Early Gastric Cancers

11

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Contents

Early gastric cancer (EGC) is defined as the tumor confined to mucosa or submucosa irrespective of lymph node metastasis and discriminated in terms of better long-term survival from advanced gastric cancer (AGC) which invades deeper than submucosal layer. In endoscopic finding, EGC has diverse morphologies according to depth of tumor invasion from subtle mucosal changes such as a smooth surface protrusion, shallow mucosal depression, flat mucosal discoloration, or erythematous mucosal change to marked changes such as a definitely elevated lesion with surrounding mucosal infiltration; abnormal fold convergence with clubbing, fusion, abrupt cutting, or rat-tail appearance; and depressed lesion with marked marginal elevation or irregular deep excavated ulcer. The tumor size is not the factor which can discriminate it from AGC.

EGC is divided into three types, and the type II is more divided into a–c [1–3]. Type I is a protruded lesion which mimics polyp. The height of type I lesion is more than that of the closed cups of a biopsy forceps (2.5 mm), which is a discriminating point from type IIa. Type IIa is a superficial elevated lesion no more than 2.5 mm in height. Type IIb is a flat lesion which shows a subtle irregular mucosal nodularity or discoloration. Type IIc is a superficial depressed lesion without ulcer, whereas the type III is an excavated ulcer. Mixed type can exist such as type IIa + IIc, in which the former is the major feature and the latter is the minor.

Type IIc is the most common type, and types IIa, IIb, III, and I follow.

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11.1 Type I EGC

Type I represents a protruded, polypoid lesion. The height of tumor is more than 2.5 mm, which is comparable with the height of the closed cups of biopsy forceps. Erosion or hemorrhage can be accompanied on the mucosal surface. Type I EGC is discriminated from AGC in terms of no evidence of mass effect or infiltration with wide base which suggests tumor invasion beyond submucosa (Fig. 11.1).

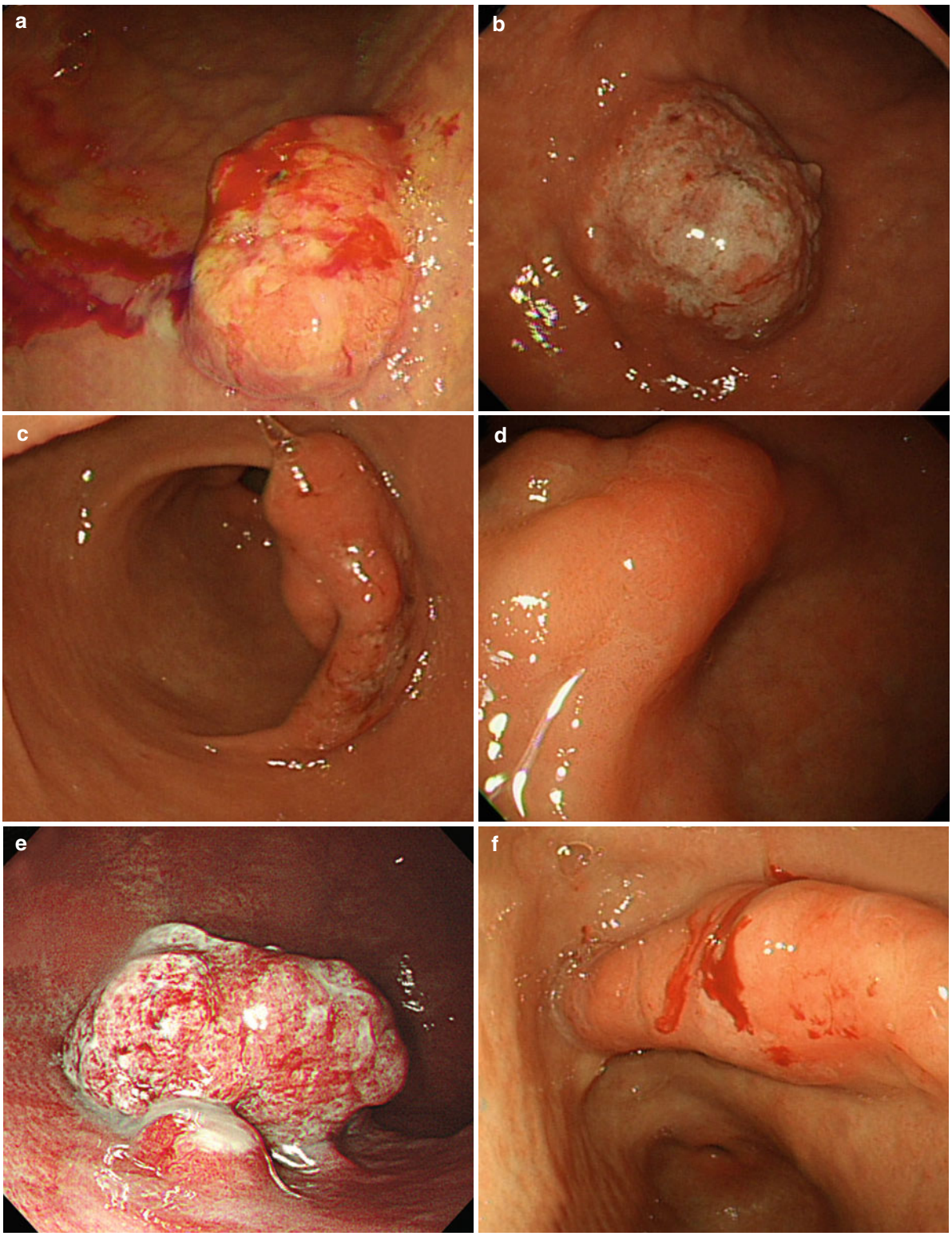


Fig. 11.1 Typical cases of type I EGC. (**a**–**f**) A protruded, polypoid lesion without a mass effect or infiltration with wide base which suggests tumor invasion beyond submucosa

11.2 Type IIa EGC

Type IIa is a superficial elevated lesion of which the height is not more than 2.5 mm. The surface is granular, friable, or hyperemic. The margin can be not distinct, and the exudate or hemorrhage can be accompanied (Fig. 11.2).

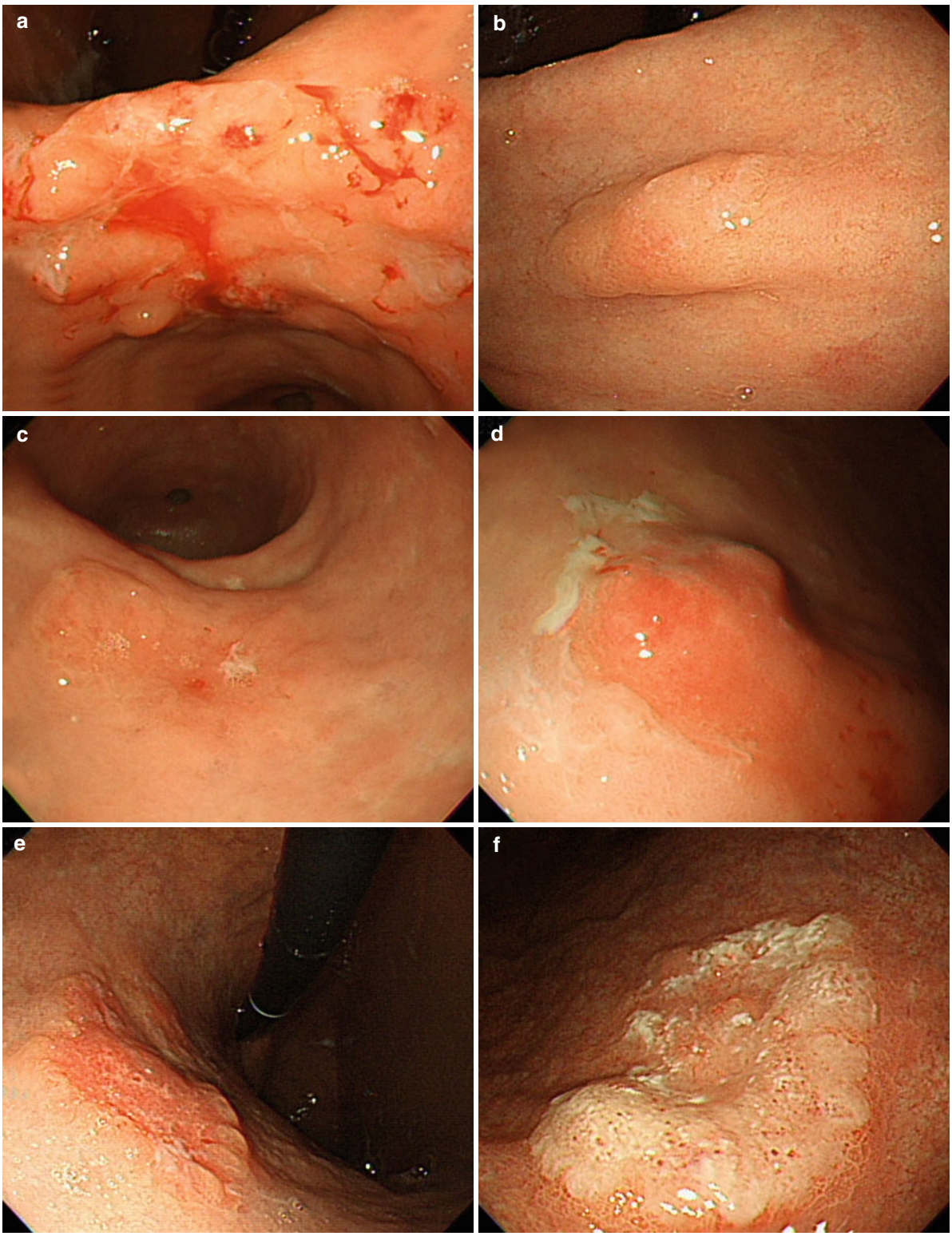


Fig. 11.2 Typical cases of type IIa EGC. (**a**–**k**) Various surface erosions or mucosal changes can be accompanied in flat elevated lesion

