A new suturing procedure for closure of a gastrocutaneous fistula

Gastrostomy is a useful technique for feeding patients. Gastrostomy tubes are removed when patients recover an acceptable nutritional status and can eat again. Usually, the puncture site closes spontaneously in a short time; however, in some cases, a gastrocutaneous fistula can persist and may affect the patient’s quality of life. Different closure techniques are available, such as clip placement, with or without electrochemical cautery [1], use of biological fibrin glue [2], or complex percutaneous endoscopic suturing [3]. We have developed a novel and easier suturing procedure for closure of a gastrocutaneous fistula.

A 60-year-old man was treated with chemoradiotherapy for a tumor of the tonsil. Gastrostomy feeding was planned along with this, with introduction of a feeding tube using a classical surgical procedure prior to his anticancer treatment. Enteral feeding was continued throughout his oncologic treatment and until 1 year after the end of his chemoradiotherapy, because of side effects and ongoing difficulties swallowing. As is more often the case after a surgical procedure, the puncture site did not close after removal of the tube. The resulting gastrocutaneous fistula was associated with skin irritation, pain, and therefore a poorer quality of life.

First, we unsuccessfully attempted closure with a technique that used biological fibrin glue [2]. We then offered the patient a newly developed percutaneous endoscopic suturing procedure using a double-needle gastropexy device (Fig. 1) from a gastrostomy kit (Freka-Pexat, 15 Fr; Fresenius Kabi, Bad Homburg, Germany) [4]. At endoscopy, a loop was inserted through needle 1; then a second suture thread (we used polydioxanone [PDS] plus antibacterial silk threads of diameter 1) was inserted through needle 2 and passed through this loop. As a result, by crossing the two suture threads within the one process, we were able to suture the gastric wall to the anterior abdominal wall and incorporate the fistula within the stitches. (Fig. 2; Video 1)

We did not commence the patient on a proton pump inhibitor. The stitches were removed after 3 weeks, and when he was examined 3 months later, the patient’s fistula had closed correctly and he had had no further symptoms.

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