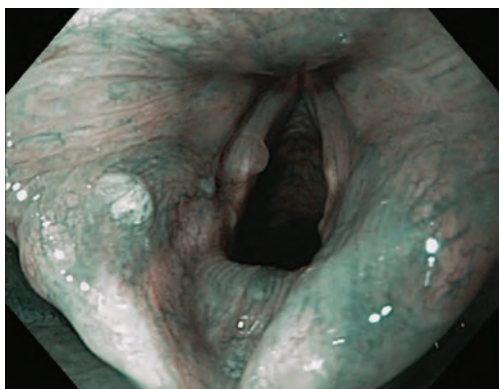


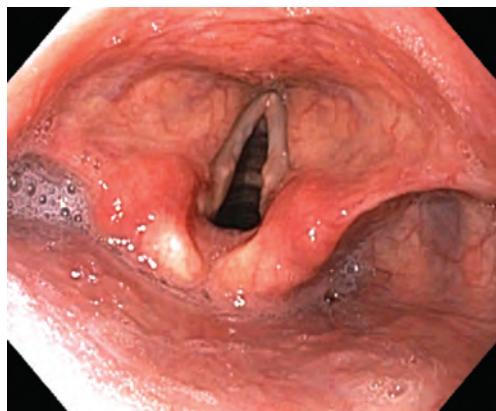
**Figure 11.1** High resolution white light image of normal vocal cords (NYU School of Medicine).



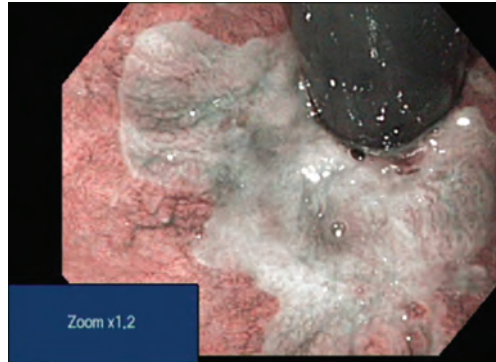
**Figure 11.2** Small nodule on arytenoid and cyst on vocal cord (Erasmus University Hospital).



**Figure 11.3** Small nodule on arytenoid and cyst on vocal cord seen more easily on NBI low-magnification view (Erasmus University Hospital).



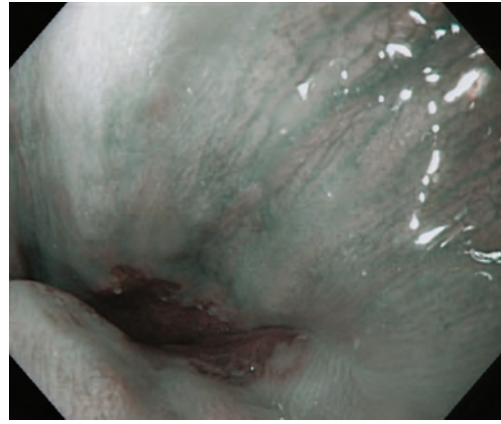
**Figure 11.4** This white light HRE clearly shows erythema of the aryepiglottic folds in this patient with endoscopically confirmed active GERD and throat clearing (NYU School of Medicine).



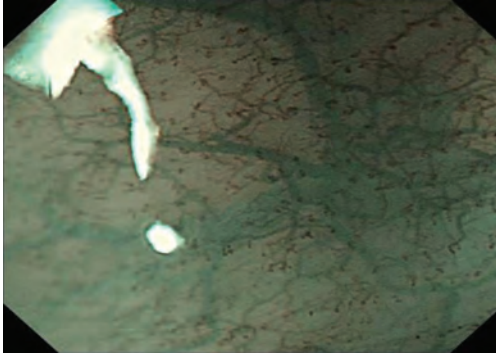
**Figure 11.5** Turnaround view highlights normal stratified squamous mucosa of the distal esophagus well delineated on NBI magnification view (Institute Arnault Tzanck).



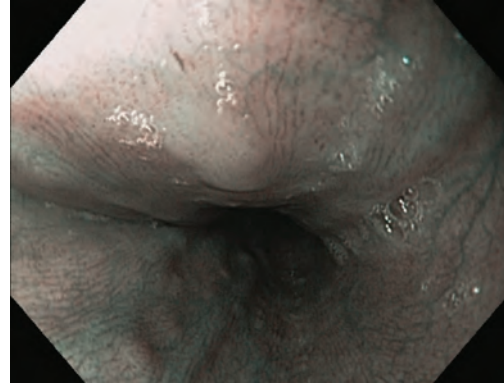
**Figure 11.6** Palisade vessels in normal esophageal mucosa, important to the localization of the top of the gastric folds (Catholic University of the Sacred Heart).



