OS.[3] Urgent colonoscopy/water-soluble contrast enema or non-contrast computed tomography (NCCT) abdomen are required to confirm the absence of any mechanical obstruction.[2,3] On literature search, we found a few reports on the occurrence of OS in the post-operative period. However, the occurrence of the OS after recovery from craniotomy has not been reported yet. Here, we report the first case of OS in the post-craniotomy period.

A 72-year-old male with no known comorbidities was operated for high-grade glioma of size 6.4 × 6.9 × 6.8 cm on computed tomography (CT) imaging involving bilateral frontal lobes. The patient underwent an uneventful left frontotemporal craniotomy under general anaesthesia. Post-surgery, the patient was shifted to intensive care unit (ICU) for elective mechanical ventilation and was extubated the next morning with no neurological deficit. The patient complained of constipation on the 4$^{th}$ day and developed abdominal distension on the 7$^{th}$ day of the post-surgery period. Patient was not receiving any drugs like anticholinergics, opioids, steroids and calcium channel blocker. On examination, the abdomen was soft but tender on palpation; bowel sounds were present with no guarding or rigidity. On digital rectal examination, semi-solid well-formed stools were present. Electrolytes and urine output were within normal limits. CT abdomen was done which showed dilatation of caecum and colon with no features suggestive of mechanical obstruction [Figure 1]. As there were no features of bowel perforation/peritonitis, the diagnosis of OS was made out of exclusion as the dilatation was 8 cm (<12 cm). The patient was kept nil orally and with the continuous aspiration of the stomach contents by nasogastric tube. Intravenous (IV) neostigmine 2.5 mg was given over 3 min slowly. The same dose was repeated after 10 min due to the absence of improvement. The patient was relieved of pain, passed flatus and stool, abdominal girth decreased and was comfortable.

Massive abdominal dilatation, nausea, vomiting and constipation is the foremost feature of OS. These patients present on 2$^{nd}$ to 5$^{th}$ day of the post-surgery period. Caecal perforation is a potential complication, if the diameter of the colon is >14 cm.[4] To our knowledge, OS has not been reported in the post-craniotomy patient. It is postulated that prolonged immobilisation may be a contributory factor for the development of OS, and the same may prove to be a risk factor in neurosurgery patients.

Management is based on available case reports. Whenever CT scan is not available for diagnosis, ultrasound and X-ray can be helpful. After excluding any identifiable underlying cause, IV neostigmine 2.5mg is given over 3 min.[4,5] If the first dose fails to give relief, a repeat dose is advisable. Close monitoring in the ICU is required during neostigmine administration because of the potential side effects of bradycardia, hypotension and bronchospasm. If the above management fails to ease the colonic distention, urgent decompression by doing caecostomy or by colonoscopy

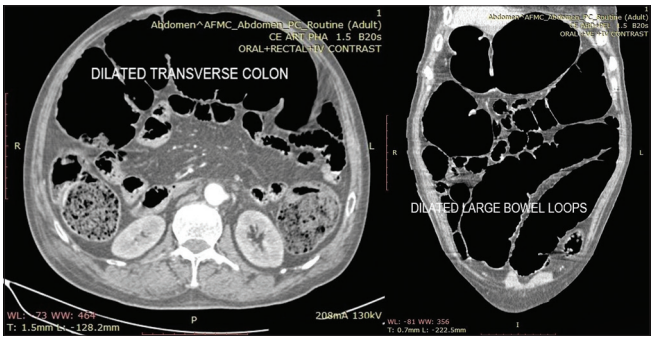


**Figure 1:** Non-contrast computed tomography image of abdomen showing dilatation of caecum and colon

or right colon resection is advisable to prevent dreaded complications like perforation of gut. There have also been case reports of neostigmine refractory OS which showed dramatic improvement with methylnaltrexone within 2 hours of administration.[6] Early recognition and treatment may prevent significant morbidity and mortality. Preventive blueprints like following enhanced recovery after surgery (ERAS) protocol, careful surveillance of caecum diameter and early post-operative mobilisation may decrease the occurrence.

Even though it is a rare diagnosis, a high index of suspicion should be maintained. Reporting such cases is important to avoid missing the diagnosis. It is therefore important for the intensivist to be aware of this condition, to recognise the presenting feature following craniotomy.

### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given his consent for his images and other clinical information to be reported in the journal. The patient understands that his name and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

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### Conflicts of interest

There are no conflicts of interest.

*Shalendra Singh, Kiran Kalshetty, Sri Sumanth Pelluru, Subir Dey*[1]

**Department of Anaesthesiology and Critical Care, Armed Forces Medical College, Pune, Maharashtra, [1]Department of Neurosurgery, Command Hospital (SC), Pune, Maharashtra, India**

**Address for correspondence:**
Dr. Shalendra Singh,
Department of Anaesthesiology and Critical Care, Armed forces Medical College, Pune - 411 040, Maharashtra, India.
E-mail: drsinghafmc@gmail.com

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