



Mycophenolate Mofetil-Induced Colitis

Katayoun Eslami, Jennifer Hong
Department of Pediatrics, Division of Gastroenterology and Nutrition



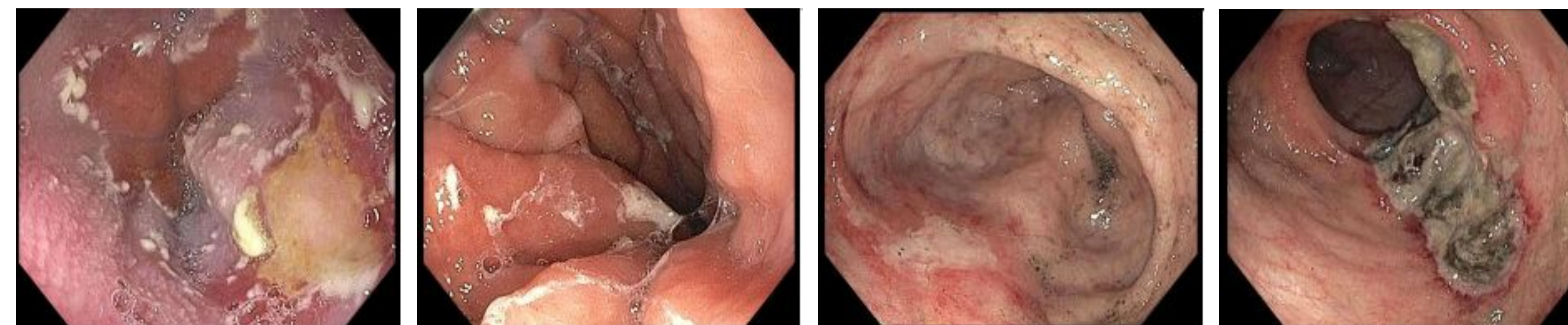
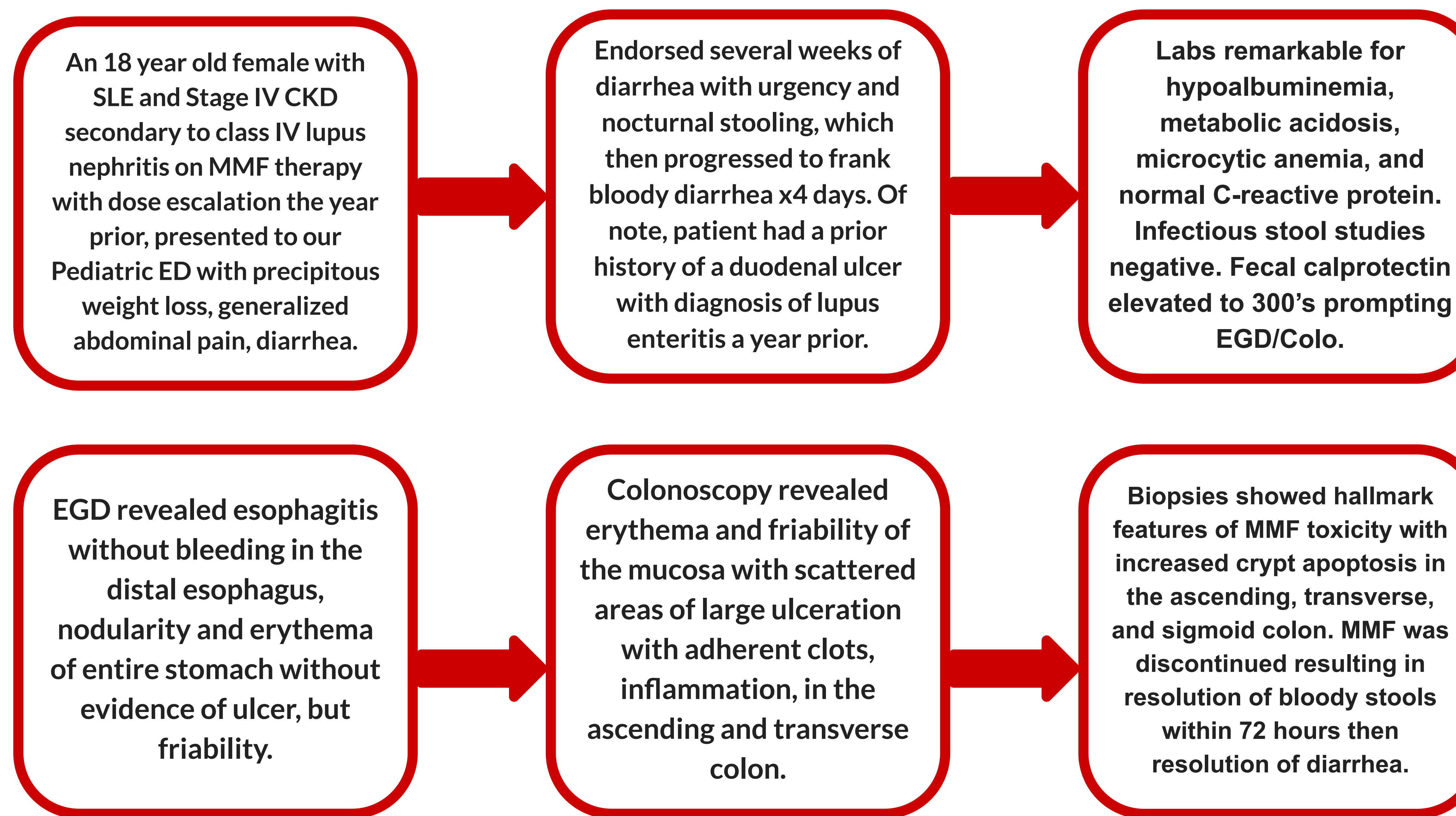
INTRODUCTION