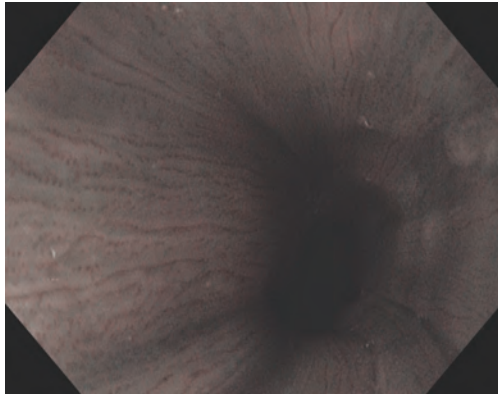
**Figure 11.7** NBI view of palisade vessels in normal distal esophageal mucosa (Catholic University of the Sacred Heart).



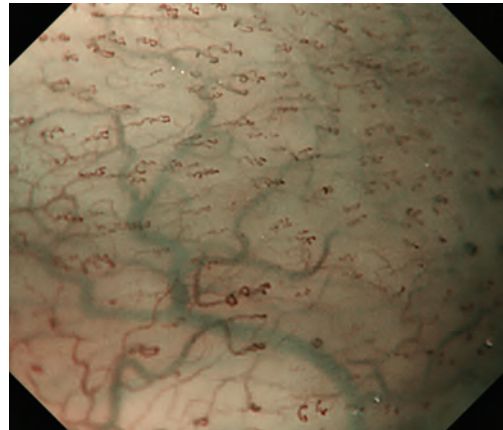
**Figure 11.8** Type I intra-epithelial papillary capillary loops (IPCL) seen under NBI low magnification view of normal esophageal mucosa. These appear here as characteristic brown dots in a "pinhair" pattern (Showa University Northern Yokohama Hospital) (Copyright H. Inoue).



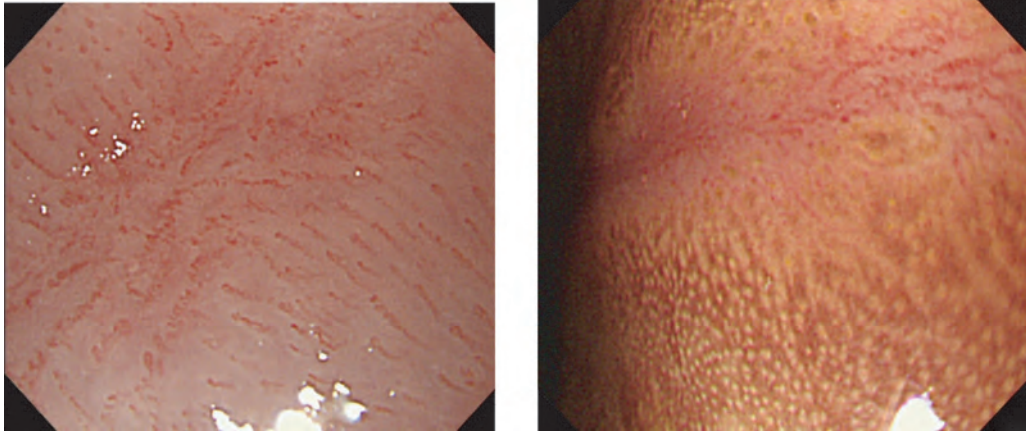
**Figure 11.9** Normal esophagus in NBI view with normal IPCL pattern to the left of the image and no visible IPCL pattern to the right (Erasmus University Hospital).



