

# Ischemic colitis and its association with estrogen-containing oral contraceptive pills

Authors: Kais Antonios MD, Elliot Bernestein MD, James Haubert MD, Anupam Suneja MD



# ACG 2022

## FOR ISCHEMIC COLITIS, THINK OF ESTROGEN-CONTAINING OCPS AS A CONTRIBUTING FACTOR

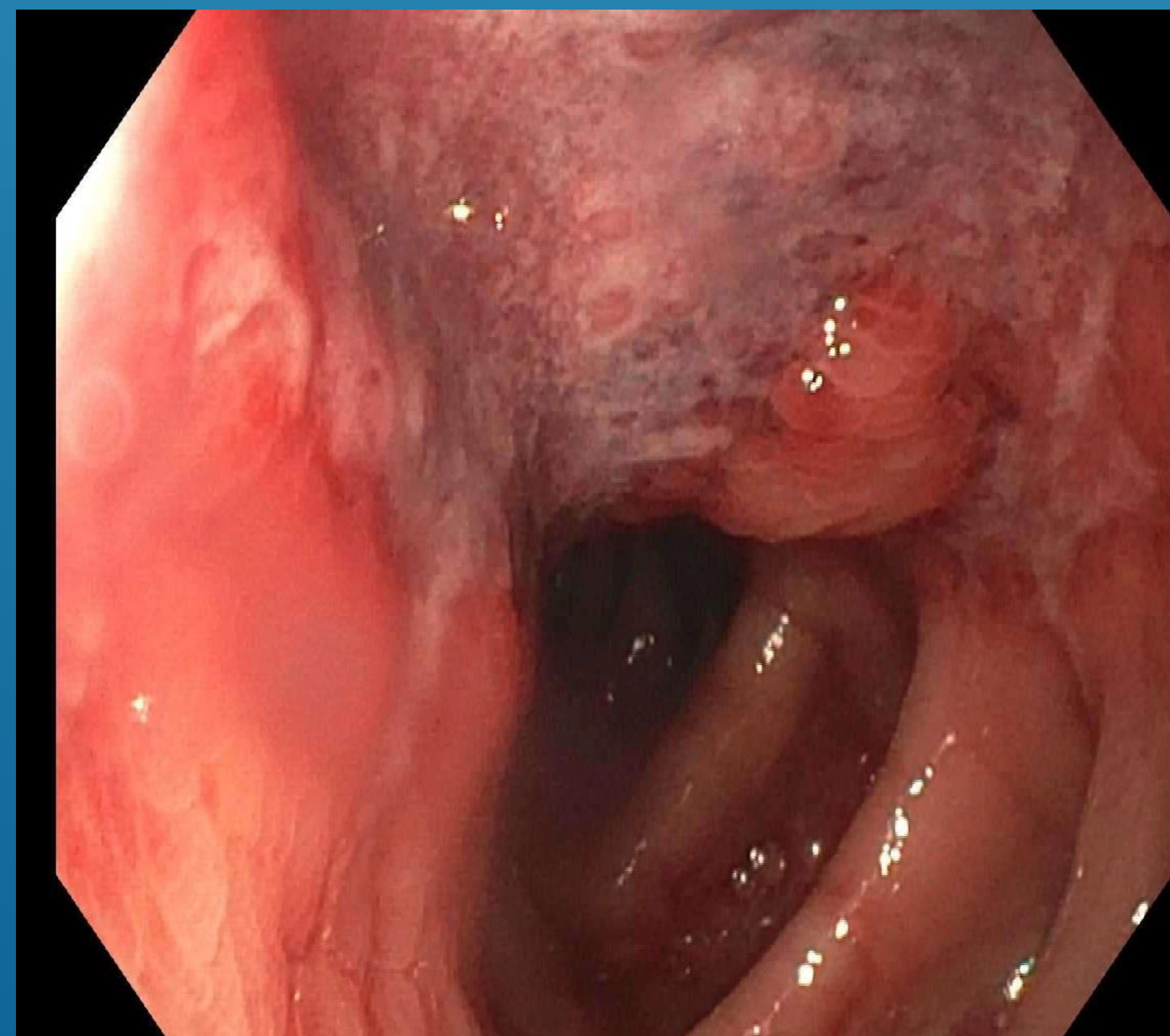
### INTRODUCTION

- Ischemic colitis (IC) is an uncommon condition with the incidence ranging from 4.4 to 44 per 100,000 person-years
- Due to a lack of specific symptoms for IC, and the risk of progression to necrotic bowel without early recognition, a high index of suspicion is needed to identify IC in those below 50 years of age
- A single institution study determined that half of the female patients with IC onset at less than 50 years of age were using oral contraceptives.