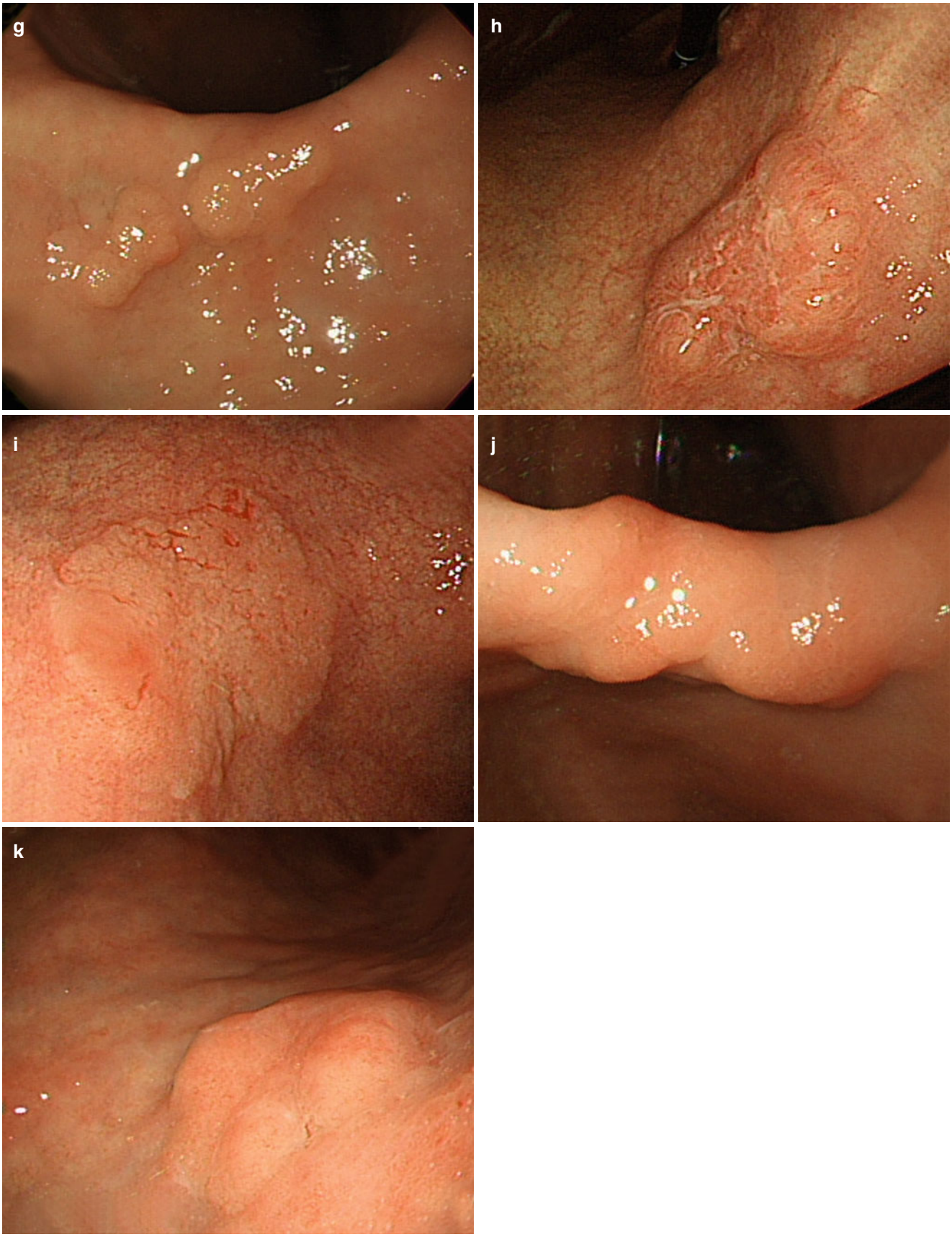


Fig. 11.2 (continued)

11.3 Type IIb EGC

Type IIb is a flat lesion without evident elevated mass or depressed ulcer. Ill-defined mucosal irregularity, subtle nodular change, irregular ulcer scar, irregular vascular ectasia, or discoloration are the major endoscopic findings (Fig. 11.3).

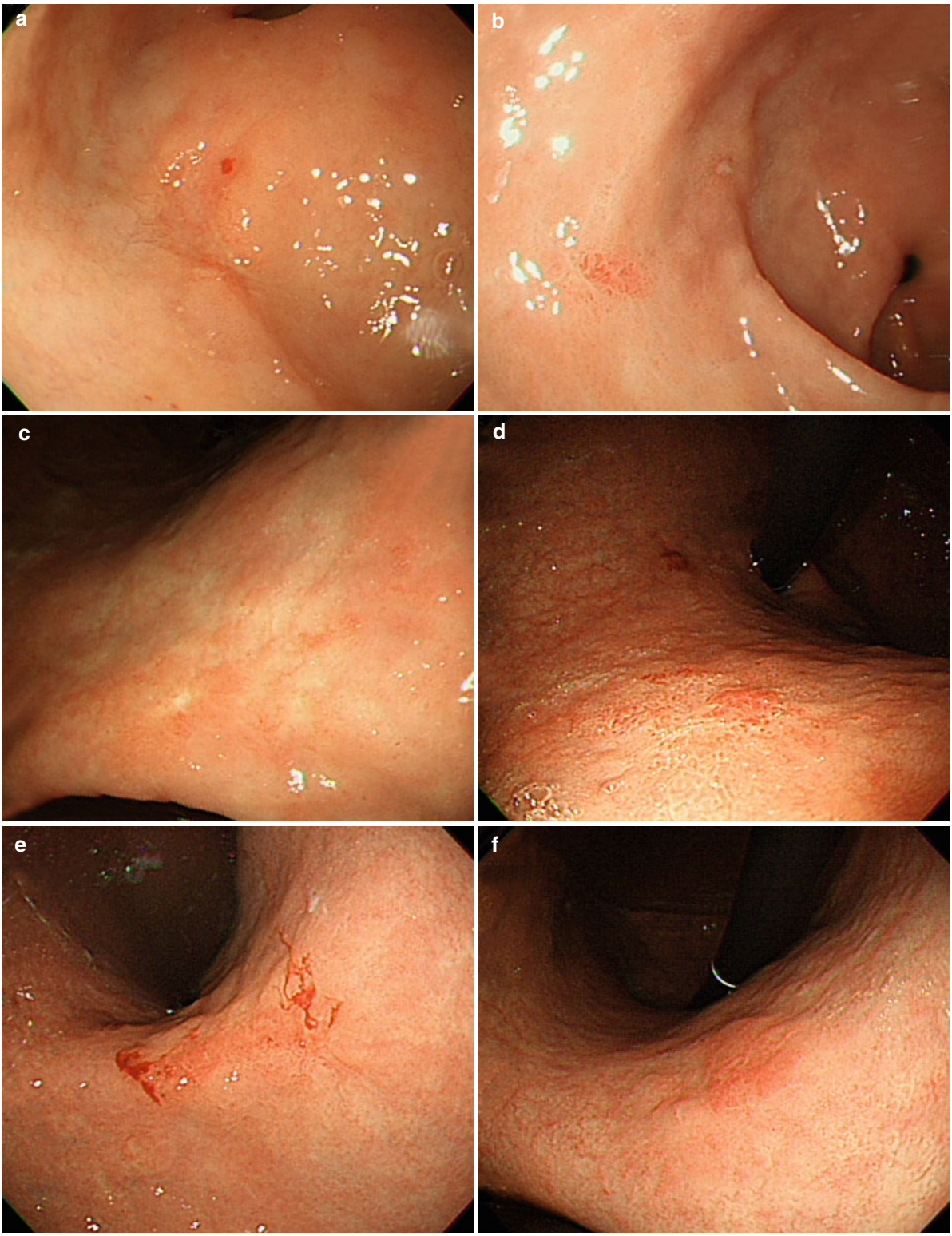
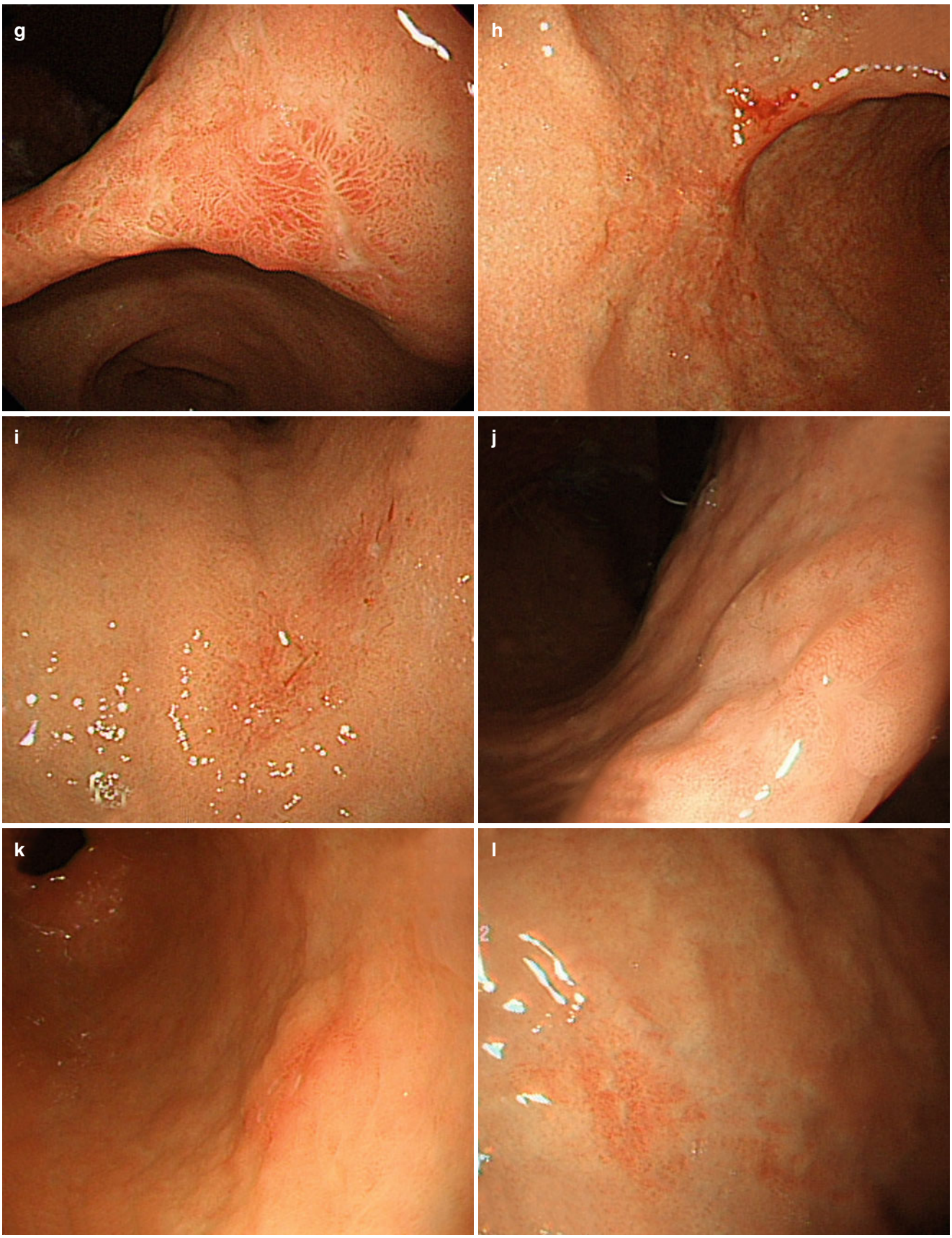