- Mycophenolate Mofetil (MMF) is used in maintenance of immunosuppression in transplant recipients and patients with autoimmune diseases.
- Gastrointestinal (GI) side effects can be caused by MMF, though colitis is rare especially in pediatric patients.
- Here, we describe the case of an 18 year old female with Systemic Lupus Erythematosus (SLE), Stage IV chronic kidney disease (CKD) secondary to lupus nephritis on MMF, with history of a duodenal ulcer in setting of lupus enteritis, who presented with weight loss and bloody diarrhea.
- An esophagogastroduodenoscopy (EGD) and colonoscopy showed large areas of ulcerations with mucosal inflammation with histologic findings confirming MMF toxicity.

DISCUSSION

- Severe colitis related to MMF remains rare with a prevalence of less than 10% in adult patients.
- Possible mechanisms of MMF toxicity in the GI tract:
 - Active metabolite MPA → reversible inhibition of enzyme in de novo purine synthesis → impaired GI epithelial cell growth and repair
 - Induction of apoptosis, as seen in the case of our patient with **increased apoptotic crypts**
- Prospective studies in adult MMF-treated transplant recipients report nonbloody diarrhea, with close to half having Crohn's disease-like enterocolitis with focal crypt distortion and mild focal inflammation on colonic biopsies.
- Besides a classical IBD-like pattern, MMF can also induce changes that may mimic graft versus host disease (GVHD) or ischemia.

CASE PRESENTATION

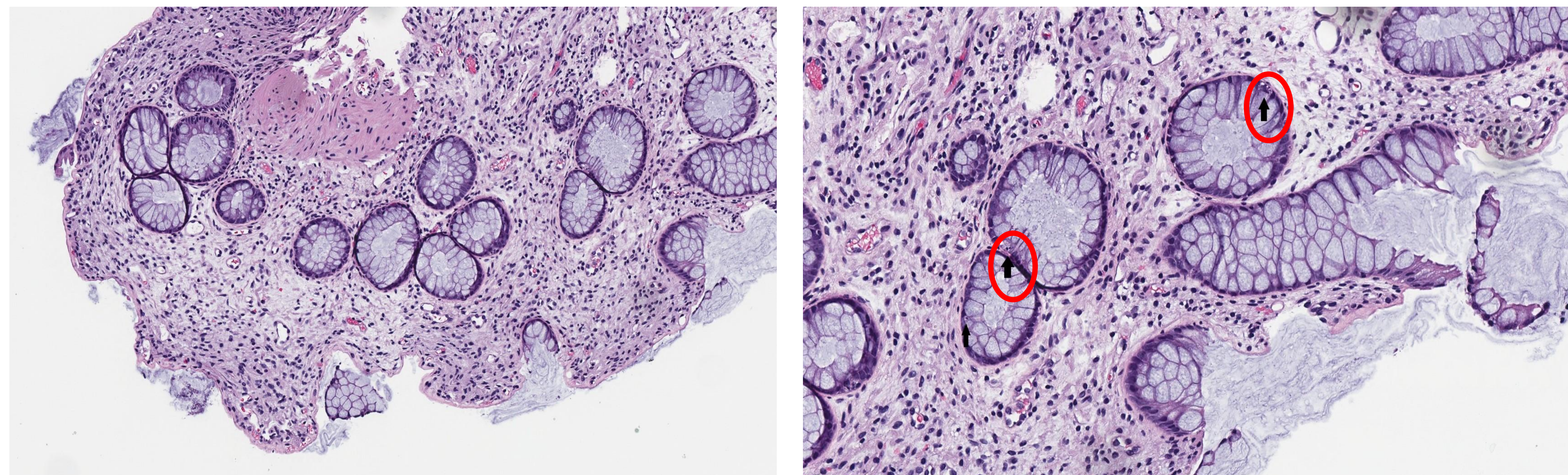


DISTAL ESOPHAGUS

STOMACH BODY

TRANSVERSE COLON

ASCENDING COLON



SECTIONS SHOW MUCOSAL EDEMA WITH LIMITED INFLAMMATION. THERE IS INCREASED CRYPT BASE APOPTOSIS (circled arrows).

CONCLUSIONS

- MMF colitis is a rare but possible side effect of this widely used immunosuppressive agent
- Mechanism of MMF toxicity is not fully understood, thought to be related to impairment of de novo purine synthesis or crypt apoptosis, and not only dose dependent.
- MMF colitis can have varied histologic presentations, and withdrawal can lead to complete resolution of symptoms in children with MMF-induced colitis.
- This entity should be considered in any patient on MMF with diarrhea, prompting timely colonoscopy evaluation with biopsies.

References

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