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Spontaneous cecal gangrene in a renal failure patient
A case report and review

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ABSTRACT:

Isolated ischemic necrosis of the cecum is still a rare surgical encounter.It has been linked to low flow states associated with certain disease conditions.We present a case of a 60 -years-old lady who is on regular hemodialysis for chronic renal failure.She presented with acute right lower quadrnt abdominal pain resembling appendicitis and found to have isolated cecal infarction with no mesenteric vascular occlusion.she underwent a right hemicolectomy with ileotransverse anastomosis and didn't have recurrence of ischemia in the remaining colon.

INTRODUCTION:

Non-occlusive ischemia of the cecum and ascending colon remains a rare finding in surgical practice.There are few scattered reports of the condition in the surgical literature.It affects mostly elderly patients with co morbid diseases that lead to a state of low circulatory flow,specially chronic heart diseases,open heart surgery and hemodialysis patients.

CASE PRESENTATION:

This is a 60 -years-old lady who has type two diabetes and is on regular hemodialysis three times a week for end-stage renal failure.She presented with a 2 days history of right lower quadrant pain which started after her last dialysis session..Pain was accompanied with nausea and vomiting.She did't have fever or altered bowel habits.On examinatin she was found to have heart rate of 96/minute,blood pressure of 98/56 mmHg,respiratory rate of 18/minute and a temperature of 37.6 C.Abdominal examination was positive for right lower quadrant tenderness.Blood tests showed leucocytosis of 18,000/ml.X rays of chest and abdomen were unremarkable.A contrast enhanced CT scan of the abdomen was suggestive of ischemia of the right colon,though mesenteric vessels appeared patent.There were no radiological features of acute appendicitis(Fig.1&2).

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Fig.1

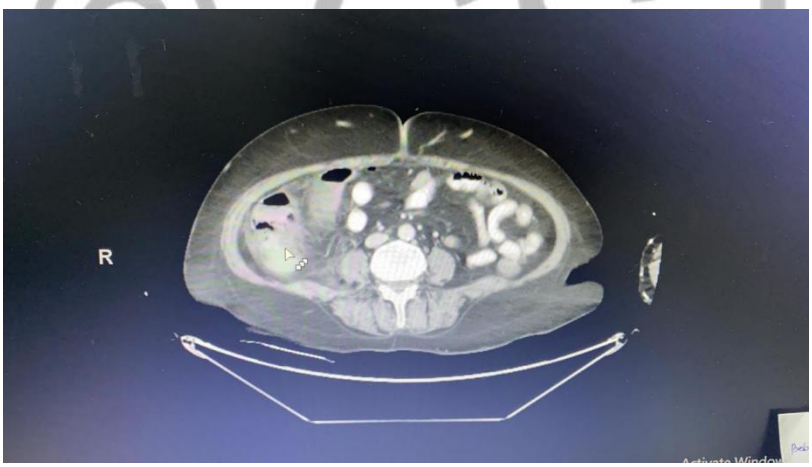

Fig.2

Exploratory laparotomy showed gangrene of the cecum,normal perfusion of mesentry and rest of the bowel, and a grossly normal appendix.She had a right hemicolectomy with ileotransverse anastomosis.Postoperative course was uneventful and on follow up there was no evidence of recurrence of ischemia.

DISCUSSION:

Almost all cases reported so for are of elderly patients,around their sixties.In a case series of four patients,Dirican and colleagues quoted a mean age of 59 years(1),while Cakar and colleagues reported six patients with a mean age of 60.3 years(2).Our patient had hemodialysis less than 48 hours before her symptoms started.Hemodialysis is linked to isolatd cecal ischemia in many reports.It seems that the fluid shifts and bouts of hypotension associated with hemodialysis play a rle in the pathogenesis of the condition.

Borra and Kleinfield reported three dialysis patients who developed non-oclusive ischemic necrosis of the cecum(3).Three of the four patients reported by Dirican and colleagues were end-stage renal disease patients on maintenance hemodialysis(1),as were four of the six patients reported by Cakar etal(2).Other conditions linked to non occlusive ischemia of the cecum include chronic heart diseases,open heart surgey and certain drugs like erythropoietin,digoxin and beta blockers,all are associated low flow states.

In most of the cases, patients were initially diagnosed as acute appendicitis.Rarity of the condition,the lack of specific diagnostic labarotary tests, and radiologic features made the definitive diagnosis possible only upon exploration in most of the cases.In our case the CT scan was suggestive,though not conclusive, of ischemia.In the report by Cakar and colleagues,three of their patients had preoperative contrast enhanced CT scans and all were non diagnostic for cecal ischemia(2).Laparoscopy remains a valuable option to obtain a definitive diagnosis of cecal ischemic infarction and may play a therapeutic role as well.One of the four patients in the case series by Dirican and colleagues underwent diagnotic laparoscopy and his cecal necrosis was treated through laparotomy because of technical issues with the laparoscopy at the time of the procedure(1).In another case Perko and co-workers reported a 73 years old female who underwent laparoscopy for a presumed appendicitis where isolated cecal necrosis was found and resected laparoscopically using endostaplers with ileocolic anastomosis(4).The commonest surgical procedure performed for isolated cecal necrosis is a right hemicolectomy with ileotransverse colon anastomosis..Only one of the four patients in the case series by Dirican and colleagues had an ileostomy and a mucous fistula after resection.Their justification was gross peritoneal contamination at the time of exploration(1).Similarly,three of the six patients reported by Cakar and colleagues had ileostomy and a mucous fistula created at completion of resection of infarcted cecum.The rest of their patients underwent a standard right hemicolectomy with ileotransverse anastomosis(2).The same surgical approach was adopted in case reports by Karpuzi and colleagues(5) and Kilinc and colleagues(6).In the vast mojority of available reports,there is a consensus on absence of recurrent ischemia in the remaining colon.Dirican and colleagues repoted no recurrence of ischemia in their case series after a median follow up of 24.5 months(1).Likewise,Borra and Klienfield reported no recurrence after a follow up of 1 to 15 years(3).On the other hand,Cakar and colleagues reported 3 cases of recurrent ischemia at the ileocolic anastomosis necessiating take down of anstomosis,further resection and creation of an ileostomy and a mucous fistula in each case(2).It is worth mentioning that the recurrent ischemia occured 24-36 hours after the first surgery.No recurrence of ischemia occured in the other three patients in the same report who had ileostomies and mucous fistula created during their index surgery for cecal gangrene.These observations made it reasonable to attribute recurrence of ischemia in their case to technical issues with he anastomosis rather than recurrence of the disease.

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