Fig. 11.3 Typical type IIb EGC. (**a**–**s**) Irregular surface granularity, scar change, hyperemia, or discoloration are the most common findings in type IIb EGC



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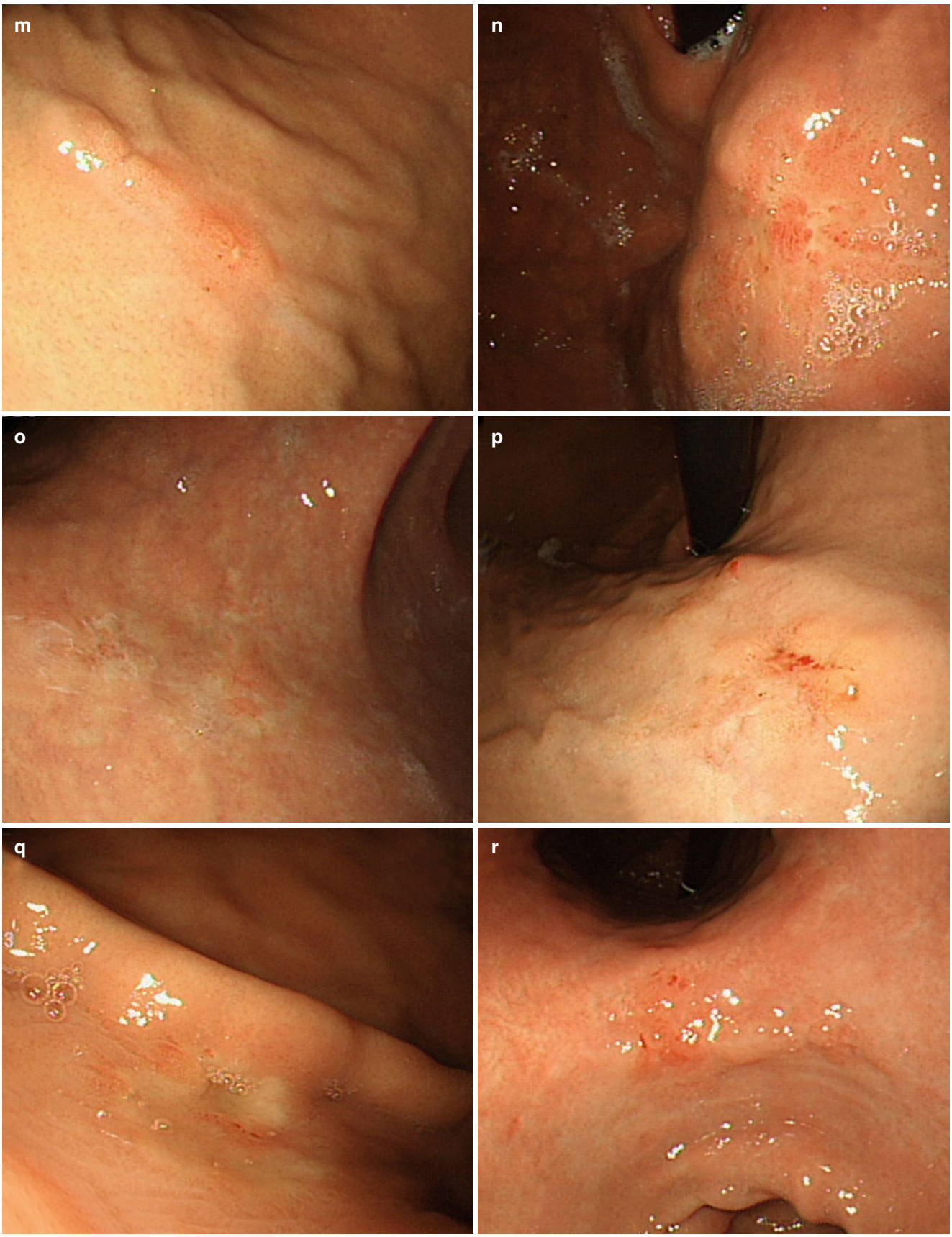


Fig. 11.3 (continued)

Fig. 11.3 (continued)

11.4 Type IIc EGC

Type IIc is the most common type in EGC and a superficial depressed lesion without ulcer. The base of the lesion is usually uneven, dirty, and covered with whitish exudates or hemorrhage. The edge and margin of the lesion are usually irregular or blurred (Figs. 11.4 and 11.5). Depressed lesion can be accompanied by converging folds, which can show abrupt cutting, clubbing, fusion, or rat-tail appearance (Fig. 11.6).

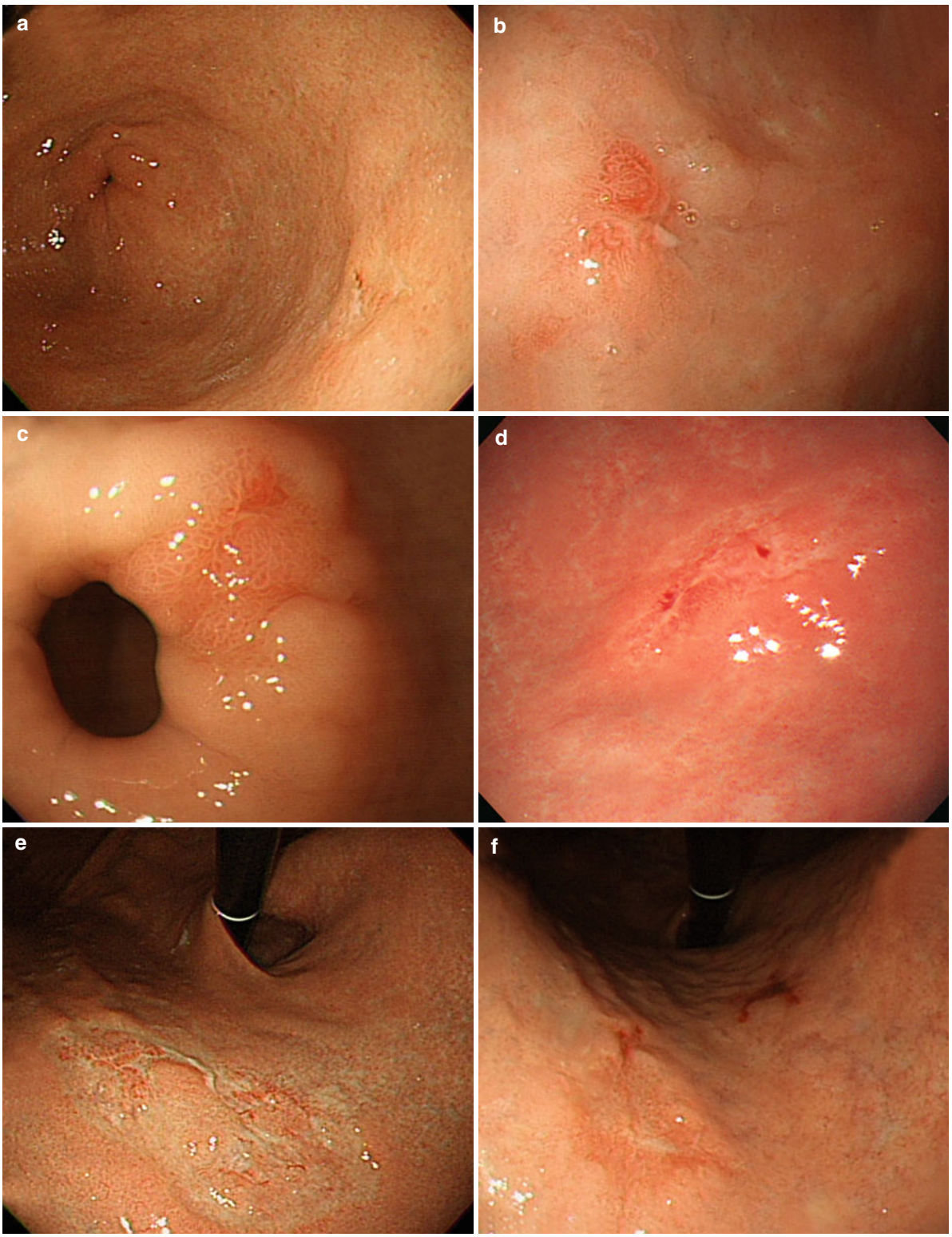
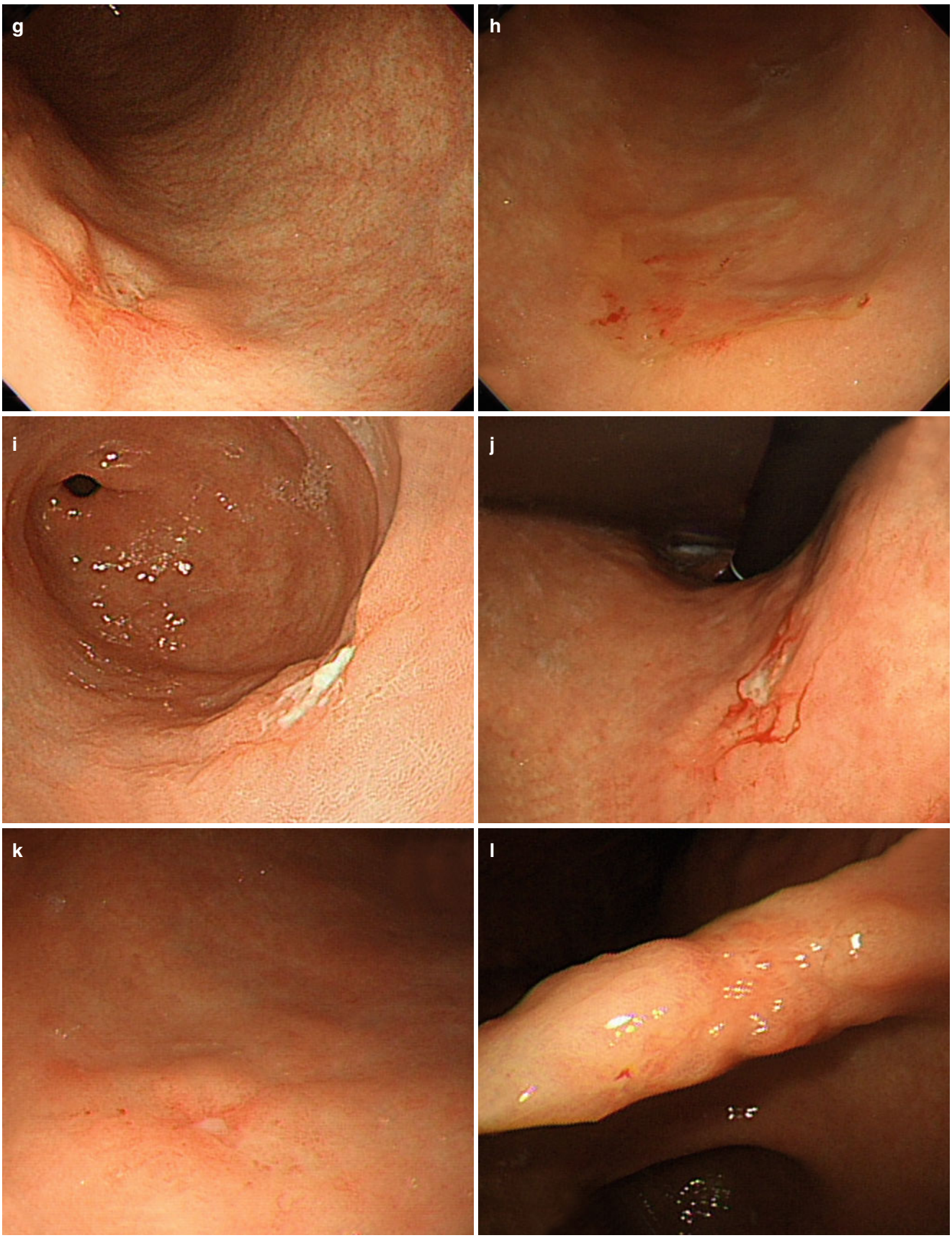


