Background: First degree relatives of colorectal cancer patients are at increased risk for developing colorectal neoplasm, and current guidelines recommend screening colonoscopy in such individuals. The aim of our study was to evaluate the prevalence of colorectal neoplasms (adenocarcinomas and adenomas) using colonoscopy as screening test in first-degree relatives of colorectal cancer patients.

Methods: 416 asymptomatic first-degree relatives of colorectal cancer patients from north-eastern Romania were invited to participate and to undergo a colonoscopy. A complete colonoscopy was defined as endoscope reaching the cecum. The number, size, location, and histological type of colorectal lesions were documented. Advanced neoplasms were defined as cancers or adenomas > 10mm, and/or villous or tubulovillous histologic component and/or high-grade dysplasia.

Results: 241 subjects (117 men, 124 women; mean age 53.4 ± 12.1 years, range 23-77 years) who had at least one first-degree relative with colorectal cancer underwent colonoscopy. Eighty-four colorectal lesions were found in 61 subjects (24.3%), among which 3 adenocarcinomas (1.2%). The prevalence of advanced adenoma was 8.2%, higher in men and in subjects aged >50 years. The cecal intubation rate was 90%, and there were no complications.

Conclusion: Colonoscopy is a useful and safe screening procedure for asymptomatic first-degree relatives of patients with colorectal cancer. The increased prevalence of advanced neoplasia in first-degree relatives of patients with colorectal cancer supports the use of screening colonoscopy in this population.