

CASE REPORTS

A Case Report of Small Bowel Feces Sign

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Abstract:

The small bowel feces sign is observed on abdominal CT scans which is a sign of decreased small bowel motility and has been described as a finding indicative of small bowel obstruction (SBO) or another severe small-bowel abnormality (e.g. metabolic or infectious disease). Recognition of this sign is important and helpful to locate the level of obstruction.

Key words: feces sign, small bowel, obstruction, SBO.

Introduction:

Small bowel feces sign is a CT finding that appears particulate and fecal-like material; mixed with gas bubbles in dilated small bowel loops.¹ This sign has been frequently described in association with small bowel obstruction (SBO).²

Case report:

A 52 year male patient reported in emergency department of Evercare Hospital Dhaka (EHD) with history of colicky abdominal pain and abdominal distension for 4 days.

CT scan demonstrated small bowel obstruction with transition point in proximal ileum in upper pelvic cavity. Fecalized small bowel seen proximal to transition point (arrow in Figure: 1). Enhancing nodular area at the site of obstruction (arrow in Figure: 3). Mild ascites was present. No evidence of bowel ischemia. Neuroendocrine tumor was suspected.

Resection of ileal stricture and end to end anastomosis of small intestine were performed and sample was sent for histopathology and immunohistochemistry, confirming the diagnosis.

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Incompletely digested food, bacterial overgrowth, or increased water absorption of the distal small-bowel contents due to obstruction.³ It can also be observed in metabolic and infectious disease.⁴ Obstruction developing over a sufficient period of time is typically required to allow for slowed intestinal transit, increased water absorption and bacterial overgrowth to happen, leading to formation of the feces like intestinal content.² The small bowel feces sign is most often present in distal small intestine loops.⁵ This sign is usually seen in association with gradually progressive small bowel obstruction.⁶ Timely diagnosis and surgery are key in limiting mortality. Multidetector CT scan (MDCT) has emerged as the tool with highest diagnostic accuracy, with reported sensitivity and specificity in the region of 94%, and 95%, respectively.^{1,7}



Fig-1: Fecalized small bowel seen proximal to transition point

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Received: 10 May 2023

Revised: 15 December 2023

Accepted: 12 February 2024

Published: 01 July 2024

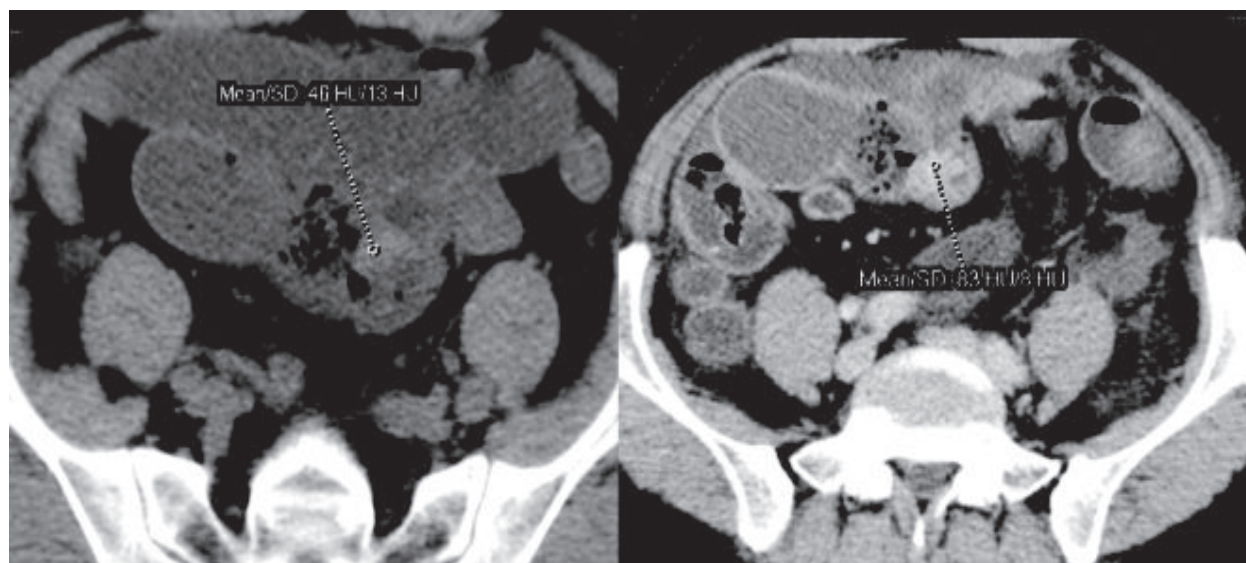


Fig-2 & 3 : Showing NCCT and CECT images of the enhancing nodular area at the site of obstruction