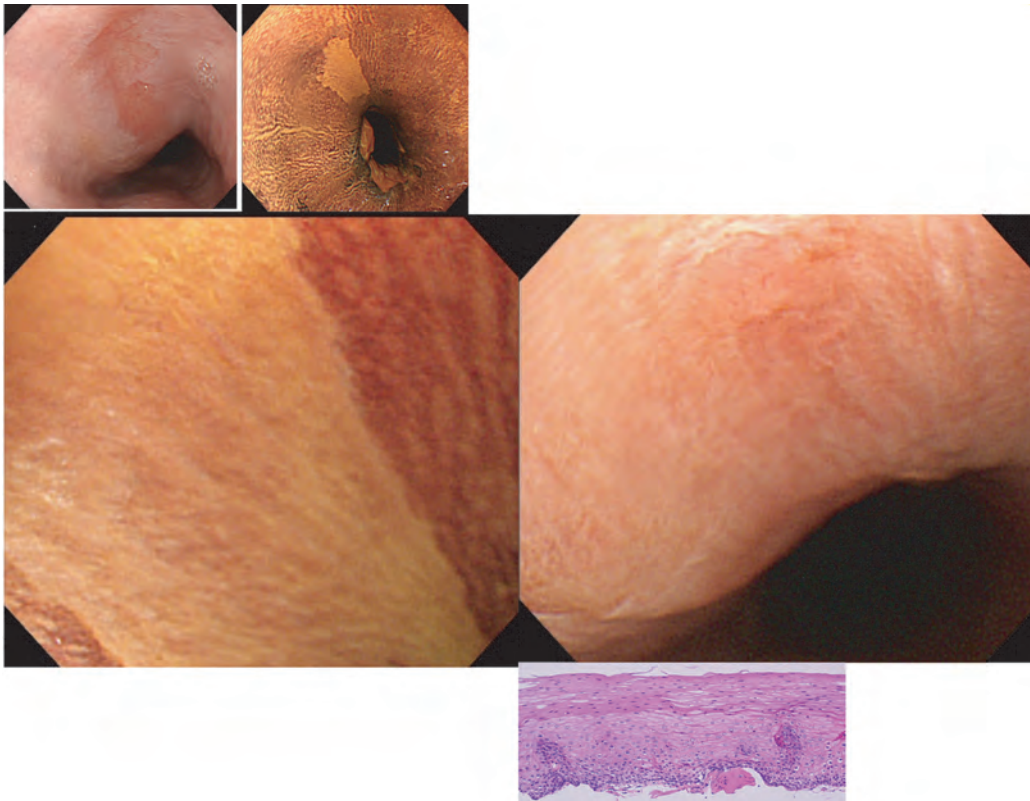
**Figure 11.10** Normal esophageal stratified squamous epithelium IPCL pinhair pattern seen as brown dots, NBI 1.5 × magnification (NYU School of Medicine).



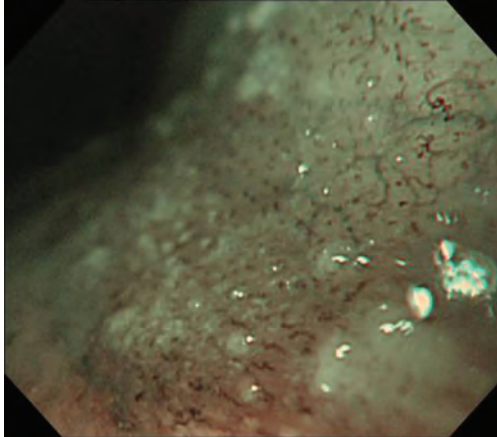
**Figure 11.11** Normal brown IPCL pattern with deeper green branching vessels below (National Cancer Center Hospital East) (Copyright M. Muto).



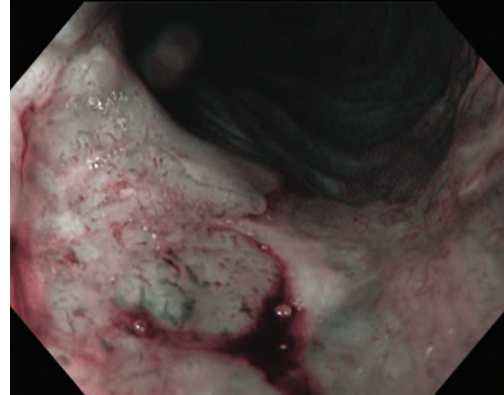
**Figure 11.12** Type 2 IPCL-GERD. Enlarged but regularly arranged IPCL is observed. (Showa University Northern Yokohama Hospital) (Copyright H. Inoue).