Fig. 11.4 Typical type IIc EGC confined to mucosa. (**a**–**m**) Typical endoscopic finding of mucosal cancer is a small, shallow mucosal depression without evident converging folds which suggest deep tumor invasion [4, 5]



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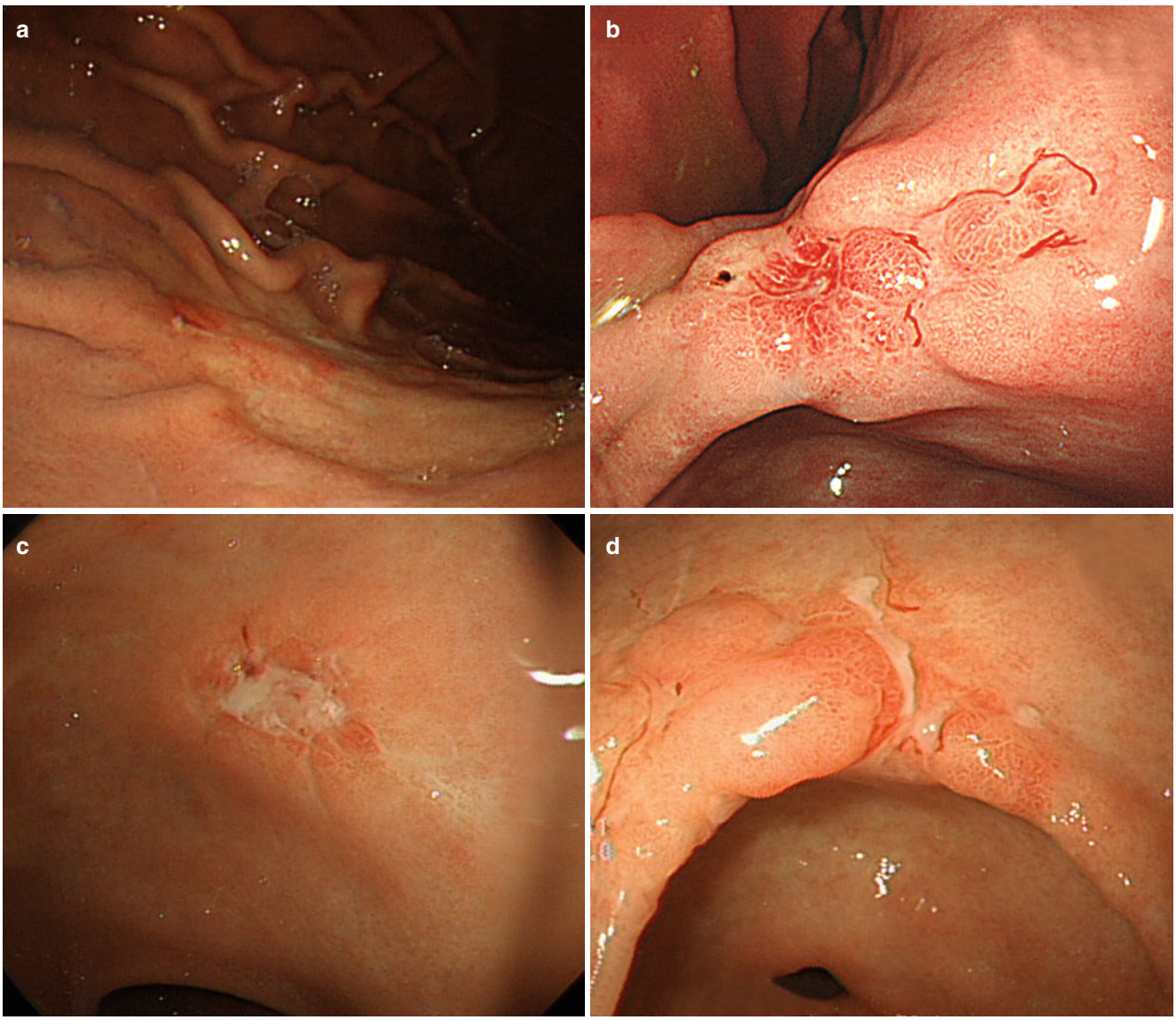
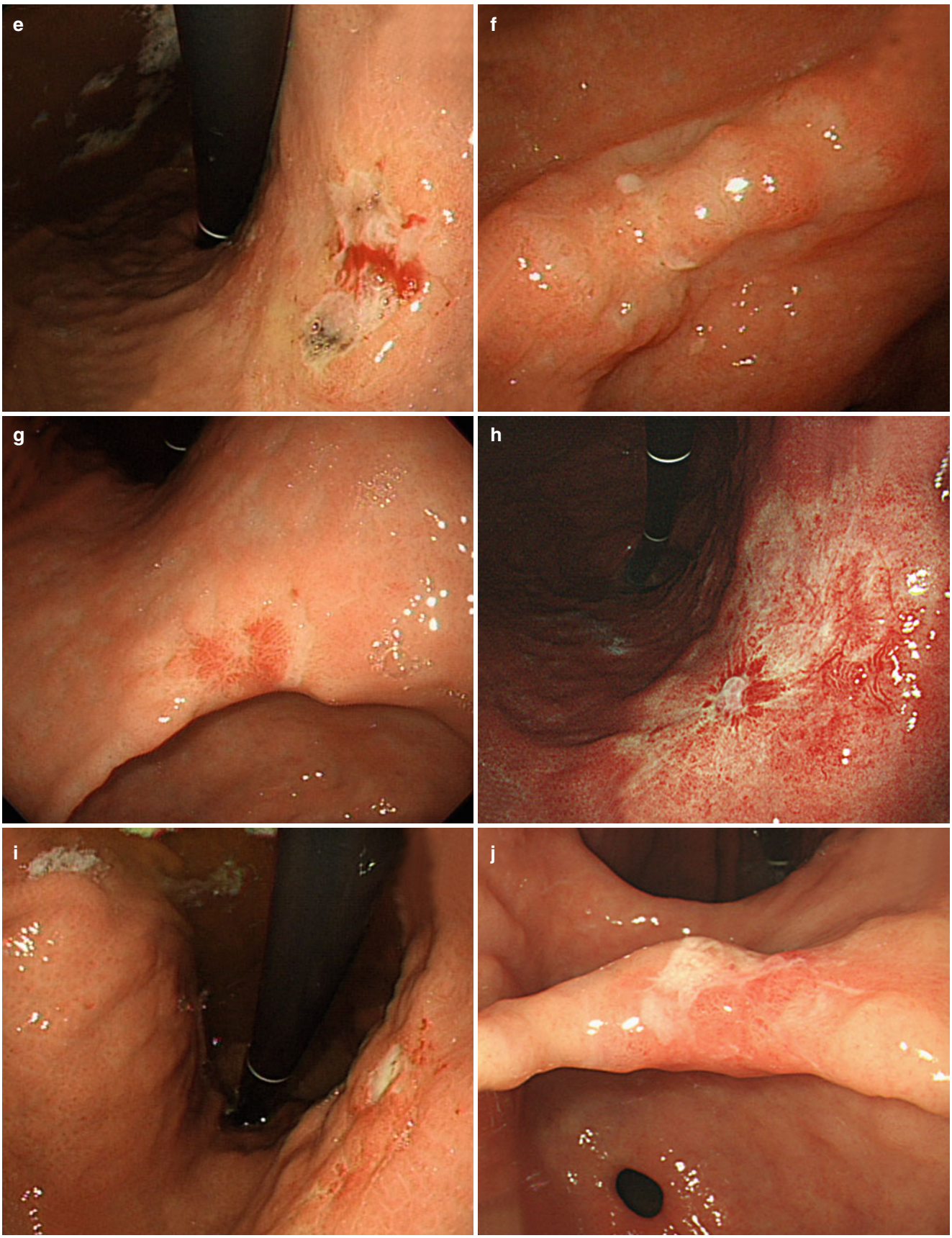