HistopathologyHistopathology- Large Specimen

Microscopic description	
01. Histologic type	: Neuroendocrine tumour
02. Histologic Grade	: Well differentiated, Grade-II (It will be confirmed later with Ki67)
03. Microscopic description	: Cellular sheets of uniform round to polygonal cells that are arranged in nests, trabecular pattern
04. Mitoses	: 3/HPF
05. Lymphovascular Invasion	: Identified
06. Perineural invasion	: Not identified
07. Tumour necrosis	: Absent
08. Additional pathological findings	: Nil
09. Margins	: Proximal - free of tumour
10. Lymph node	: Number of lymph nodes involved: 1 : Number of lymph nodes submitted: 6 : Extranodal metastasis: Present
11. Pathological Staging	: pTNM
Primary tumour	: pT3 (Tumour invades through muscularis propria into subserosal tissue)
Regional Lymph Node	: pN1 (Metastasis in one regional lymph nodes)
Distant metastasis	: pMx (Distant metastasis cannot be assessed)

Fig- 3a : Histomorphology features describing the tumour

Histopathology
Immunohistochemistry Custom Panel - (Final Diagnosis)

Immunohistochemistry, individual marker	
IHC Marker	RESULT
CK	Immunoreactive score 4+ in neoplastic cells.
SYNAPTOPHYSIN	Immunoreactive score 4+ in neoplastic cells.
CHROMOGRANIN	Immunoreactive score 4+ in neoplastic cells.
Ki-67	Immunoreactive score 2% in neoplastic cells.
SLIDE NO	: IHC 23/270
SPECIMEN	: Part of small bowel biopsy for IHC markers.
GROSS	: Received one paraffin embedded block labeled as H23/2131
IMPRESSION	: Histomorphology & IHC features are compatible with Well Differentiated Neuroendocrine Tumour Grade 1
INTERPRETATION :	
RESULT	SCORE
Non-Immunoreactive	0
Immunoreactive in 1-25% cells	1+
Immunoreactive in 26-50% cells	2+
Immunoreactive in 51-75% cells	3+
Immunoreactive in 76-100% cells	4+

Fig-3b : Histomorphology (Fig-3a) and Immunohistochemistry(IHC, Fig-3b) features were compatible with Well Differentiated Neuroendocrine Tumour Grade 1.

Conclusion:

The sign is important to prevent a delay in medical intervention. Since the sign is usually seen immediately proximal to the level of obstruction and may be helpful in recognition of the exact site.

References:

1. Abu-Hmeidan JH, Bismar HA, Hamid AM. Small bowel feces sign in association with occlusive mesenteric ischemia. *Acta Radiol Short Rep* 2014; Jul 30; 3(7): 204798-204799. doi: 10.1177/2047981614540142. PMID: 25298875; PMCID: PMC4184457
2. Ranschaert E, Jabaz D, Bell D, et al. Small bowel faeces sign. Reference article, Radiopaedia.org (Accessed on 24 May 2023) <https://doi.org/10.53347/rID-12363>
3. Wassef Khaled, Ingrid Millet, Lucie Corno, Isabelle Bouley-Coletta, Mohamed Amine Benadjaoud, Patrice Taourel, and Marc Zins. Clinical Relevance of the Feces Sign in Small-Bowel Obstruction Due to Adhesions Depends on Its Location. *American Journal of Roentgenology* 2018; 210:1,78-84
4. Jacobs SL, Rozenblit A, Ricci Z, Roberts J, Milikow D, Chernyak V, Wolf E. Small bowel faeces sign in patients without small bowel obstruction. *Clinical Radiology* 2007; Vol 62(4): 353-357, ISSN 0009-9260, <https://doi.org/10.1016/j.crad.2006.11.007>
5. Lazarus DE, Slywotsky C, Bennett GL, et al. Frequency and relevance of the “small-bowel feces” sign on CT in patients with small-bowel obstruction. *Am J Roentgenol* 2004; 183: 1361–1366. [PubMed] [Google Scholar]
6. Fuchsjager MH. Small-bowel feces sign. *Radiology* 2002; 225: 378–379. [PubMed] [Google Scholar]
7. Chang WC, Ko KH, Lin CS, et al. Features on MDCT that predict surgery in patients with adhesive-related small bowel obstruction. *PLoS One* 2014; 9: e89804–e89804. [PMC free article] [PubMed] [Google Scholar]