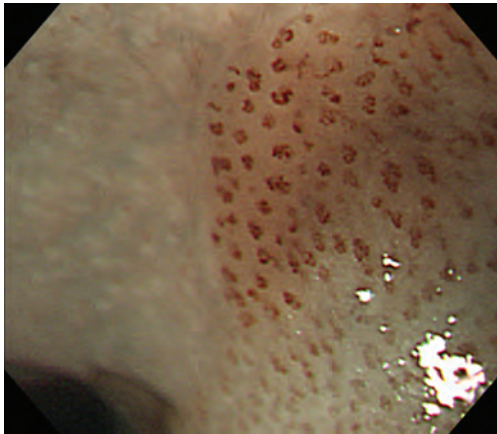
**Figure 11.13** IPCL Type III pattern present is chronic esophagitis. IPCL Type III reflects lugol-void area with no IPCL proliferation. The magnification view of the capillary pattern shows that this is a benign lesion despite the non-staining with iodine similar to squamous cell carcinoma (Showa University Northern Yokohama Hospital) (Copyright H. Inoue).



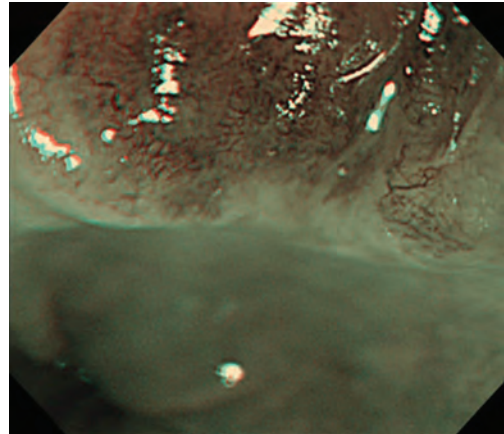
**Figure 11.14** Type IV IPCL seen on magnification NBI. IPCL Type IV reflects an area with IPCL proliferation. (Showa University Northern Yokohama Hospital) (Copyright H. Inoue).



**Figure 11.15** Irregular vessels in squamous CA, close up with HRE and NBI without zoom (University Medical Center Hamburg Eppendorf).



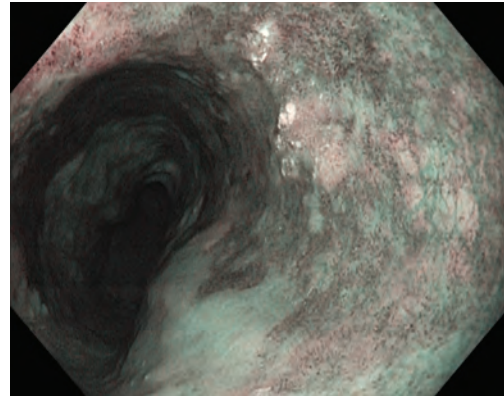
**Figure 11.16** Type V-1 IPCL seen on magnification NBI in a superficial squamous carcinoma. IPCL Type V-1 reflects an area with marked IPCL proliferation and meandering of it. Note the combination of irregular high density and thicker vessels with a sharp demarcation in this flat cancer (Showa University Northern Yokohama Hospital) (Copyright H. Inoue).



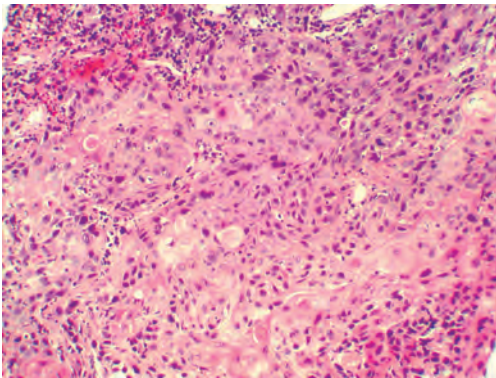
**Figure 11.17** NBI magnification view of invasive SCC as manifest by neovessel IPCL (Type VN) (Showa University Northern Yokohama Hospital) (Copyright H. Inoue).