Fig. 11.5 Typical type IIc EGC which invades submucosal layer without evident abnormal fold convergences. (**a**–**u**) Typical endoscopic finding is a more depressed lesion which suggests submucosal tumor invasion without excavated ulcer



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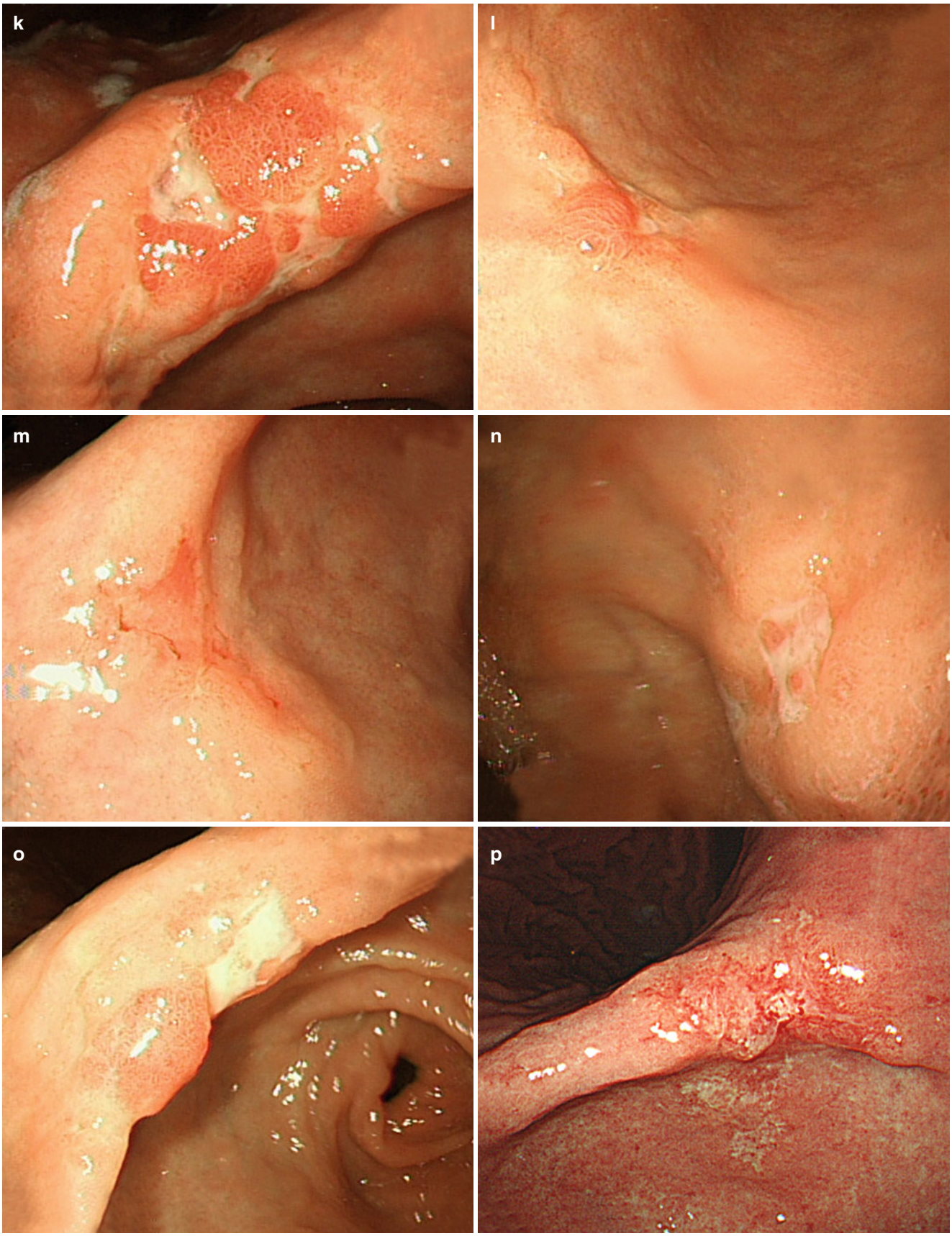

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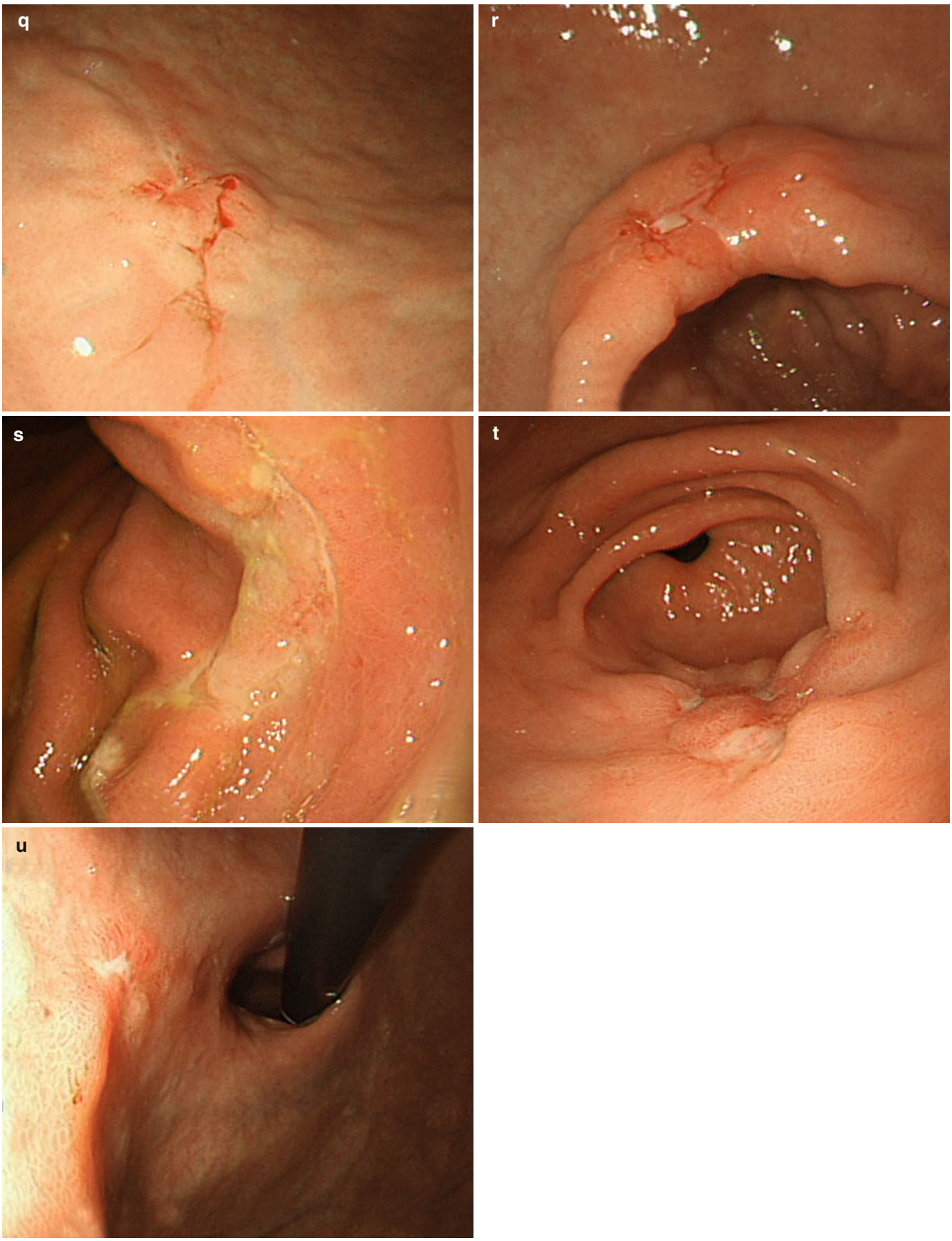