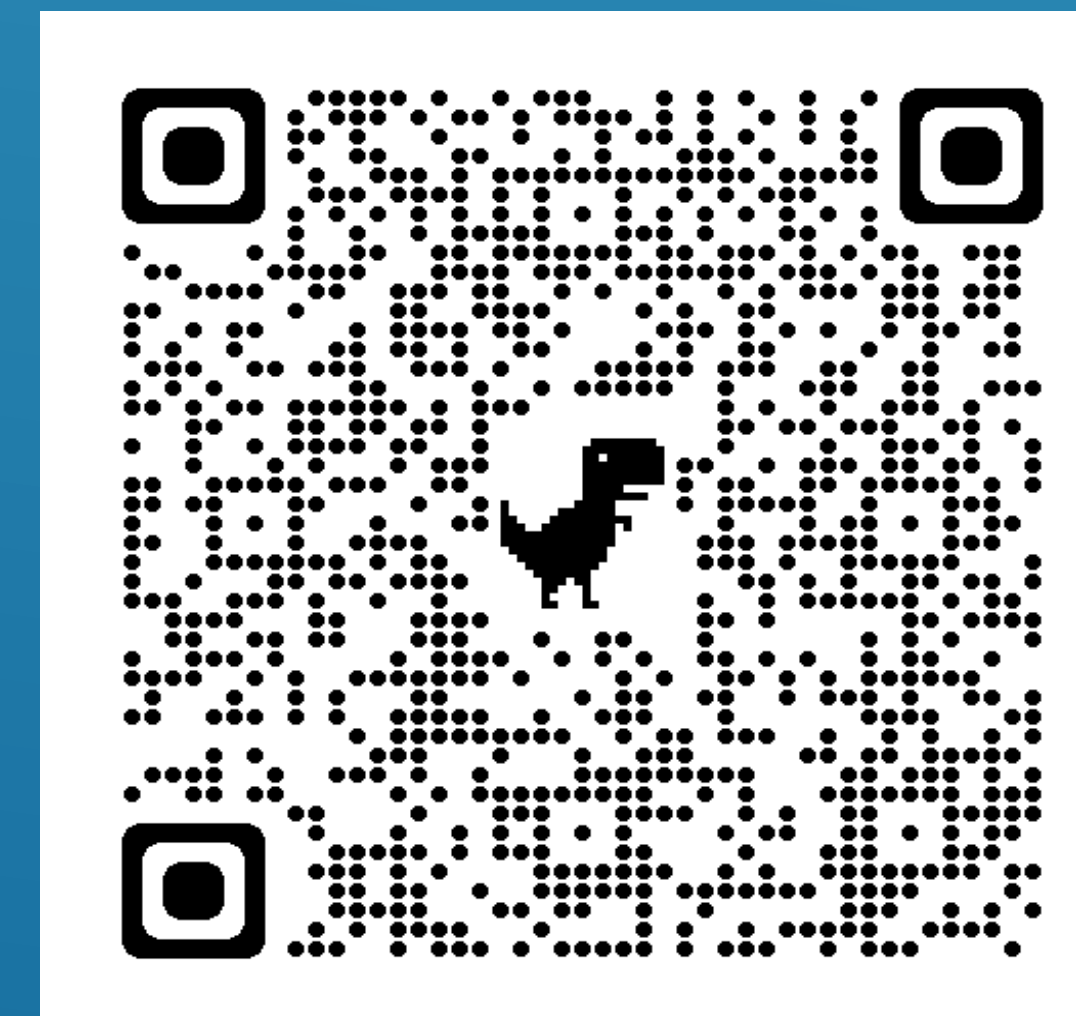
### CASE REPORT

- A 45-year-old woman with a history of GERD, avascular necrosis of bilateral femoral heads, and long-term OCP use presented with a one-day history of abdominal pain and hematochezia
- (CT) of the abdomen and pelvis showed a patent abdominal aortic artery, SMA, and IMA, in addition to diffuse thickening of the left colon
- Flexible sigmoidoscopy showed patchy, discontinuous areas in the descending colon and at the splenic flexure
- Biopsy results from the mentioned area confirmed the diagnosis of ischemic colitis

