

Molecular profiles of malignant colorectal polyps within the European Polyp Surveillance Study (EPOS IV)

In most cases, colorectal cancer develops as a focus of malignant cells within the polyp (a precancerous stage) and then progresses to successive layers of the intestinal wall as the cancerous infiltration. A malignant colorectal polyp is therefore the earliest stage of colorectal cancer. Malignant colon polyps are increasingly diagnosed and removed endoscopically. It is a result of early detection due to increased colonoscopy availability and the implementation of colorectal cancer screening programs.

In some cases of malignant colorectal polyps, it is possible to replace invasive surgical treatment with endoscopic resection, which involves the local removal of a malignant polyp during colonoscopy, without the need for extensive surgery performance. Such treatment is much safer, simpler, cheaper and leads to a quick return to normal activity.

In some cases, local removal of a malignant colon polyp causes complete healing, while in some patients, despite local removal, the cancer cells spread to lymph nodes or distant organs in the form of metastases. It is not entirely clear which patients can be safely treated endoscopically (only local removal), and who require complementary, extensive surgery. There is suspicion that some modern histopathological biomarkers may allow to predict which patient is eligible for the local endoscopic treatment and which will require surgery. In addition, the scheme of further surveillance after local removal of the cancer polyp (surveillance colonoscopies and abdominal imaging) is unknown.

The aim of this study is to assess the usefulness of modern histopathological biomarkers in estimating the risk of colorectal cancer spreading or recurrence after earliest stage treatment.

Recently launched multinational, multicenter European Polyp Surveillance (EPoS) trials investigate the optimal time intervals for colonoscopy surveillance after removal of pre-malignant colorectal polyps (EPoS I for patients with low-risk adenomas, EPoS II for patients with high-risk adenomas and EPoS III study focusing on serrated polyps). This is an ideal opportunity to extend existing international collaboration in EPoS studies and include patients with endoscopically removed malignant colorectal polyps (EPoS IV).

In EPoS IV, the significance of additional immunohistochemical staining to assess poorly differentiated clusters, tumor budding, invasion of lymphatic and blood vessels, tumor infiltrating lymphocytes, epithelial-mesenchymal transition and the presence of markers of immature colon epithelial cells will be assessed. All patients will be regularly monitored by colonoscopy after 1, 3, 5 and 10 years and by abdominal imaging to detect local recurrence and metachronic lesions. The risk of metachronic lesion after 3 years of observation will be compared with one of the arms of the EPoS II study.

All patients will undergo regular colonoscopy and radiological surveillance at 1, 3, 5, 10 years, to detect local recurrence and metachronous lesions. The risk of metachronous lesions at 3 years follow-up will be compared with one of the arms of EPoS II trial.

The EPoS IV is a largest trial ever conducted to provide high-quality, prospective data on the role of biomarkers in prediction of cancer recurrence and on yield of surveillance colonoscopy after malignant colorectal polyp removal. International cooperation is necessary to shorten the recruitment time and ensure the sufficient number of participants. Moreover, the involvement of experienced researchers will ensure the high quality of the study.