E-VIDEO

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Effectiveness of intra-scope channel plastic stent release in endoscopic ultrasound-guided pelvic abscess drainage

Koichi **SOGA***

* Omihachiman Community Medical Center, Department of Gastroenterology, Omihachiman, Japan.

A 68-year-old Japanese man was admitted to our hospital with severe anal pain and fever. Computed tomography revealed pelvic abscess (PA) around a rectal carcinoma. The distance between the anal verge and tumor was 45 mm. Endoscopic ultrasound-guided pelvic abscess drainage (EUS-PAD) was planned, before the operation for excision of the carcinoma. EUS-PAD was performed using a convex EUS scope (FIGURE 1) (E-VIDEO*). The abscess was punctured with a 19-gauge needle via the rectum, 40 mm from the anal verge. Two guidewires were inserted through the needle and coiled into the abscess cavity. Thereafter, two double-pigtail plastic stents (DPPS; 7-Fr, 4 and 7-cm long) were put into the abscess[1].

Since the endoscope was inserted into a narrow and short space, we anticipated that it could easily shift its position and exit the body through the rectum. To keep the endoscope in a stable position during DPPS placement, we performed the intra-scope channel stent release method as follows: 1) the inner

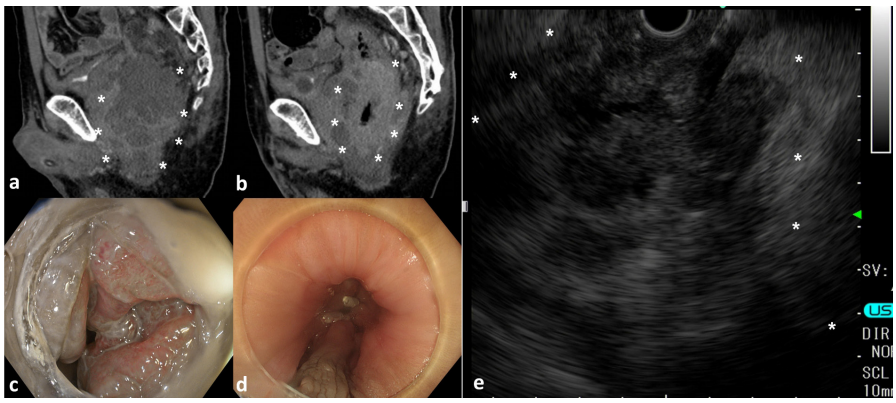

FIGURE 1. Computed tomography reveals a pelvic abscess (**A; asterisk**) around the rectal carcinoma (**B; asterisk**). Endoscopic ultrasound-guided pelvic abscess drainage (EUS-PAD) planned to avoid the tumor before the carcinoma operation, and the tumor margin is confirmed (**C**) with esophagogastroduodenoscopy and the clips placed to avoid puncture of the tumor (**D**). A pelvic abscess confirmed using EUS (**E; asterisk**).

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Corresponding author:
Koichi Soga. E-mail:
sogatti@koto.kpu-m.ac.jp

*E-VIDEO: https://youtu.be/HSBJ_x20QDA

sheath was pulled out of the DPPS, leaving only the guidewire; 2) the guidewire was pulled out, leaving only a soft tip within the DPPS, and the DPPS was pushed straight into the abscess; 3) the axis of the DPPS was changed; and 4) the DPPS was pushed and released to bend (FIGURE 2). After DPPS insertion, a large amount of purulent material started to drain into the colon (FIGURE 3). This procedure was performed safely without complications (E-VIDEO). The patient was able to safely undergo laparoscopic rectum amputation operation for rectal cancer as scheduled after the PA had steadily healed. The surgical specimen had a negative radial margin.

Rectal cancer with PA formation requires local control by adequate preoperative drainage and resection, with proper selection of the drainage route, prior to radical surgery[2]. Percutaneous drainage through the perineum can cause dissemination of tumor cells, thereby encouraging local recurrence[3]. Conversely, transrectal drainage prevents dissemination within the shortest distance to the abscess and uses a less invasive procedure[4].

In the present case, a lower rectal carcinoma with abscess formation was resected en bloc, including the abscess and drainage route, at the time of radical resection. We are of the opinion that the EUS--PAD procedure is an effective procedure for control of PAs associated with rectal carcinomas, and our stent-release method is an especially useful technique for carrying out the procedure in a limited space.

Authors' contribution

Koichi Soga: conceptualization, data curation, formal analysis, investigation, methodology, project administration, resources, supervision, validation, visualization, and writing the original draft. Review and editing.

Orcid

Koichi Soga: 0000-0003-2916-2268.