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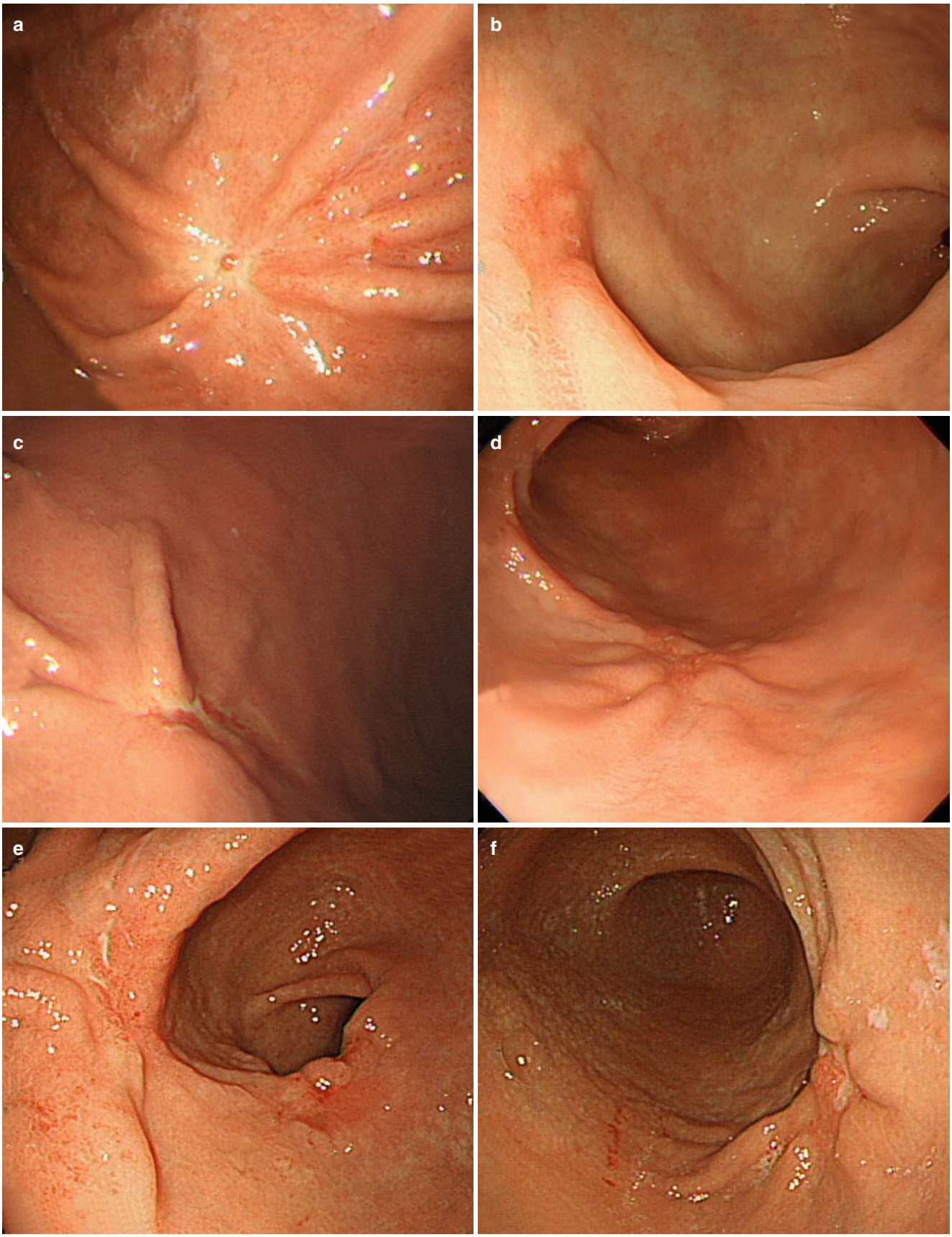

Fig. 11.6 Typical type IIc EGC which invades submucosal layer with abnormal fold convergences. (**a**–**k**) Abnormal fold convergences are clubbing, fusion, abrupt cutting, or rat-tail appearance and suggest tumor invasion into submucosal layer

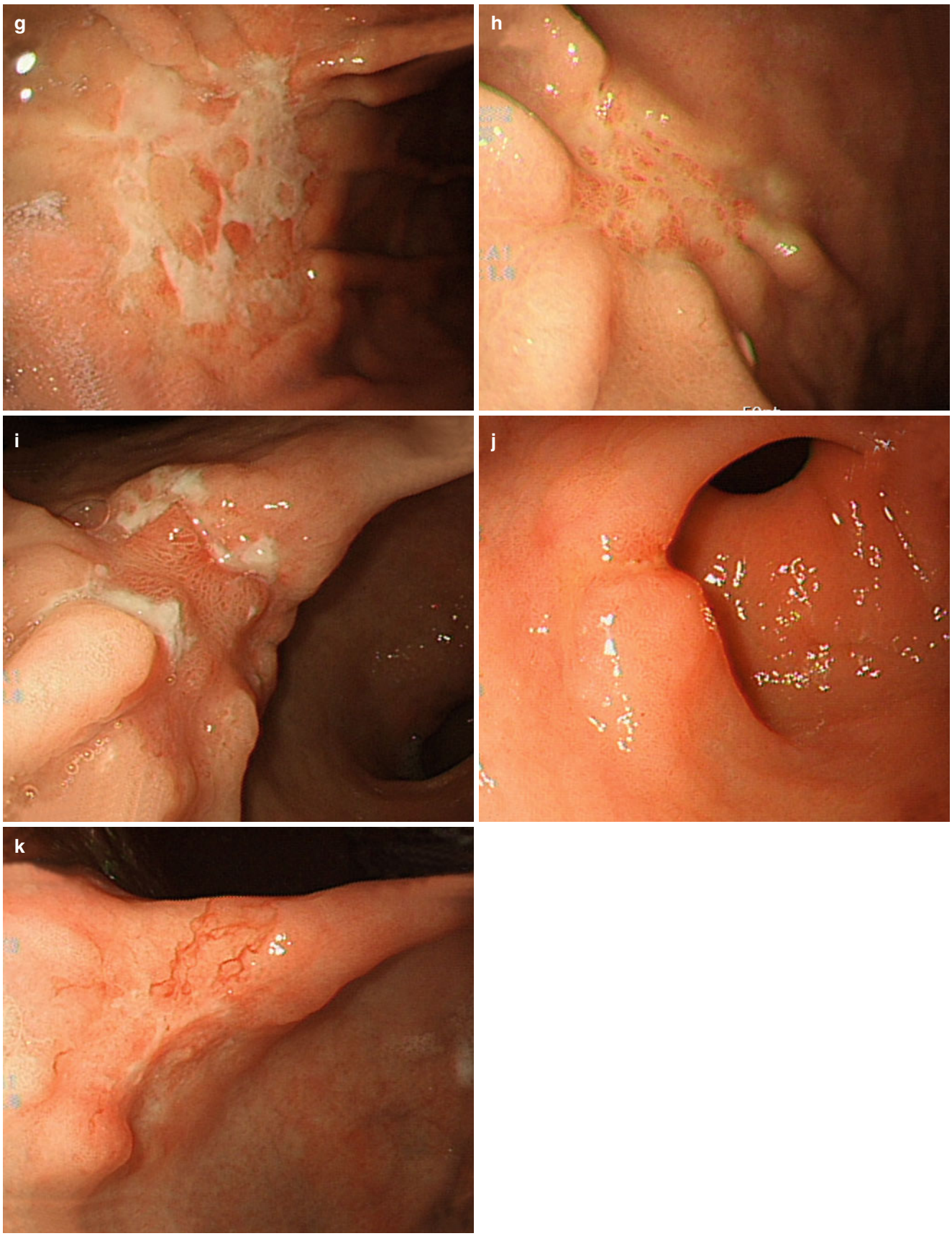

Fig. 11.6 (continued)

11.5 Type III EGC

Type III is an excavated ulcer, which usually means that the tumor extends to submucosa. The ulcer is more deep or irregular than type IIc, and the abnormal changes of converging folds are usually evident (Fig. 11.7).

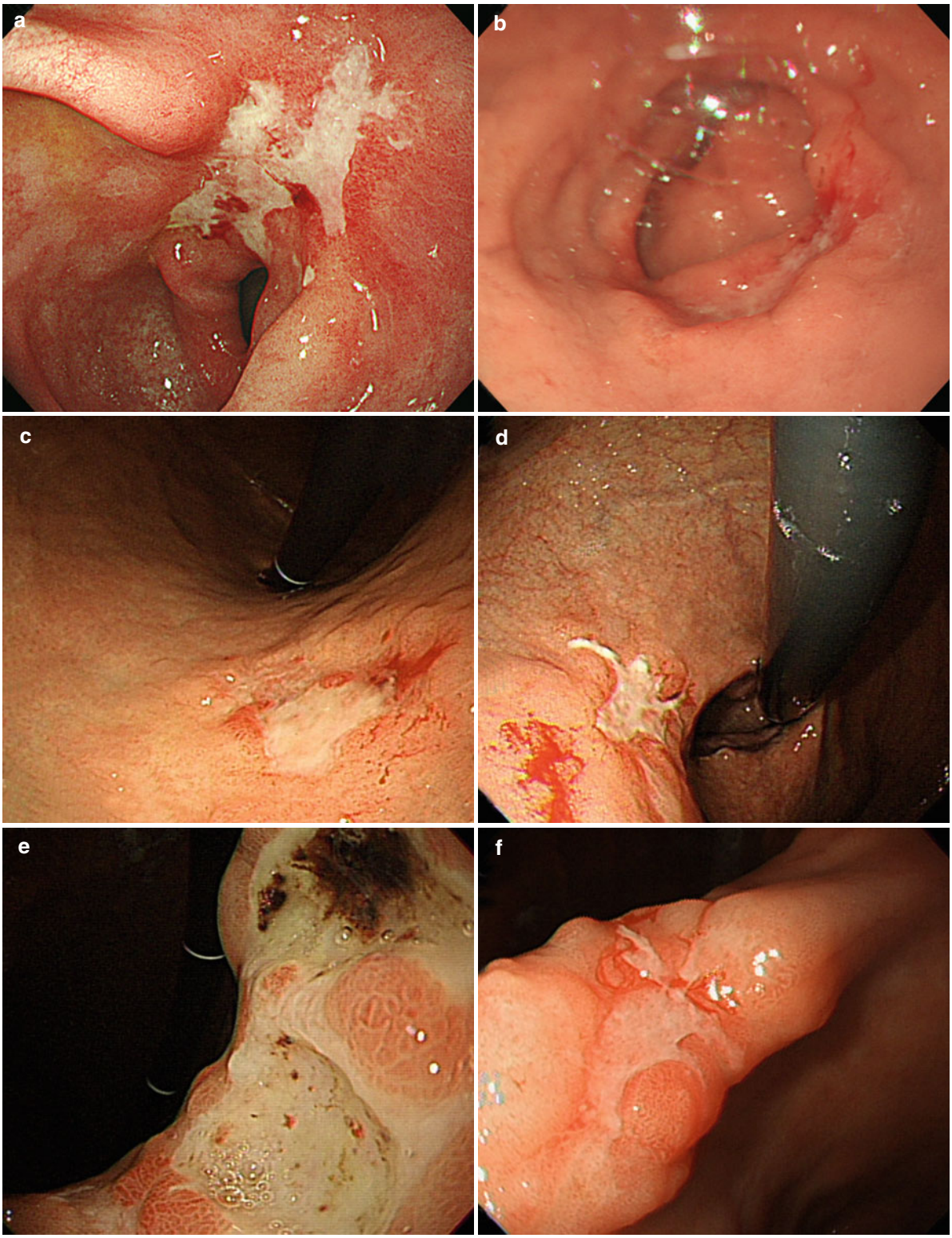

Fig. 11.7 Typical type III EGC with excavated ulcer. (**a**–**j**) Abnormal converging folds can be accompanied in the various forms of clubbing, fusion, abrupt cutting, or rat-tail appearance

