

Images in...

Diagnosis of sigmoid volvulus using the coffee bean, northern exposure sign, whirl sign and transition point

Ming-Pin Lin,¹ Yen-Li Chen,² Wen-Sheng Tzeng¹

¹Radiology Department, Chi-Mei Foundation Medical Center, Taiwan, Province of China;

²Medical Technology, Chen Shiu University, Kaohsiung, Taiwan, Province of China

Correspondence to Dr Ming-Pin Lin, linmikea@yahoo.com.tw

DESCRIPTION

The patient was an 80-year-old man, who had suffered from lower abdominal pain for 3 days and previously had intermittent abdominal discomfort for approximately 1 month. He had not passed any stool for more than 10 days, and had not visited the emergency department prior to the current admission. Upon arrival, his vital signs were stable, and his haemogram demonstrated leukocytosis, with a white blood cell count of $18.0 \times 10^3/\text{ul}$ (normal range at our institution is $3.4\text{--}9.1 \times 10^3/\text{ul}$). Physical examination revealed diffuse abdominal tenderness with guarding, and rebound tenderness, which was greater in the lower abdomen. Supine plain film of the abdomen revealed a distended sigmoid loop with an inverted U configuration and a coffee bean sign. Sigmoid overlaps liver with an inverted U configuration and a coffee bean sign (figure 1).^{1 2} The sigmoid colon overlapped

with the liver, and extended cephalad to the transverse colon (i.e. northern exposure sign) (figure 1).² We strongly suspected sigmoid volvulus. CT revealed a whirl sign (figure 2 arrows)² and transition points (figure 3 arrows).² Laparotomy confirmed the diagnosis of sigmoid volvulus. The plain film coffee bean sign, northern exposure sign, as well as the CT whirl sign and/or transition point, are indicative of bowel obstruction, including mural thickening and dilatation of the bowel loops. Consequently, these imaging markers aid in the diagnosis of sigmoid volvulus. Thus, physicians need to be aware of the coffee bean, northern exposure sign, whirl sign and transition point, as they are indicative of acute abdominal obstruction, which may be life-threatening and require emergency surgical intervention.



Figure 1 Plain film of abdomen showed distended sigmoid loop with inverted U configuration and coffee bean sign. Sigmoid overlaps liver and extends cephalad to transverse colon (northern exposure sign).

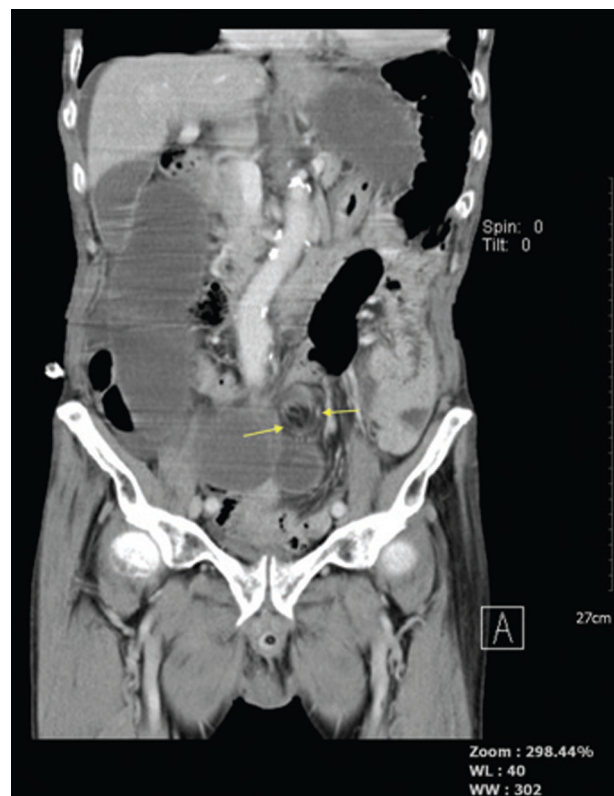


Figure 2 CT of the abdomen showed twisting whirl sign.

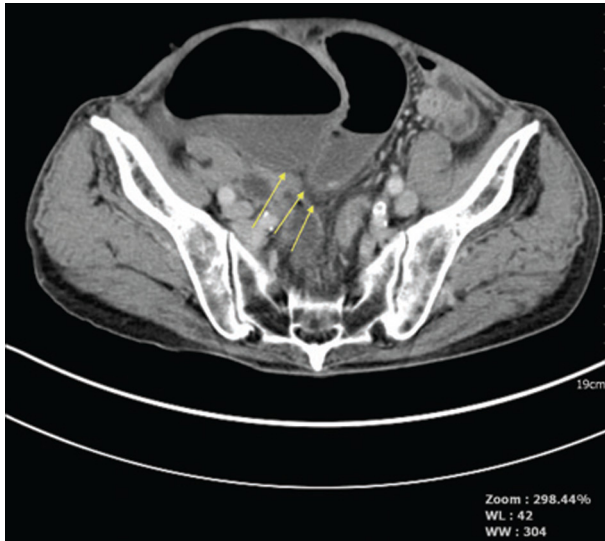


Figure 3 CT of the abdomen showed beak-shaped transition point.

Competing interests None.

Patient consent Obtained.

REFERENCES

1. **Feldman D.** The coffee bean sign. *Radiology* 2000;**216**:178–9.
2. **Levsky JM, Den El, DuBrow RA, et al.** CT findings of sigmoid volvulus. *AJR Am J Roentgenol* 2010;**194**:136–43.

This pdf has been created automatically from the final edited text and images.

Copyright 2011 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit <http://group.bmj.com/group/rights-licensing/permissions>.
BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Please cite this article as follows (you will need to access the article online to obtain the date of publication).

Lin MP, Chen YL, Tzeng WS. Diagnosis of sigmoid volvulus using the coffee bean, northern exposure sign, whirl sign and transition point. *BMJ Case Reports* 2011;10.1136/bcr.06.2011.4334, date of publication

Become a Fellow of BMJ Case Reports today and you can:

- ▶ Submit as many cases as you like
- ▶ Enjoy fast sympathetic peer review and rapid publication of accepted articles
- ▶ Access all the published articles
- ▶ Re-use any of the published material for personal use and teaching without further permission

For information on Institutional Fellowships contact consortiasales@bmjgroup.com

Visit casereports.bmj.com for more articles like this and to become a Fellow