



The 6<sup>th</sup> World Congress on  
CONTROVERSIES IN MULTIPLE  
MYELOMA (COMy)

## Colon Perforation in Multiple Myeloma Patients- a Complication of High Dose Steroid Treatment

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### Introduction

- # Gastrointestinal (GI) complications of multiple myeloma (MM) treatment are common and include nausea, constipation and diarrhea. However, acute gastrointestinal events like bleeding and perforations are rare.
- # Very few cases of gastrointestinal perforations in MM have been reported in the literature.
- # We aimed to describe the characteristics and outcomes of patients with MM that had colonic perforations during their treatment.

### Methods

- # This was a retrospective study that included patients from all three Mayo Clinic sites between 1997 and 2020 who had MM and developed a GI perforation.
- # All patients were diagnosed with GI perforations based on CT scans and treated with surgery.
- # Patients diagnosed with amyloidosis, a perforated colon complicating neutropenic colitis during stem cell transplantation and those with a perforation due to colonic cancer were excluded.

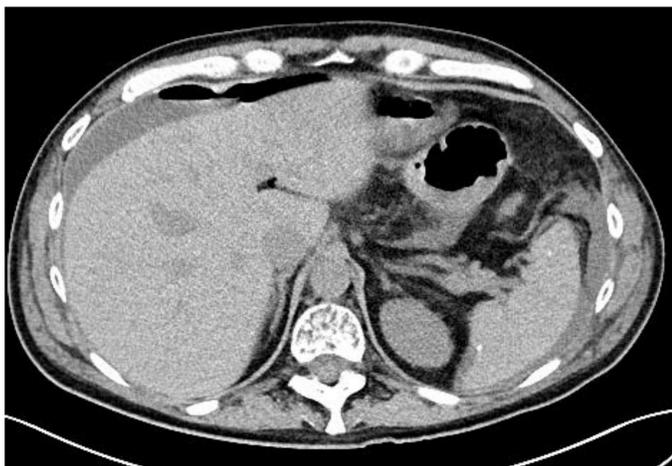


Figure 1: bowel perforation in a CT scan in one of the patients

### Results

- # 30 patients were identified.
- # All perforations were located to the colon.
- # The median age at GI perforation was 66 (IQR 60-71). Twenty-two (70%) were males.
- # The median time from the diagnosis of MM to perforation was 4 months (IQR 2- 28).
- # All patients received steroids prior to the perforation (doses ranged from 10 mg once weekly to 40 mg day 1-4, 9-12, 17-20 q 28 days) while four of them (11%) were on high dose dexamethasone without chemotherapy.
- # Fourteen patients got high dosed of dexamethasone (defined as higher than 40mg dexamethasone once a week).
- # 14 patients (47%) were on bortezomib while perforating.
- # In twenty-four patients (80%), the perforations were associated with diverticulitis.
- # All patients underwent colectomies and 25 patients required ileostomies (3) or colostomies (22) with all surviving the surgery.
- # Treatment with steroids was resumed in 23 patients with no further gastrointestinal complications.
- # The median OS was 20 months (IQR 8-59) following perforation.

### Conclusions

Intestinal perforations in MM are rare and, in our series, always occurred with dexamethasone doses higher than 10 mg per week. Urgent surgery is lifesaving and resumption of anti-myeloma treatment appears to be safe, with no significant risk of re-perforation.