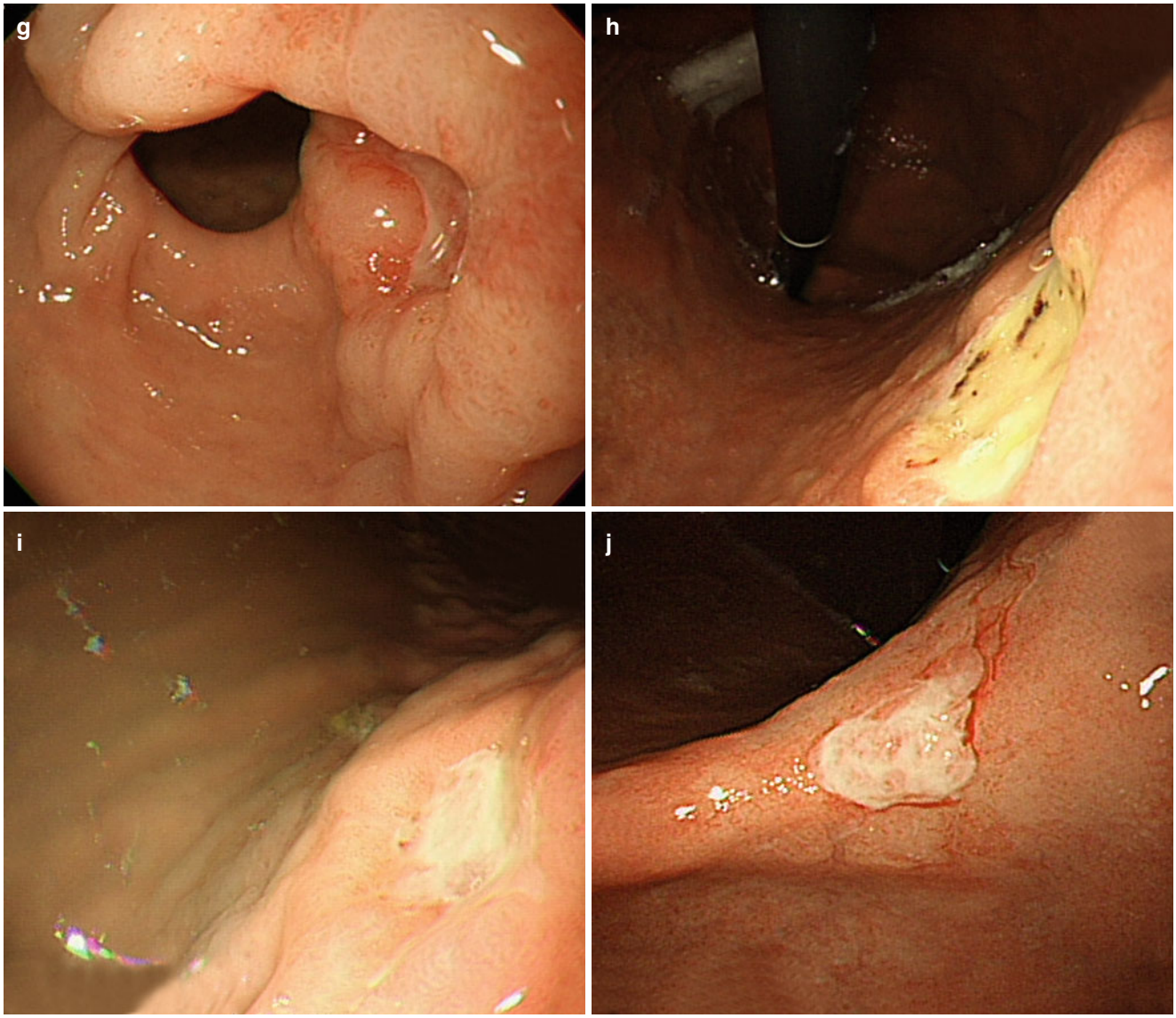

Fig. 11.7 (continued)

11.6 Mixed-Type EGC

Mixed-type EGC is a mixture of two types. The former means the major type of the lesion and the latter the minor type. A mixture of elevated and depressed type is the type IIa + IIc or IIc + IIa (Fig. 11.8). Another type is the mixture of flat and elevated or depressed type (IIb + IIa or IIb + IIc and vice versa) (Fig. 11.9). Shallow depressed lesions can be accompanied by central deep ulcers (type IIc + III).