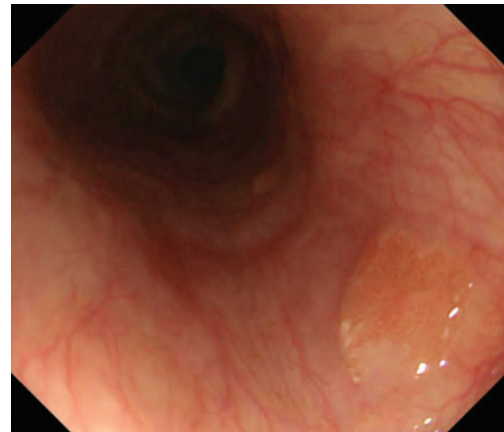
**Figure 11.18** Esophageal mucosal squamous cell carcinoma (SCC), HRE low magnification view. This appears on white light as a flat reddened area and might be mistaken for an inlet patch of ectopic gastric mucosa (see Figures 11.21–11.23) without better examination of the mucosal surface and vascular pattern with NBI and magnification (Mayo Clinic, Jacksonville).



**Figure 11.19** Esophageal mucosal NBI low-magnification view of esophageal SCC. Magnification required to really assess the vascular pattern. Dense dark vessels and irregular surface are evident, as well as demarcation from normal tissue (Mayo Clinic, Jacksonville).



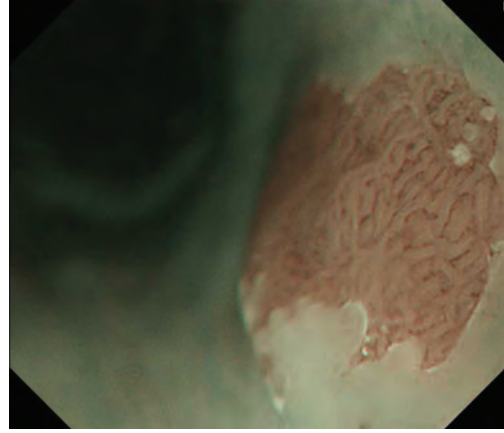
**Figure 11.20** Histologic image demonstrating SCC (corresponds to Figures 11.18 and 11.19) (Mayo Clinic, Jacksonville).



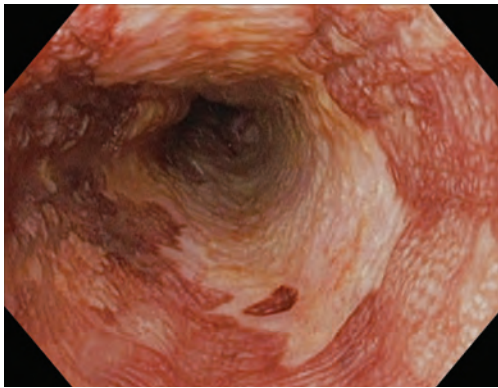
**Figure 11.21** This small proximal reddish lesion may raise a concern for esophageal SCC (corresponds to Figures 11.22–11.23) (National Cancer Center Hospital East) (Copyright M. Muto).



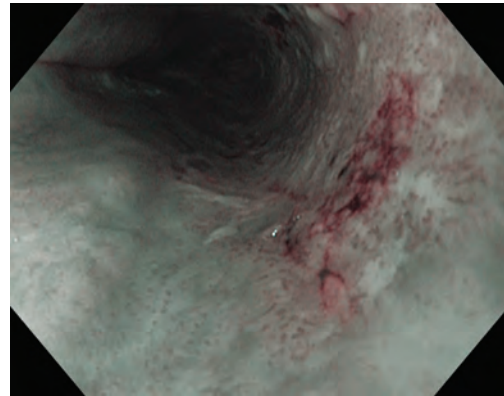
**Figure 11.22** Ectopic gastric mucosa which still does not stain by iodine solution, similar to a SCC (corresponds to Figures 11.21 and 11.23) (National Cancer Center Hospital East) (Copyright M. Muto).



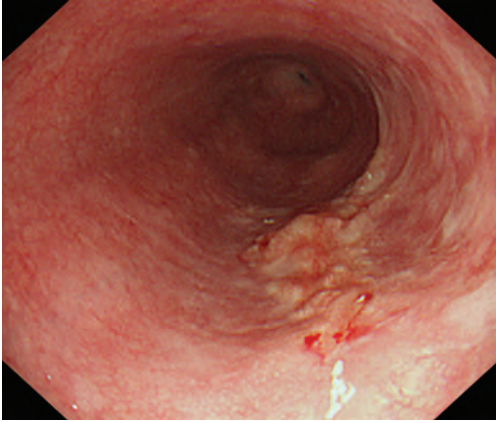
**Figure 11.23** Magnification NBI image shows regular gastric mucosal pattern with no abnormal brown IPCLs that would be present in an SCC (National Cancer Center Hospital East) (Copyright M. Muto).



