Background. The possibility of starting colorectal cancer screening in average-risk individuals before 50 years of age has been considered by some authors but the results of colonoscopy in this age group have not been completely assessed. Objectives. We aimed to determine the differences in the indication for colonoscopy and the detection of neoplastic polyps before and after 50 years of age. Material and methods. We prospectively studied 885 patients who underwent a colonoscopy at our center between May and October 2009. We divided them in two groups: <50-year-old patients (group 1) and ≥50-year-old patients (group 2). We analyzed age, sex, colonoscopy to the cecum, indication for colonoscopy and presence of adenomatous polyps (AP) or adenocarcinoma (AC). Proportions were compared using x² or Fisher tests and a P < 0.05 was considered as significant. Results. We included 204 patients in group 1 [108 women, mean age 40.4±7.5 years (range 16-49 years)] and 681 in group 2 [369 women, mean age 62.3±7.8 years (range 50-86 years)]. The rate of colonoscopy to the cecum was 96.0% in group 1 and 92.6% in group 2 (NS). Indications for colonoscopy were screening in high-risk individuals (family history of colorectal cancer) in 41 (20.1%) patients from group 1 and 66 (9.7%) from group 2 (P < 0.0001), screening in average-risk individuals in 45 (22.1%) patients from group 1 and 359 (52.7%) from group 2 (P < 0.0001), and symptoms or surveillance in 116 (56.9%) patients from group 1 and 245 (36.0%) from group 2 (P < 0.0001). The indication for colonoscopy was not recorded in 2 patients from group 1 and 11 from group 2. AP were found in 20 (9.8%) patients from group 1 and 145 (21.3%) from group 2 (P < 0.0001), and AC in none from group 1 and 12 (1.8%) from group 2 (P < 0.0001). In the subpopulation of high-risk individuals, AP were found in 5 patients (12.2%) from group 1 and 11 (16.7%) from group 2 (NS). No AC case was found in this subpopulation. In the subpopulation of average-risk individuals, AP were found in 7 patients (15.6%) from group 1 and 58 (16.2%) from group 2 (NS), and AC in none patient from group 1 and 2 (0.6%) from group 2 (NS). Conclusions. The main indication for colonoscopy differs between the younger age group (symptoms or surveillance) and the older age group (average-risk individual). Although more AP and AC are found in the older age group, the prevalence does not statistically differ in the colonoscopic screening, either in high-risk or average-risk individuals, suggesting that screening could be initiated before the 50 years of age.