### IMAGING



Flexible sigmoidoscopy: Discontinuous area of severely erythematous mucosa in the descending colon



### DISCUSSION

- This case highlights that ischemic colitis should be considered in the differential diagnosis of abdominal pain and hematochezia in premenopausal women, especially those taking oral contraceptive pills
- Ischemic colitis can be caused by arterial or venous thrombosis, and the role of OC in venous thrombosis is well-established
- OCs affect plasma levels of procoagulant factors (VII, VIII, and IX), fibrinogen, prothrombin, anticoagulant and fibrinolytic pathway proteins
- In addition, OCs cause acquired activated protein C (APC) resistance and decreased protein S.
- An episode of IC should lead to a reevaluation of any future estrogen use.
- Conflicting case control studies with risk varying 0.59-1.05

### ADDITIONAL INFO

- Ischemic colitis can involve any part of the colon
- Colonoscopy and histology are golden standard for diagnosis. Consistent findings include petechial hemorrhages, edematous and fragile mucosa, mucosal bleeding, segmental erythema, scattered erosions, and longitudinal ulcerations
- Initial treatment is supportive (Intravenous fluids and bowel rest). Surgical intervention should be considered in cases unresponsive to conservative treatment
- Physicians treating ischemic colitis in young women should consider the use of contraceptive medication containing estrogens or pregnancy as possible causes

### REFERENCES

• Binns JC, Isaacson P. Age-related changes in the colonic blood supply: their relevance to ischaemic colitis. *Gut*. 1978;19(5):384-390. doi:10.1136/gut.19.5.384

• Green BT, Tender DA. Ischemic colitis: a clinical review. *South Med J*. 2005;98(2):217-222. doi:10.1087/01.SMJ.000145399.35851.10

• Tshakovski SN, Roseng J. Mechanisms of estrogen-induced venous thromboembolism. *Thromb Res*. 2010;126(1):5-11. doi:10.1016/j.thromres.2010.01.045

• Deana DG, Dean PJ. Reversible ischemic colitis in young women. Association with oral contraceptive use. *Am J Surg Pathol*. 1995;19(4):464-462. doi:10.1097/0000478-199504000-00007

• Kammeron AM, Algra A, Meijers JC, et al. Effect of second- and third-generation oral contraceptives on the protein C system in the absence or presence of the factor V Leiden mutation: a randomized trial. *Blood*. 2004;103(3):927-933. doi:10.1182/blood-2003-04-1285

• Eider K, Lashner BA, Al Solaiman F. Clinical approach to colonic ischemia. *Cleve Clin J Med*. 2009;76(7):401-409. doi:10.3949/ccjm.76a.08089

• Brandt LJ, Feuerstadt P, Blaszkia MC. Anatomic patterns, patient characteristics, and clinical outcomes in ischemic colitis: a study of 310 cases supported by histology. *Am J Gastroenterol*. 2010;105(10):2245-2253. doi:10.1038/ajg.2010.217

• Xu Y, Xiong L, Li Y, Jiang X, Xiong Z. Diagnostic methods and drug therapies in patients with ischemic colitis. *Int J Colorectal Dis*. 2021;36(1):47-56. doi:10.1007/s00384-020-03738-z

• FitzGerald JF, Hernandez III LO. Ischemic colitis. *Clin Colon Rectal Surg*. 2015;28(2):93-98. doi:10.1055/s-0035-1549369

• Frossard JL, Spahr L, Quenec'h PE, Armanian B, Brundler MA, Haselgrub A. Ischemic colitis during pregnancy and contraceptive medication. *Digestion*. 2001;64(2):125-127. doi:10.1159/000048851