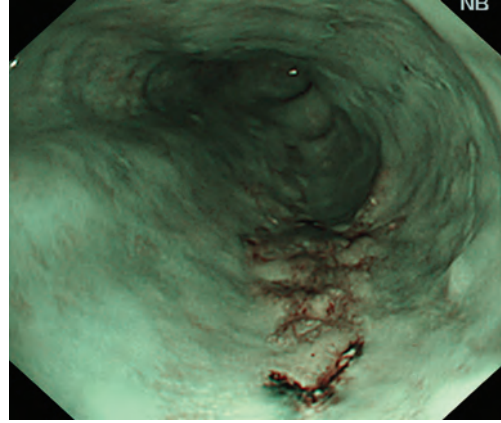
**Figure 11.24** Flat squamous CA Lugol staining under white light HRE. The margin of the lesion is distinguished easily (University Medical Center Hamburg Eppendorf).



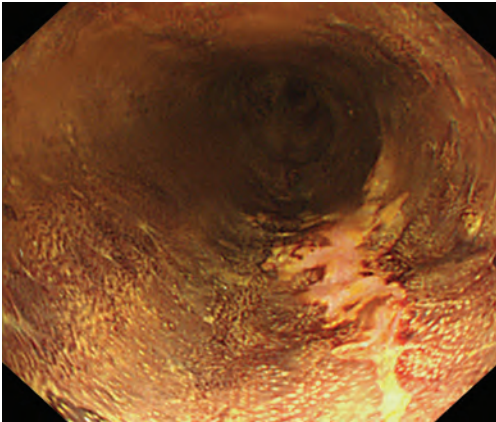
**Figure 11.25** HRE NBI image corresponding to Lugol staining. NBI adds the vascular pattern and still allows to distinguish margins (University Medical Center Hamburg Eppendorf).



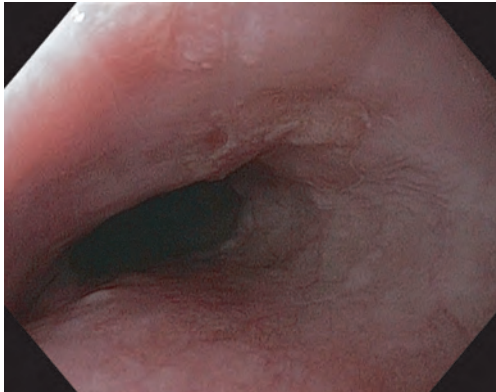
**Figure 11.26** White light magnified view of squamous cell esophageal carcinoma. Histology revealed an invasive well-differentiated SCC (University of Amsterdam).



**Figure 11.27** NBI image of this lesion prior to Lugol staining delineates margins well (University of Amsterdam).

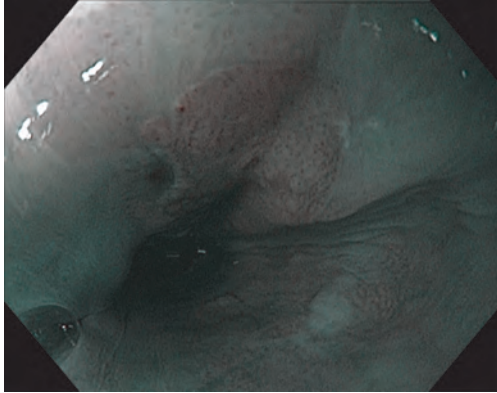


**Figure 11.28** Lugol stain shows similar outline of tumor extent to the NBI image (University of Amsterdam).

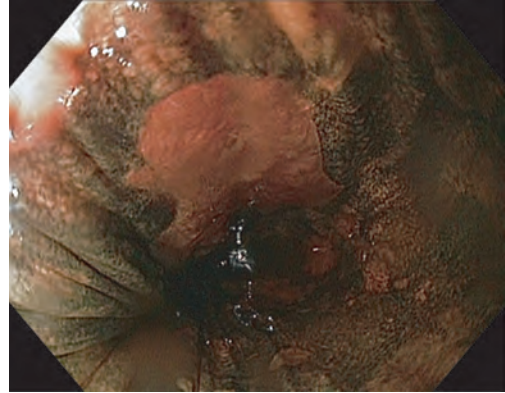


**Figure 11.29** SCC on white HRE view detected as slightly depressed, erythroplastic area (corresponds to Figures 11.30–11.32) (Edouard Herriot Hospital).

