Chemotherapy/calcium polystyrene sulfonate/prednisolone

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Mucositis followed by extensive bowel necrosis: case report

A 76-year-old man developed mucositis followed by extensive bowel necrosis during treatment with FOLFOX6 [fluorouracil [5-FU], folinic acid, oxaliplatin], bevacizumab, prednisolone and calcium polystyrene sulfonate [*not all routes and dosages stated*].

The man who was diagnosed with rectal cancer with multiple liver metastases, underwent an anterior resection with primary anastomosis in April 2012 to relieve a bowel obstruction. He was continually treated for biochemical recurrence of prostate cancer with 10 mg of prednisolone for >10 years and took calcium polystyrene sulfonate for hyperkalaemia caused by chronic kidney disease. Following surgery for primary rectal cancer, he received 8 courses of modified FOLFOX6 with bevacizumab 7.5 mg/kg every 3 weeks for liver metastases. He developed mild diarrhoea during initial chemotherapy and oxaliplatin was removed from further 6 courses due to grade 3 neuropathy. The liver metastases showed a partial response to the combination therapy. However, 12 days after the last treatment he had sudden-onset lower abdominal pain with vomiting and he was hospitalized. His BP was 100/69 mmHg, heart rate was 100 beats/minute, respiratory rate was 24 breaths/minute and body temperature was 34°C with diaphoresis. He had generalized abdominal tenderness and muscular guarding. His laboratory investigations revealed elevated WBC count, elevated blood urea nitrogen, significantly elevated D-dimer level, C-reactive protein level of 0.30 mg/dL, creatinine level of 1.32 mg/dL, glutamic oxaloacetic transaminase level of 55 U/L and lactate dehydrogenase level of 325 U/L. Enhanced abdominal CT showed distension of the colon in full length and an enhanced mesentery around the descending colon. Explorative laparotomy revealed total enlargement of colon with necrotic appearance.

The man underwent sub-total colectomy with end-ileostomy. He was discharged 42 days after the emergency surgery. Chemotherapy was not re-introduced and he died of disease progression 8 months after surgery. Macroscopic examination of the resected colon indicated bowel enlargement and oedematous changes. The mucosa exhibited gross necrotic changes in all areas. Histological analysis revealed mucosal necrosis over the entire resected colon and extended from the mucosa to the muscularis propria in the descending colon. Inflammatory cells were observed infiltrating all layers of the bowel wall. The crypts of the mucosa were either absent or hypoplastic without visible vascular occlusion, vasculitis or perforation. These pathological findings of diffuse necrosis and hypoplasia of the crypts in the mucosa were consistent with chemotherapy-induced, severe mucositis. [*outcomes not stated*]. [Prednisolone or calcium polystyrene sulfonate both of which were taken long-term might cause bowel damage; chemotherapy-induced, severe mucositis; taken together, it would be more convincing to assume that bevacizumab and/or fluorouracil are related to this extensive bowel necrosis].

Author comment: "*We have described the first report of bevacizumab-related, extensive bowel necrosis.*" "*Pathological findings included diffuse necrosis and hypoplasia of the crypts in the mucosa, consistent with chemotherapy-induced, severe mucositis.*"

Takada S, et al. Extensive bowel necrosis related to bevacizumab in metastatic rectal cancer patient: A case report and review of literature. Japanese Journal of Clinical Oncology 45: 286-290, No. 3, Mar 2015. Available from: URL: http://doi.org/10.1093/jjco/hyu206 - Japan

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