

**Primary Small Bowel Volvulus in Adults - a difficult diagnosis in a Low-income country.****Elroy Patrick Weledji (FRCS Edin), Nana Theophile (MD Yaounde)**

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***Primary small bowel volvulus is a relatively rare cause of small bowel obstruction but can be fatal. The chief problem is differentiating it from other causes of obstruction that can be treated conservatively. We report two cases of primary small bowel volvulus within a 2 months period in a regional hospital in the south west region of Cameroon and briefly review the literature.***

**Introduction**

Acute intestinal obstruction may occur as a closed-loop obstruction with a volvulus or an obstructed hernia. Gangrene occurs rapidly in a closed-loop obstruction. Primary small bowel volvulus is often seen in Africa and Asia but sporadic in the Western world. It occurs in the patient with no previous abdominal operation, no anatomic abnormalities such as a short or long mesentery root and, no other predisposing factors including parasitic infestations. It seems to be associated with special dietary habits – the ingestion of fibre-rich foods in a short time<sup>1-2</sup>. It is more common in children and young adults<sup>1-6</sup>. Central abdominal pain resistant to narcotic analgesia should heighten the suspicion of the diagnosis<sup>2</sup>. Although no gold standard exists for diagnosis of small bowel volvulus computed tomography (CT) scanning is the most reliable diagnostic tool to date<sup>3,6</sup>.

**Case 1**

A 31-year old woman was admitted as an emergency with a short history (.6 hrs) of a sudden onset colicky abdominal pain associated with copious vomiting, central abdominal distension and absolute constipation. She had no previous operation. Following resuscitation with intravenous fluids and analgesia she became less restless but the pain became constant. On examination she was moderately dehydrated with a tachycardia. She had a normal blood pressure and temperature. Her abdomen was centrally distended, tense with tinkling (obstructive) bowel sounds. She had no hernia but central abdominal tenderness. Chest examination was unremarkable. A full blood count was normal. An erect chest X-ray did not reveal a pneumoperitoneum and a plain abdominal x-ray showed no evidence of intestinal obstruction. However, a clinical diagnosis of an acute small bowel obstruction with probable peritonitis was made for which she underwent a laparotomy about 2hrs after admission.

Laparotomy revealed a twisted severely ischaemic segment (~20cm in length) of mid-ileum. The volvulus was untwisted but the segment remained ischaemic. There was a demarcated margin of ischaemia and the non-viable gut was resected with a good margin of well vascularized small bowel to allow an end to end anastomosis. A thorough examination of the abdomen did not reveal any other anatomical abnormalities such as internal hernia or malrotation. Apart for a few days of post operative ileus she made good post operative recovery and was discharged 1 week later. She had no further complaints on follow-up.

**Case 2**

A 30-year old night-watch man was admitted as an emergency in the medical ward with an acute generalized pain associated with vomiting after feed and diarrhoea. The abdomen was mildly distended centrally but did not elicit rebound tenderness. He was managed for an acute gastroenteritis with intravenous fluids, antibiotics and analgesia. After 24 hrs he managed to tolerate feed but his symptoms worsened by the next day at which time surgical opinion was sought. On examination he was dehydrated and hypotensive. There was no abdominal scar nor hernia but generalized rebound tenderness. A rectal examination was unremarkable and negative for occult blood. A diagnosis of an acute abdomen was made.

He was aggressively resuscitated with intravenous fluids, antibiotics and analgesia and taken to theatre a few hours later for surgery.

At laparotomy, there was free serosanguinous fluid in the peritoneal cavity and a twisted loop of mid-ileum. Most of the ileum was black except for about 3cm of terminal ileum. The volvulus was derotated and again a definite margin of ischaemia was seen. There were no other anatomical abnormalities. The ischaemic gut was resected and a jejunum-ileal anastomosis done. Post operatively he developed an absolute constipation with a persistent abdominal distention for 1 week which finally suddenly responded to an enema. He was then discharged and had no further complaints on follow-up.

### Discussion

Small bowel volvulus is an uncommon but important cause of small intestinal obstruction. It often results in ischaemia or even infarction involving mostly the ileum<sup>2</sup>. Delay in diagnosis and surgical intervention increases morbidity and mortality rates as seen in the second case that required greater bowel resection<sup>4</sup>. Based on cause, small bowel volvulus can be divided into primary and secondary type. Goals for treatment of small bowel volvulus should include physician awareness of this uncommon diagnosis, accurate work-up, and advanced surgical intervention.

The cardinal presenting symptom is abdominal pain. There is no single specific diagnostic clinical sign or abnormality in laboratory or radiological finding<sup>2</sup>. Clinical examination and plain film radiography may miss the diagnosis of primary small bowel volvulus leading to delay in surgical intervention with subsequent increase in morbidity and mortality. The ability of computed tomography (CT) to show the cause of small-bowel obstruction makes it an important additional diagnostic tool to a plain abdominal x-ray especially when other causes of obstruction that can be treated conservatively is suspected<sup>3</sup>. Otherwise, in practice, the diagnosis should be made by laparotomy. The failure to perform an exploratory laparotomy for this life-threatening emergency cannot be justified. Early diagnosis and early surgery are the keys for successful management of strangulation obstruction of the small bowel.

### References

1. Iwuagu O, Deans GT. Small bowel volvulus: a review. *J.R coll Surg Edinb* 1999; 143: 150-5
2. Roggo A, Ottinger LW. Acute small bowel volvulus in adults (1992). A sporadic form of strangulating intestinal obstruction. *Ann Surg* 1992; 216 (2):135-141
3. Maglante DD, Reyes BL, Harmon BH et al (1992). Reliability and role of plain film radiography and CT in the diagnosis of small- bowel obstruction. *Lin Ann Surg.* 1992; 216(2): 135-41.
4. Wert MA, Sarpl U, Dwino CM (2007). Small bowel volvulus: time is the essence. *Surg Rounds* 2007; 30 (8): 392-4
5. Parkes G (1997). Primary small bowel volvulus in rural Nepal. *Trop Doct.* 1997; 27 (3):156-8
6. Synder JA, Craig Lum, Mathew D. Davidson (2010). Elderly patient with small bowel volvulus. *The Journal of the American Osteopathic Assoc.* 2010; 110 (11): 678-679