



Massive hemolysis due to *Clostridium perfringens* infection

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An 83-year-old man with a history of hemodialysis presented to the emergency department with lower abdominal pain that had developed the same morning. Transrectal prostate biopsy performed 2 weeks previously revealed adenocarcinoma. Abdominal tenderness with peritoneal signs was noted on admission. Computed tomography showed rectal perforation and a pelvic abscess. He received meropenem and vancomycin and underwent laparotomy and colostomy. Laboratory tests revealed low hemoglobin and haptoglobin levels (10.0 g/dL and 6 mg/dL [normal, 13.4–17.6 g/dL and 43–180 mg/dL], respectively) and elevated total bilirubin and lactate dehydrogenase levels (3.4 mg/dL and 2214 U/L [normal, 0.2–1.2 mg/dL and 120–250 U/L], respectively). The direct antiglobulin test findings were negative. Peripheral blood smear showed numerous spherocytes and dehemoglobinized ghost cells (Fig. 1a). Despite clindamycin administration, he experienced hemodynamic collapse post operation, his hemolysis worsened, and he died 37 h after admission. Blood and perioperative specimen cultures were positive for *Clostridium perfringens* (Fig. 1b).

Clostridium perfringens produces α -toxin, which hydrolyzes phospholipids in erythrocyte membranes, causing spherocytosis and subsequent intravascular hemolysis. We should suspect sepsis due to *Clostridium perfringens* in cases of pelvic infection and intravascular hemolysis with spherocytosis requiring early source control and appropriate combination antibiotic therapy.

Compliance with ethical standards

Conflicts of interest

There are no conflicts of interest to declare.

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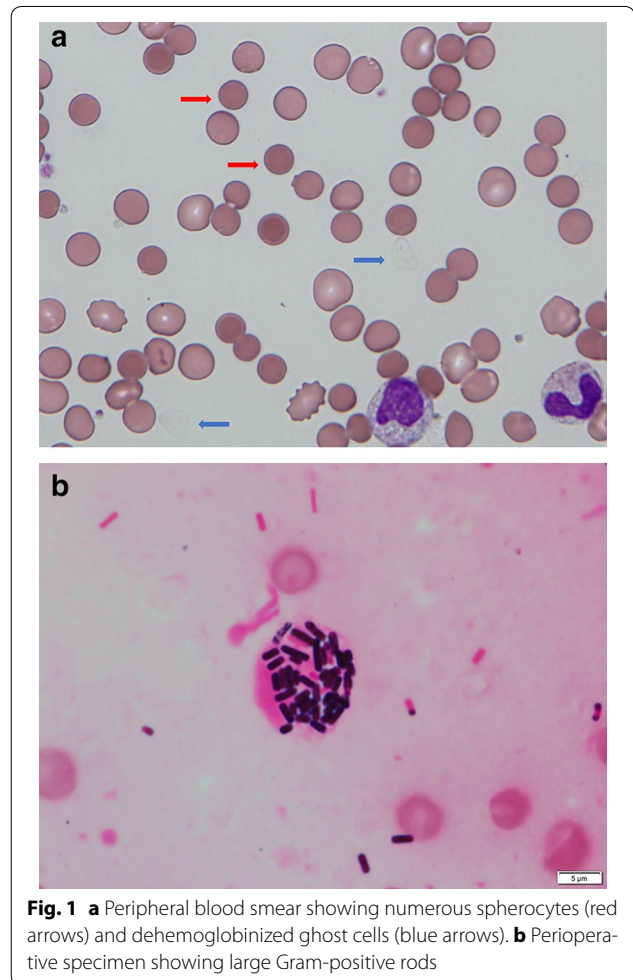


Fig. 1 **a** Peripheral blood smear showing numerous spherocytes (red arrows) and dehemoglobinized ghost cells (blue arrows). **b** Perioperative specimen showing large Gram-positive rods

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