Fig. 5. *pCLE view of BE with intestinal metaplasia (nondysplastic): a – columnar cells with dark "goblet" cells, no nuclear atypia, b – columnar cells without nuclear atypia; c – histopathology examination: columnar epithelium of intestinal type with goblet cells, haematoxylin-eosin staining 40×*

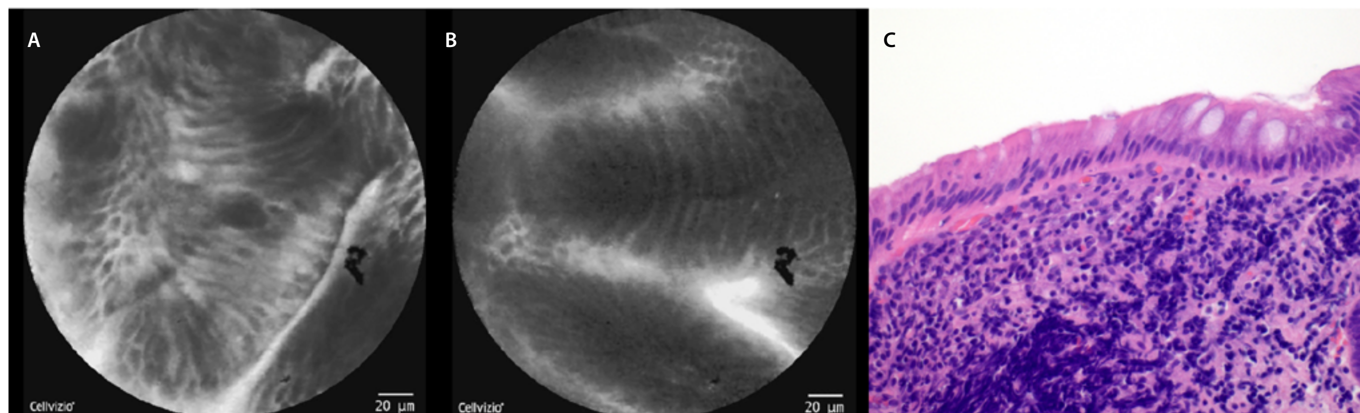
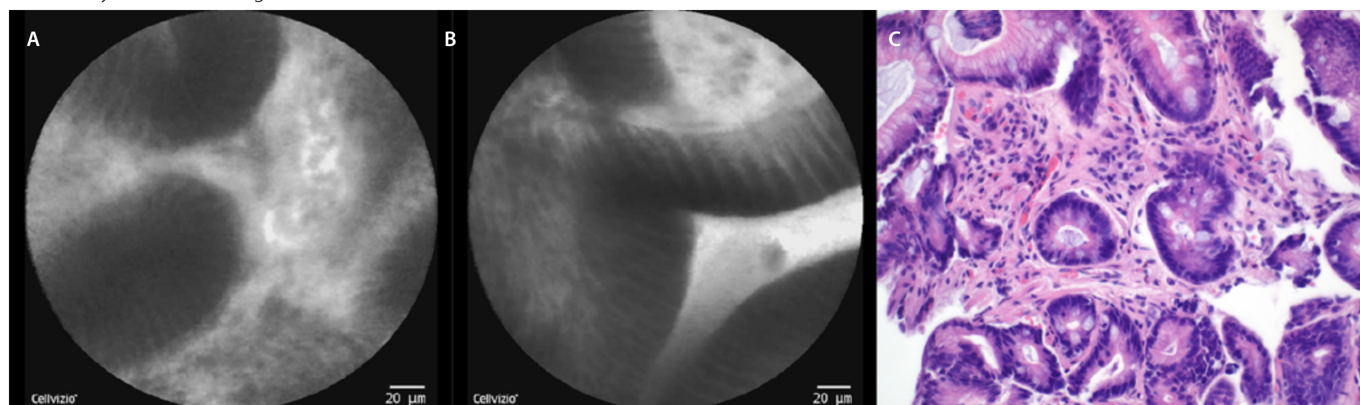


Fig. 6. *pCLE view of BE with low grade dysplasia: a - non-round shaped glands with dark columnar cells, b - variable degree of darkness with sharp cutoff of the columnar epithelium; c – histopathology examination: glands with columnar epithelium with lack of goblet cells and nuclear enlargement, haematoxylin-eosin staining 40×*



Alongside the possible higher rate of detection of dysplastic BE by pCLE, there are other advantages discussed. The strategy of the Seattle protocol may miss 10-50 % of esophageal neoplasms and the increased risk of bleeding from multiple biopsies is also under debate (14, 15). The use of pCLE during endoscopy may increase the detection and targeting of neoplastic lesions and could decrease the number of biopsies (resulting in a lower risk of bleeding) (12, 13, 16).

The incidence of EAC is increasing and due to late carcinoma detection the 5-year survival rate is low (less than 20 %) (17, 18). As well as BE as a complication of gastroesophageal reflux disease, there are other well known risk factors for EAC such as male gender, smoking and obesity (19–21).

Most of the data also considers the location in the distal esophagus on the right side of the wall as risk factor for EAC development. According to this data neoplastic lesions are mainly located between the 12 and 3 o'clock position (22) or by other authors between the 2 and 5 o'clock (23). This part of the distal esophagus should be possibly investigated more carefully if pCLE were to be used.

The length of BE segment is also assessed as a risk factor for EAC progression. The risk of progression increased from 19 % to 28 % for every 1 cm increase in the length of the BE (19, 24, 25). Richardson et al (26) in 2018 in his work showed that multiple real-time pCLE can evaluate the entire segment of the BE.

Radiofrequency ablation is an endoscopic ablation technique, and based on the results of several recent studies it is widely used in the eradication of dysplastic BE (without any visible lesion). If visible lesions are apparent, a combination of endoscopic resection and ablation techniques should be performed (3, 6, 27–30). A future benefit of pCLE could be the accurate distinguishing between nondysplastic and dysplastic BE and therefore, better therapy management (16).

The risk of lymph node metastases in cases of intramucosal adenocarcinoma (T1a) is low, around 1–2 % (20, 31). Therefore endoscopic methods of resection such as endoscopic mucosal resection (the preferred method in case of early EAC) or endoscopic submucosal dissection (in selected cases only) are considered as sufficiently definitive treatment (32). An esophagectomy is mostly seen as a second option due a similar success rate but higher morbidity in treatment. If EAC invades the submucosa (T1b) the risk of lymph node metastases increases to 22 % (some data even shows 46 %) and for that reason endoscopic resection is not feasible (31, 33, 34). In cases of EAC (T1b sm1) with favorable grading (well differentiated) and without lymphatic or blood vessel tumor invasion, an endoscopic resection can be considered in patients of a borderline fitness for surgery (3, 30).

One possible role of pCLE can be in the accurate definition of the lesions of BE (LGD, HGD or EAC), leading to the best choice of treatment. Dolak et al (2) in 2015 published a study where patients with BE referred