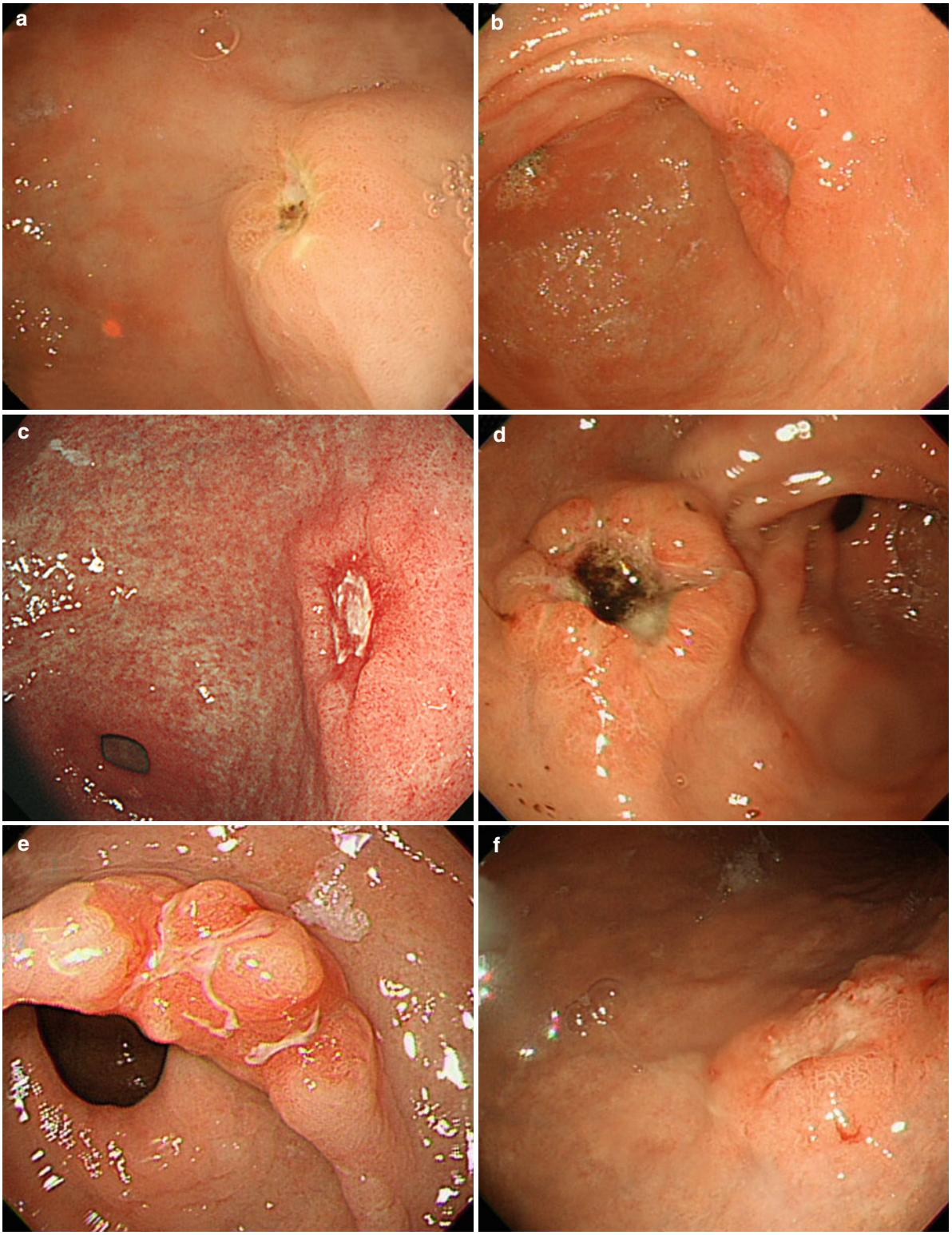

Fig. 11.8 (**a**–**i**) Mixed types of elevated and depressed lesion

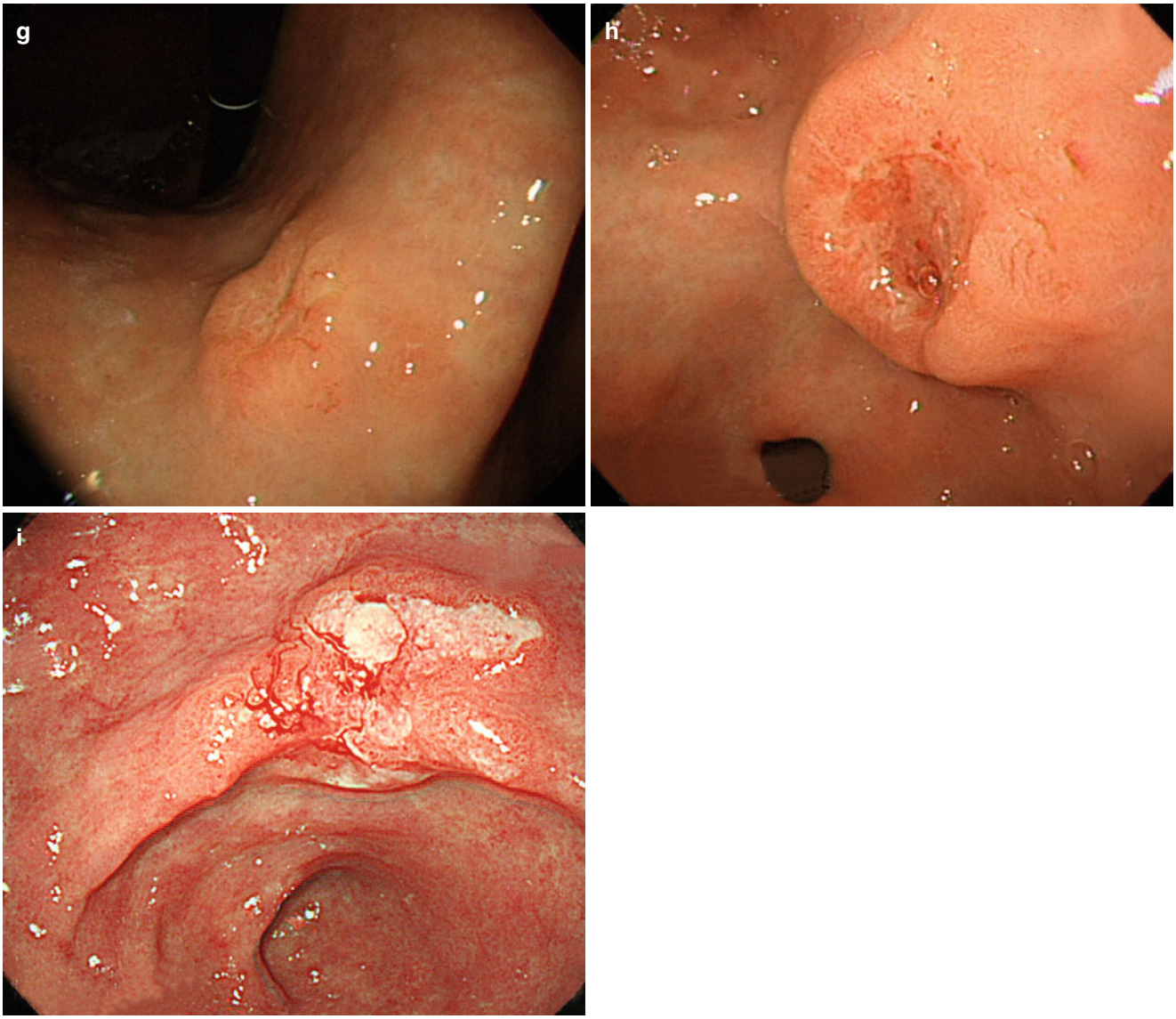

Fig. 11.8 (continued)

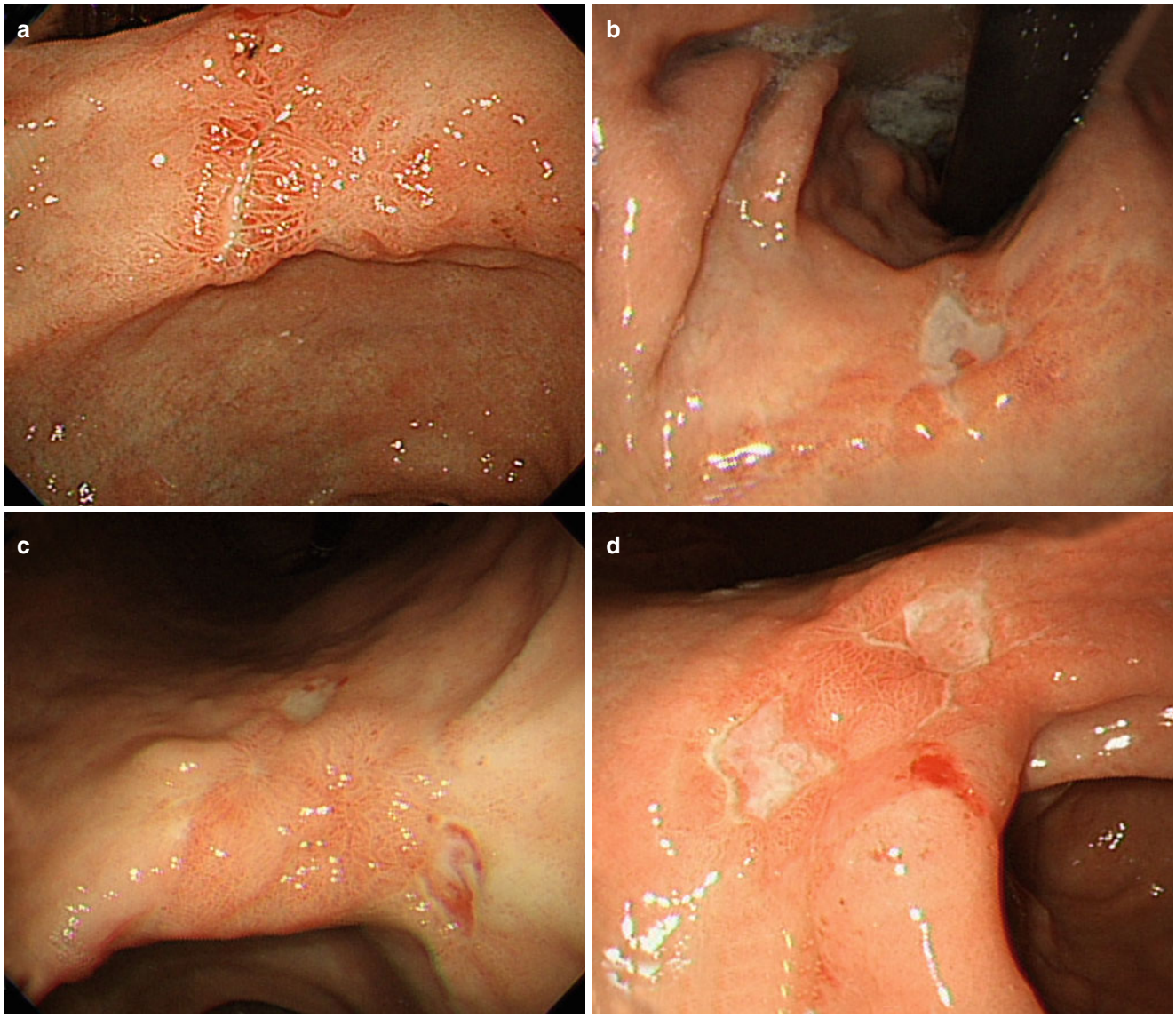

Fig. 11.9 (**a**–**d**) Mixed types of flat or depressed lesions

11.7 AGC-Like EGC

Although huge polypoid mass with wide base usually invades over submucosal layer, the mass with stalk or short neck can be confined to mucosa or submucosa (Fig. 11.10). In depressed lesion, deep ulcerative finding usually means the tumor invasion over submucosa, but in some proportions, the tumor cells may be necrotized in ulcer base in lack of sufficient vascular supply and only exist around the margin of the lesion which is confined to mucosa or submucosa.

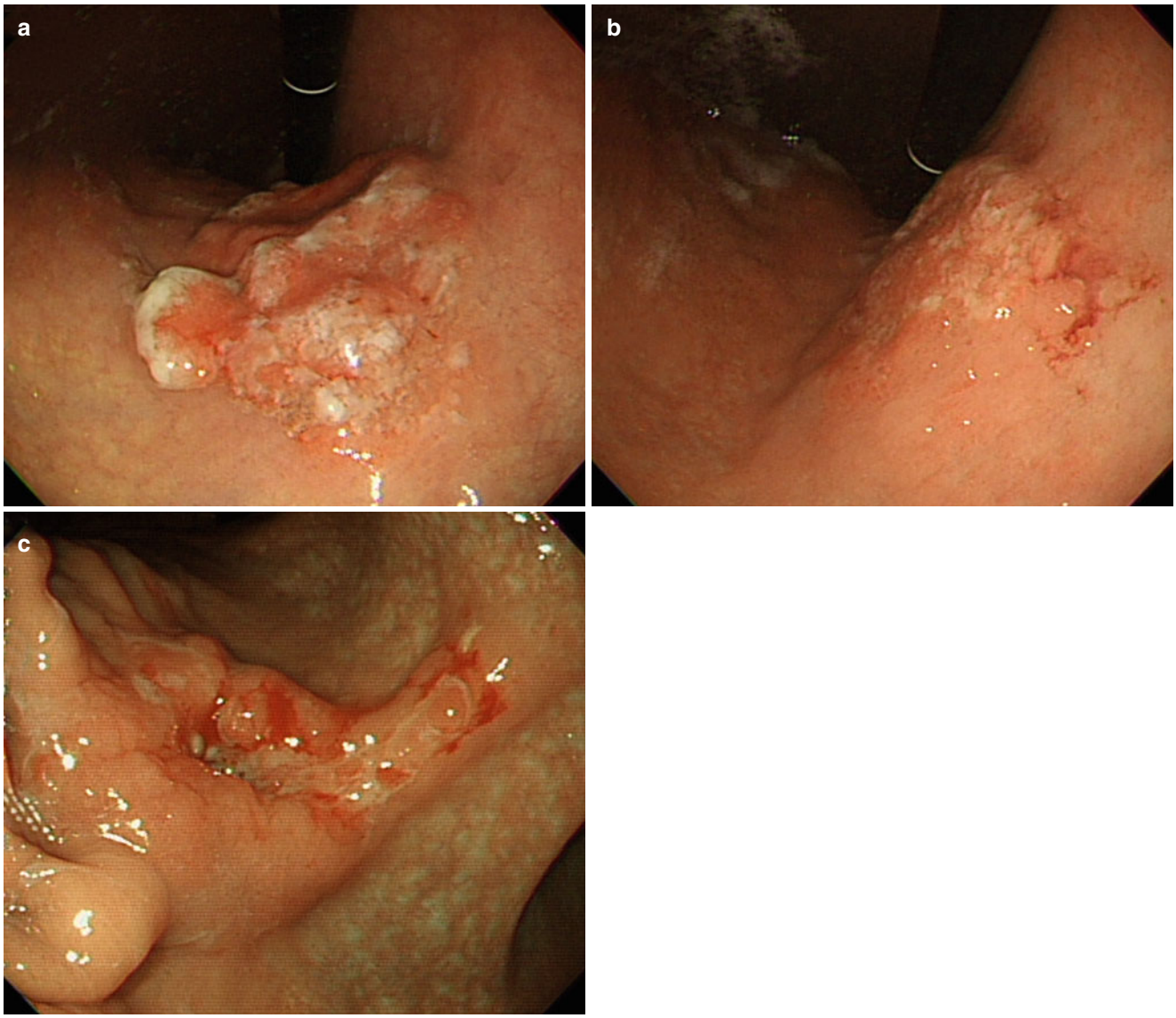

Fig. 11.10 (**a**–**c**) AGC-like EGC showing elevated mass and excavated ulcer

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