

Colon Cast in a Child With Graft Versus Host Disease

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A 4-year-old girl with juvenile myelomonocytic leukemia underwent a cord blood transplant 2 months post-diagnosis following a poor response to chemotherapy. One month after the transplant, she developed a skin rash, abdominal pain, and bloody diarrhea despite receiving oral tacrolimus and methotrexate to prevent graft versus host disease (GVHD). Administration of intravenous prednisolone relieved the skin rash but not the intestinal symptoms. Colonoscopy revealed marked redness and bleeding in the colonic mucosa. Neither corticosteroid enemas nor intravenous antibiotics improved her symptoms. Two months after the transplant, she excreted an approximately 6-cm colon cast, a full-thickness, infarcted colonic segment (Fig. 1). Colonoscopy and pathology showed a demucosed colon (Fig. 2). Hyperbaric oxygen (HBO) therapy was initiated with the suspicion of intestinal ischemia secondary to transplant-related thrombotic microangiopathy. Her symptoms improved within a week after therapy initiation.

Follow-up colonoscopy performed 3 months after the HBO therapy revealed healed colonic mucosa.

Giuseppe et al reported that 37% of patients experience gastrointestinal GVHD after allogeneic hematopoietic stem cell transplant (1). A colon cast is believed to be associated with mucosal ischemia because most cases are reported in patients with ischemic colitis (2,3). Although several cases in adults have been reported, the presumed first case of colon cast associated with ischemia in a child was reported in 2017 (4). Colon cast associated with GVHD is rare, with only one previously reported adult case (5). In our case, the patient had demucosed colon on colonoscopy, similar to previous cases, and showed immediate improvement after the HBO therapy. The HBO therapy may be a safe and effective treatment option for intestinal GVHD accompanied by a colon cast.

Patient anonymity: this patient's anonymity is carefully protected. There are no identifiable photographs of the patient included in this manuscript.



FIGURE 1. The excreted colon cast.

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T.M. wrote the initial draft of the manuscript. T.I. performed colonoscopy and hyperbaric oxygen therapy and assisted in preparing the manuscript. All other authors were involved in the treatment of juvenile myelomonocytic leukemia and critically reviewed the manuscript. All authors approved and agreed to be accountable for the manuscript.

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The authors report no conflicts of interest.

The patient's parents provided informed consent for publication of the details of this case.

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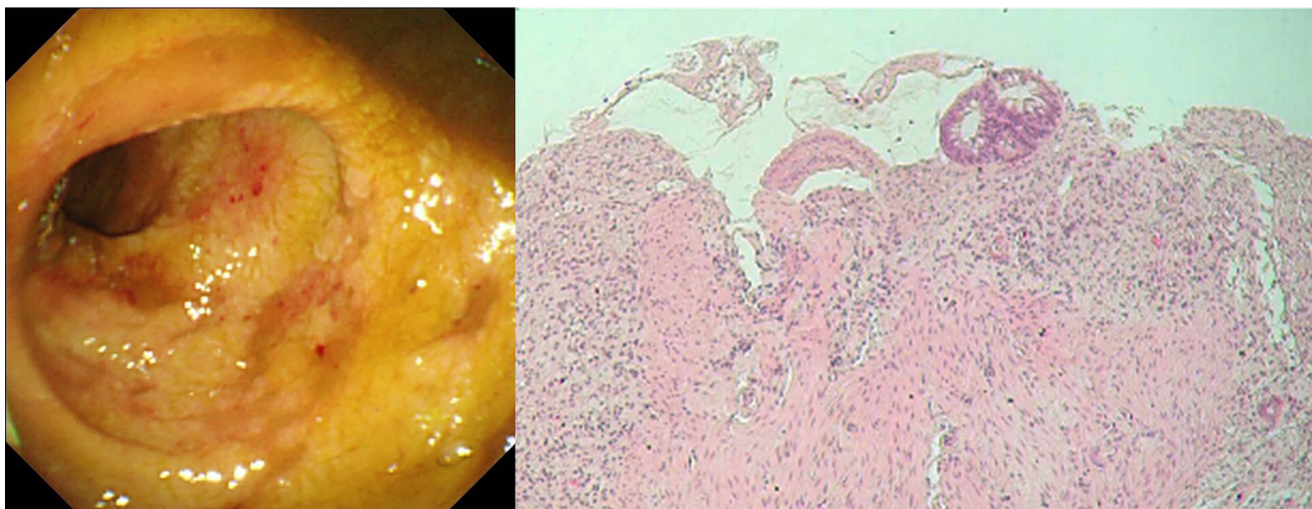


FIGURE 2. Colonoscopic and histologic findings of the colon. Left) Colonoscopic examination revealed diffuse mucosal inflammation and peeling. Endoscopic examination could only be performed up to 15 cm due to colonic stenosis. Right) Histology of the sigmoid colon showed infiltrating lymphocytes and loss of mucous membrane.