Abdominal malrotation overlooked at extensive cross-sectional imaging and leading to life-threatening gastrointestinal bleeding

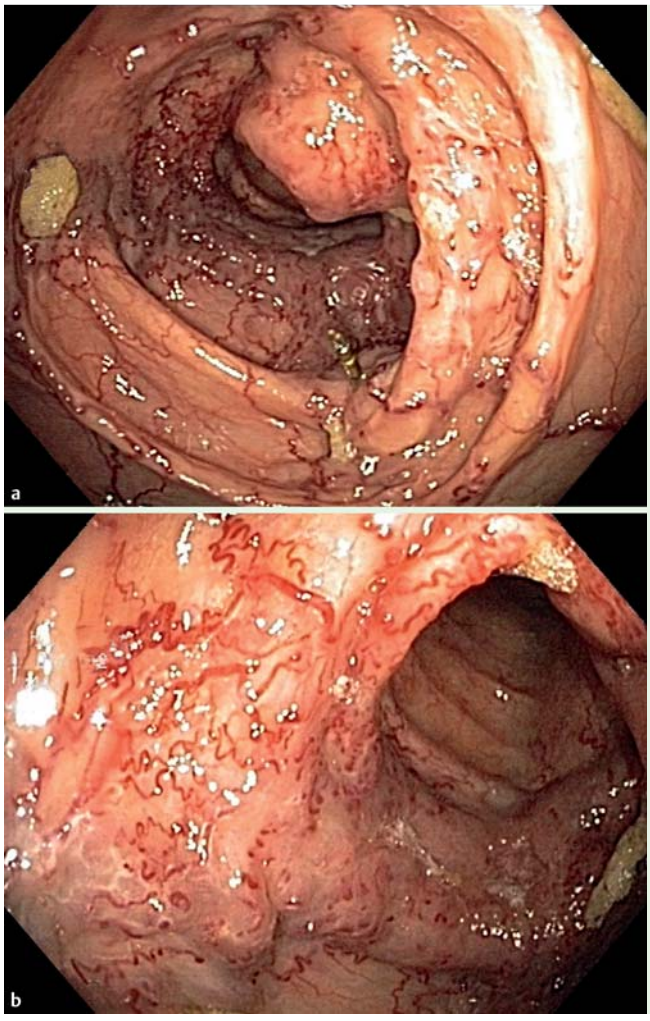
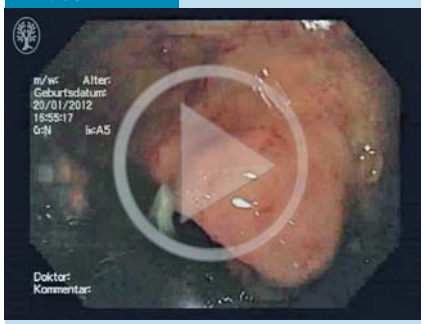


Fig. 1 **a** Endoscopic view of abnormal changes in the cecum of a 34-year-old woman with recurrent episodes of abdominal discomfort since early childhood, now presenting with severe anemia. **b** Abnormal changes in the ascending colon.

Video 1



Endoscopy showing abnormal alterations in the cecum and ascending colon of a 34-year-old woman with recurrent abdominal discomfort since childhood, now presenting with severe anemia.

A 34-year-old woman presented with recurrent abdominal discomfort that had started in early childhood. External ileocolonoscopy showing inflammatory alterations of the ileum and colon led to the suspicion of inflammatory bowel disease. Treatment with mesalazine or corticosteroids had no beneficial effects. Initial magnetic resonance enterography (MRE) and diagnostic laparoscopy revealed no pathological findings.

Our work-up showed nonspecific inflammatory alterations of the ileum, cecum, and ascending colon. Computed tomography showed imbibition of abdominal fat tissue without any other pathological features. Because these findings were inconclusive and prior immunosuppressive treatment had failed, surveillance was initiated.

After 2 months, the patient developed severe anemia (hemoglobin level of 6.3 g/dL). Endoscopy revealed alterations in the cecum (**Fig. 1 a**, **Video 1**) and ascending colon (**Fig. 1 b**, **Video 1**), which were described as atypical angiodysplasia. After treatment with argon plasma coagulation, the hemoglobin levels stabilized, but 12days later, she presented with acute gastrointestinal bleeding.

The patient underwent emergency ileocolonoscopy, and the endoscopist who performed the procedure questioned the diagnosis of angiodysplasia. Re-evaluation of the cross-sectional imaging – MRE (**Fig. 2 a**) and computed tomography (**Fig. 2 b**) – raised the possibility of abdominal malrotation. Laparoscopy confirmed the diagnosis, and a curative right hemicolectomy was performed. During 3years of follow-up, the patient experienced no abdominal discomfort, and her hemoglobin levels were consistently normal.

In conclusion, we present a case in which abdominal malrotation was visualized by extensive cross-sectional imaging. The malrotation resulted in compression of the mesenteric vessels with recurrent abdominal pain and, ultimately, life-threatening bleeding. Strikingly, the malrotation was detected only after focused re-evaluation of the initial radiological work-up. There are very few reports of abdominal malrotation as a cause of gastrointestinal bleeding in adults [1,2]. However, based on the difficulties encountered during the diagnostic work-up of this patient, we think that awareness of the disease and its endoscopic presentation is extremely important.

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Competing interests: None

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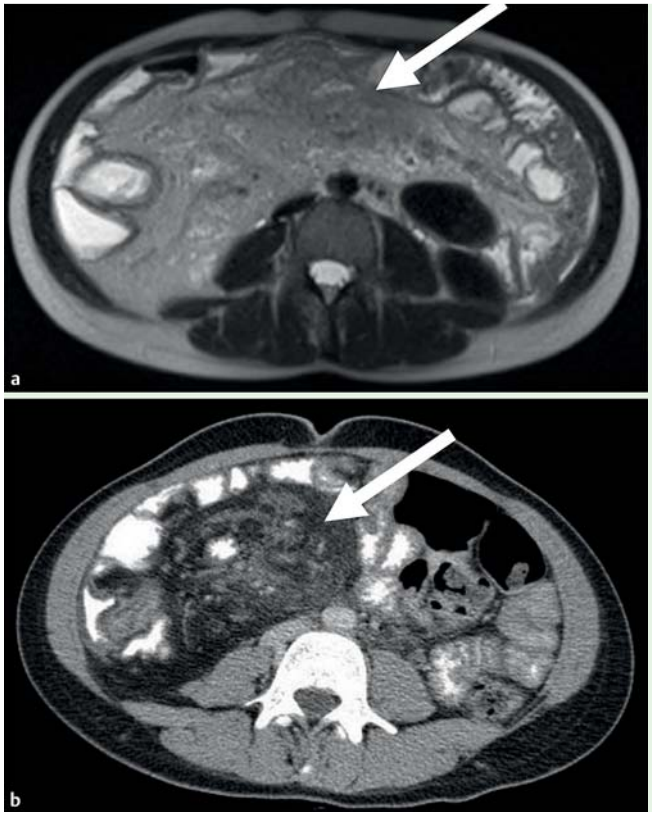

Fig. 2 Cross-sectional images suggesting abdominal malrotation (arrows). **a** Magnetic resonance enterography. **b** Computed tomography.

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Bibliography

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