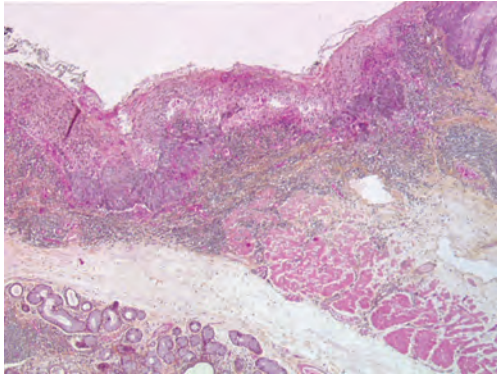




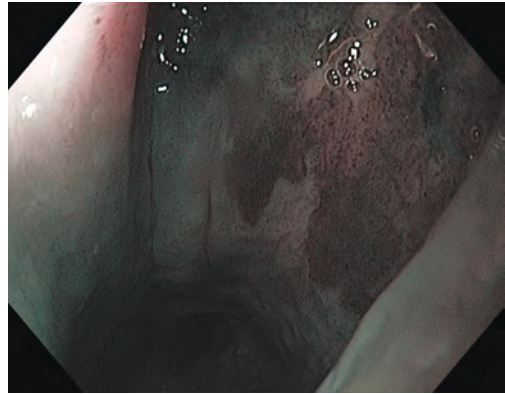
**Figure 11.30** Slightly depressed SCC: red-brown on NBI (because of hypervascularization). Note the sharp demarcation and the irregular IPCL pattern (corresponds to Figures 11.29, 11.31 and 11.32) (Edouard Herriot Hospital).



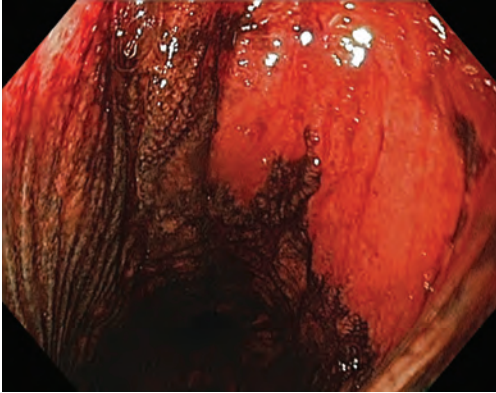
**Figure 11.31** Slightly depressed SCC: Lugol image provides similar information to the NBI view (Edouard Herriot Hospital).



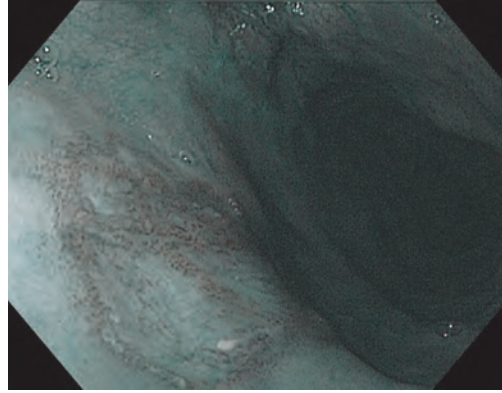
**Figure 11.32** Squamous carcinoma invades the mucosa and superficial submucosa (corresponds to Figures 11.29–11.31) (Edouard Herriot Hospital).



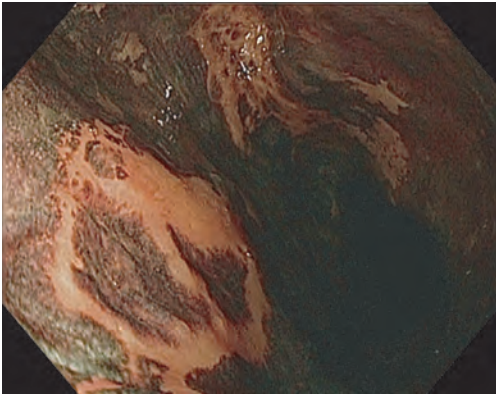
**Figure 11.33** Lower limit of a superficial SCC: good delineation of the extent of the lesion with NBI (corresponds to Figure 11.34) (Edouard Herriot Hospital).



