Summary

Introduction

The occurrence of malignant neoplasms represents a significant health, social, and economic issue worldwide. In Poland, the occurrence of cancers, including colorectal cancer (CRC), has been steadily increasing, mainly due to the ageing of the population and growing exposure to carcinogenic factors. CRC is the second most common cause of cancer-related deaths in men and the third in women in Poland. Most CRCs develop from polyps with malignant transformation potential. CRC arises as a result of genetic or epigenetic mutations in epithelial cells, which provides them with a selective advantage. Typically, CRC occurs sporadically, however, approximately 5% of cases are associated with hereditary mutations, primarily occurring in individuals with Lynch syndrome or familial adenomatous polyposis.

Colonoscopy which is the gold standard in CRC prevention and diagnosis, enables early detection and removal of polyps. Regular screening and polyp removal can reduce the risk of developing colorectal cancer by 69%. Endoscopic resection techniques, such as polypectomy and endoscopic mucosal resection (EMR) are commonly used to remove small lesions in the gastrointestinal tract. In cases of larger lesions or those with features suggestive of early invasive cancer, endoscopic submucosal dissection (ESD) is the preferred resection method.

Study Objective

ESD is a recognised method for resecting colorectal lesions in Asian countries. However, there is limited data on the outcomes of ESD in Europe. The aim of this study is to analyse the efficacy and safety profile of ESD for the treatment of colorectal lesions in a large group of patients at a non-academic centre in Poland. Additionally, the study examines the risk of local recurrence and complications following ESD and identifies which types of lesions require this resection technique.

Methods

This retrospective analysis included patients treated with ESD between 2019 and 2022 at the Centre for Early Diagnosis and Treatment of Gastrointestinal Cancers, Provincial Integrated Hospital in Elblag. Lesions exhibiting endoscopic features of deep submucosal

invasion or invasive cancer underwent surgical resection in accordance with current guidelines. Low-risk lesions and lesions without cancerous features were treated using EMR.

Results and Discussion

The ESD technique for the treatment of precancerous lesions and early colorectal cancers proved to be effective and safe in our centre. The results align with the literature, which reports high efficacy and a low rate of complications in centres using this method. In our study, a therapeutic resection rate of 91.04% was achieved, comparable to results from Japan, where this technique is widely used. This outcome confirms that a well-trained team, even in a non-academic setting, can achieve results similar to those seen in reference centres.

In our study, no local recurrences were observed in patients following colorectal cancer resection, further supporting the effectiveness of the ESD technique. However, there were 3 cases of recurrence after resection of adenomas with high-grade dysplasia.

The study also assessed the frequency of complications, including delayed bleeding and perforation. Complications following ESD were rare in this study. Perforations occurred in 8 patients (3.77%). Post-procedural bleeding was observed in 5 patients (2.36%), and in two cases, additional endoscopic intervention was required. These results are consistent with the literature, which reports a low incidence of serious haemorrhagic complications following ESD.

Conclusions

In conclusion, endoscopic resection using the ESD technique is an effective and safe method for treating colorectal cancers, which enables the removal of large lesions and early-stage cancers with a low risk of complications and recurrence. This technique allows for the preservation of gastrointestinal continuity and shortens hospital stay compared to surgery. Treatment outcomes at this non-academic centre in Poland are comparable to those achieved in Asian countries.