

Gastrocolocutaneous fistula detected by [^{18}F]fluorodeoxyglucose positron emission tomography with low-dose computed tomography: a rare iatrogenic complication of colonoscopy

Colonoscopy is generally considered to be a low-risk procedure. The incidence of iatrogenic perforation during diagnostic colonoscopy is less than 1.0% [1]. The development of a gastrocolocutaneous fistula is a very rare complication of a perforation inflicted during an endoscopic procedure.

We present the case of a 48-year-old man who was referred for [^{18}F]fluorodeoxyglucose positron emission tomography with low-dose computed tomography ([^{18}F]FDG-PET/CT) because of fever, abdominal discomfort, and pyogenic discharge from his abdominal wall. His medical history reported an amputation of the fifth digit of his left foot and percutaneous transluminal angioplasty with endovascular grafting of the left common iliac artery (CIA), pseudomembranous colitis due to antibiotics given because of a wound infection at the amputation site, iatrogenic perforation during colonoscopy resulting in subtotal colectomy with placement of a permanent ileostomy, and eventually abdominal abscesses, which were drained and treated with penicillin.

Three months after surgery, the patient was still suffering from fever and a fluid-leaking laparotomy wound. An [^{18}F]FDG-PET/CT scan was performed to exclude an infection of the endovascular prosthesis in the left CIA (● Fig. 1, ● Fig. 2). Surprisingly, the scan showed a large fistula originating from the greater curvature of the stomach, with a branch towards the anterior abdominal wall, as well as a branch towards the descending part of the colon. There was no suspicion of involvement of the graft in the CIA or the tissue surrounding it.

[^{18}F]FDG-PET/CT is a useful clinical tool for investigating potentially infected vascular prostheses, with high diagnostic accuracy [2]. The available literature suggests better test characteristics than for CT alone [3]. Its role in fistulas is not yet well established, but is increasing [4,5]. Given its high accuracy in infectious diseases, [^{18}F]FDG-PET/CT may be assumed to have high potential for visualizing fistulas.

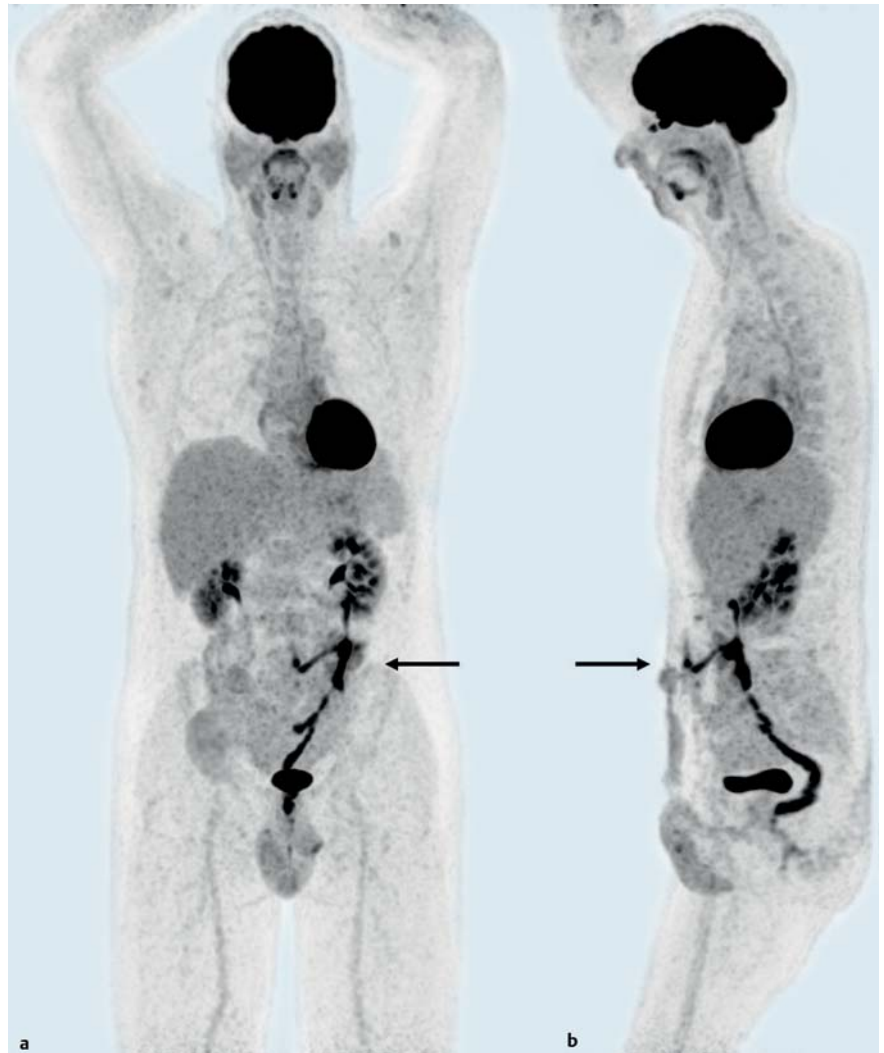


Fig. 1 [^{18}F]Fluorodeoxyglucose (^{18}F -FDG) positron emission tomography (PET) images in maximum intensity projection scaling (MIP): **a** coronal view, **b** sagittal view. Images show high tracer uptake in the lower left part of the abdomen, indicating the gastrocolocutaneous fistula. The black arrow indicates the level of the cutaneous branch. The images show physiological tracer uptake in the brain, salivary glands, myocardium, liver and spleen, kidneys, digestive tract, and the colostomy in the right lower abdomen.

Endoscopy_UCTN_Code_CPL_1AJ_2AG

Competing interests: None

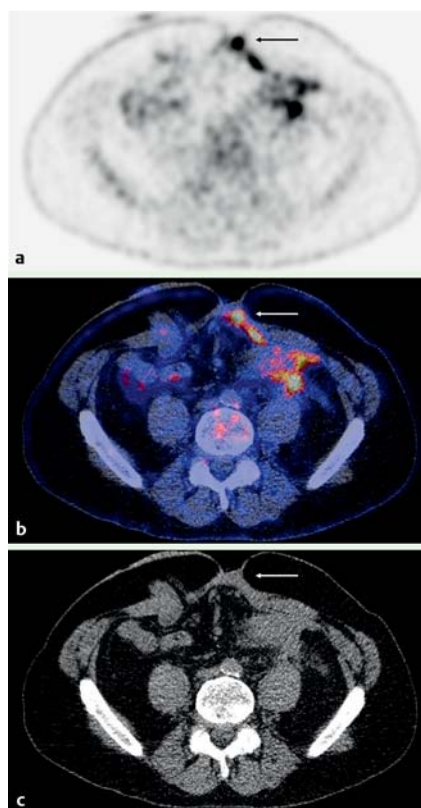


Fig. 2 Transaxial image at the level of the black arrow in **Fig. 1**. **a** Positron emission tomography (PET) image; **b** fused PET and low-dose computed tomography (CT) images; **c** low-dose CT image only, showing the cutaneous terminus of the gastrocolocutaneous fistula (arrow).

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