A new method using a polyglycolic acid monolayer patch to shield the mucosal defect after endoscopic submucosal dissection

Recently, an endoscopic shielding method using polyglycolic acid (PGA) sheets (Neo-viel, Gunze Co., Kyoto, Japan) and fibrin glue (Bolheal, Kaketsuken, Kumamoto, Japan) has been reported [1, 2]. It is difficult to stretch a PGA sheet out as a monolayer during an endoscopic procedure because the sheets are very thin and their stickiness increases when wet. Therefore, in these previous reports, the mucosal defects have been covered with several strips of PGA [1, 2]. Here, we report a new method that can be used to cover a gastric mucosal defect following endoscopic submucosal dissection (ESD) with just a monolayer of PGA.

In the case illustrated, the ESD was performed for an antral gastric cancer (Fig. 1a, b). The diameter of the resulting defect was measured (Fig. 1c), and the endoscope was pulled out with the resected specimen. A patch that was shaped to fit the area of the defect was then cut from a sheet of PGA and four loops were created close to the edge of the material using absorbable suture thread at the four points of a cross (Fig. 2a). This prepared PGA patch was then picked up by passing one of the loops through the hole of a Zeoclip (Zeon Medical, Tokyo, Japan) that had been passed through the instrument channel of the endoscope (Fig. 2b).

Once the position was satisfactory, fibrin glue was injected to ensure adhesion of the patch to the defect. We have already used this method in three other cases of gastric cancer (Fig. 4). In all these cases, it was possible to completely cover the defect with a monolayer of PGA without any folds being formed. The mean additional time for this procedure was approximately 15 minutes.

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