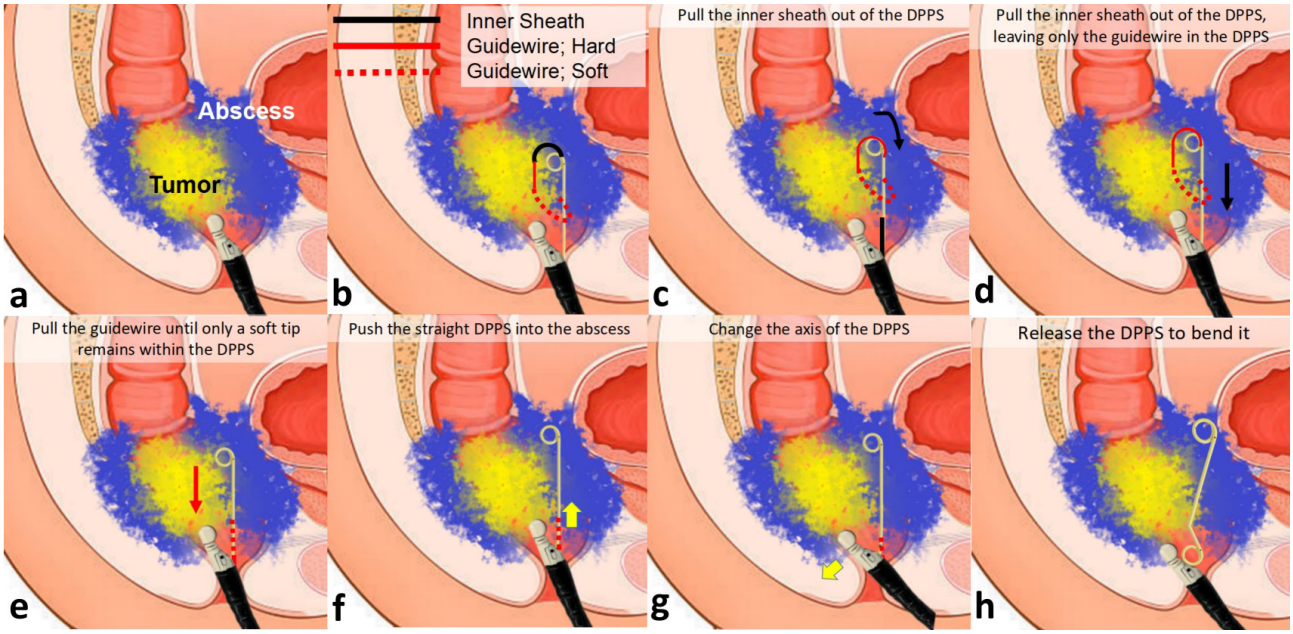

FIGURE 2. Schema of the intra-scope channel plastic stent release in endoscopic ultrasound-guided pelvic abscess drainage (EUS-PAD).
The patient presented with a pelvic abscess around a rectal carcinoma (**a**). EUS-PAD was performed using a convex EUS scope to avoid direct puncture of the tumor (**b**).
The intra-scope channel stent release method is as follows: 1) pull the inner sheath out of the double-pigtail plastic stent (DPPS) (**c**), leave only the guidewire in the DPPS; (**d**). 2) pull the guidewire until only a soft tip remains within the DPPS (**e**); push the straight DPPS into the abscess (**f**), then change the axis of the DPPS (**g**); and 3) release the DPPS to bend it (**h**).

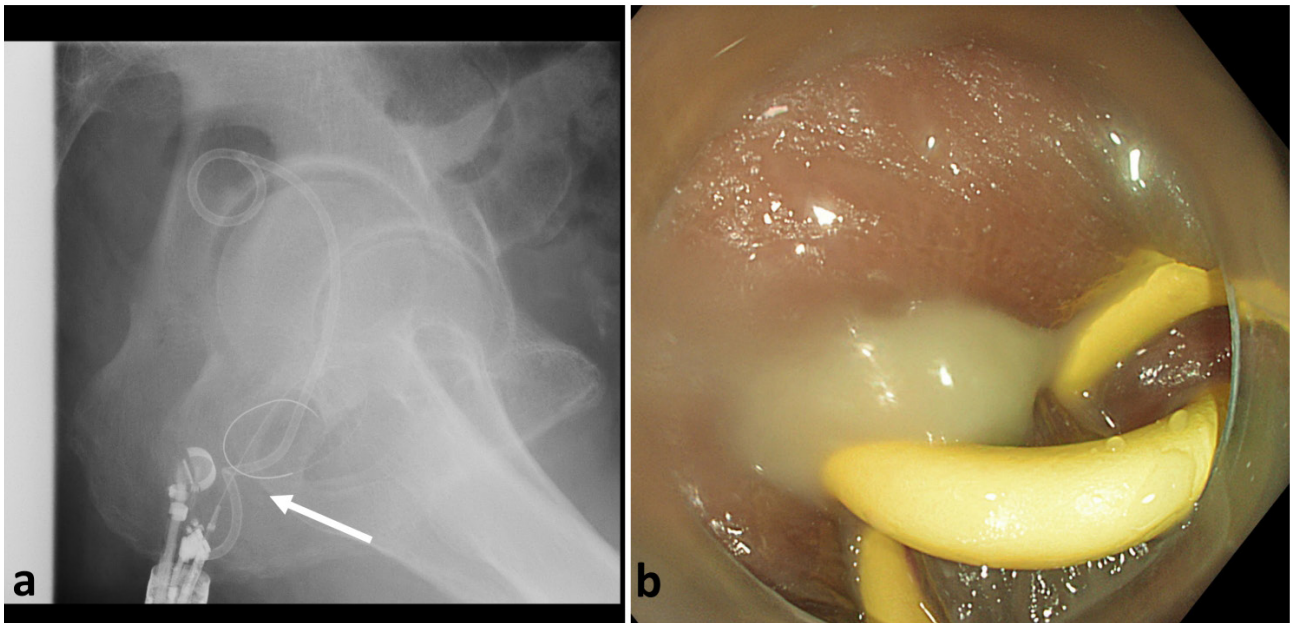

FIGURE 3. Fluoroscopic images show that the double-pigtail plastic stent (DPPS) was bent and released (**a; arrow**). After insertion of the DPPSs, a large amount of purulent material drains into the colon (**b**).

Soga K. Eficácia da liberação de stent plástico intra-canal em drenagem endoscópica guiada por ultra-som do abscesso pélvico. Arq Gastroenterol. 2023;60(1):155-7.

Keywords – Abscess; endoscopic ultrasound; pelvic abscess drainage; plastic stent; rectal carcinoma.

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