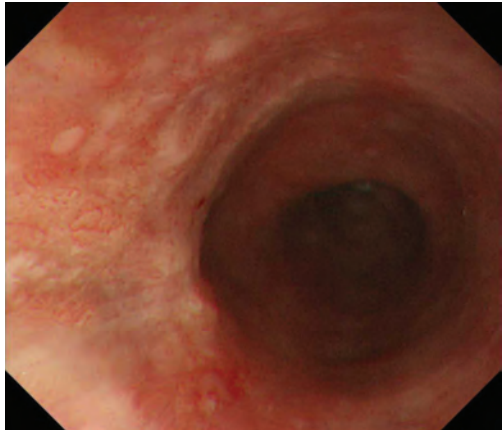
**Figure 11.34** Lower limit of a superficial SCC: Lugol staining provides the same information as NBI in this case (corresponds to Figure 11.33) (Edouard Herriot Hospital).



**Figure 11.35** NBI image reveals two lesions of superficial SCC. The abnormal IPCL pattern is evident on the proximal lesion (Edouard Herriot Hospital).



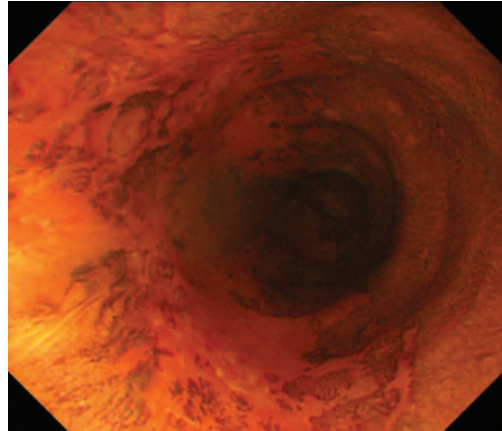
**Figure 11.36** These same two lesions of superficial SCC: Lugol (same pattern as with NBI). When iodine is used, non-staining area should be watched for transition into pink color indicative of carcinoma (corresponds to Figure 11.35) (Edouard Herriot Hospital).



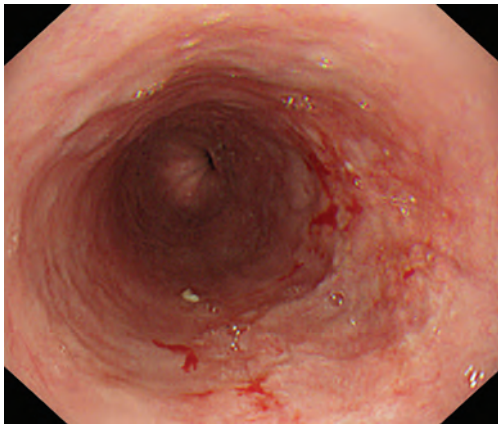
**Figure 11.37** White light non-magnified view of a superficial squamous cell carcinoma of the esophagus notable for non-specific discoloration and bumpy surface appearance (corresponds to Figures 11.38 and 11.39) (National Cancer Center Hospital East) (Copyright M. Muto).



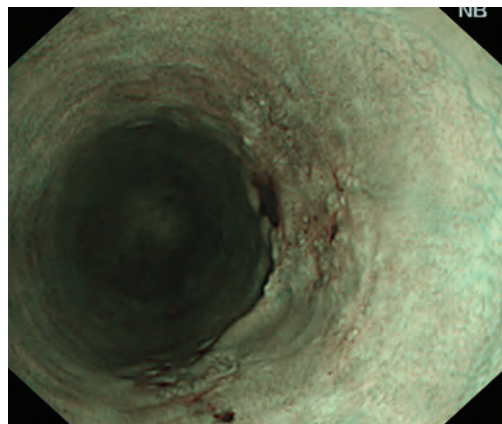
**Figure 11.38** NBI nicely delineates the margin of this SCC occupying a wide proportion of the circumference of the esophagus (corresponds to Figures 11.37 and 11.39) (National Cancer Center Hospital East) (Copyright M. Muto).



**Figure 11.39** SCC. In this case, Lugols provides similar information to NBI view in terms of margin (National Cancer Center Hospital East) (Copyright M. Muto).



**Figure 11.40** This low-magnification image of a SCC in white light HRE shows reddened area with raised contours and is easily recognized as abnormal (University of Amsterdam).



**Figure 11.41** NBI low-magnification image clearly visualizes abnormality (corresponds to Figures 11.40 and 11.42) (University of Amsterdam).