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Clinical and therapeutic impact of colonoscopy in nonagenarians: a real-world experience from a general hospital

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Dear Editor,

The progressive aging of the population has led to an increasing number of nonagenarian patients requiring endoscopic evaluation. Colonoscopy remains the reference standard for the diagnosis and treatment of colorectal disease; however, its indication in patients aged ≥90 years remains controversial due to advanced comorbidity, functional impairment, and concerns regarding procedural safety.

We report a real-world study of colonoscopy in nonagenarians at a general hospital, with follow-up of clinical and therapeutic decisions resulting from the procedure for up to six months. Clinical impact was defined as any modification in medical management attributable to colonoscopy findings, whereas therapeutic impact referred specifically to the implementation of active treatment in response to endoscopic findings. Between January 2021 and December 2024, 132 colonoscopies were performed in patients aged ≥90 years. The main patient characteristics, indications, endoscopic findings, clinical and therapeutic impact, complications, and outcomes are summarized in Table 1.

Regarding clinical impact, 47% of colonoscopies led to a change in medical management. However, the therapeutic yield was modest, with active intervention performed in only 23 cases (17.4%). Among the 62 patients in whom colonoscopy influenced clinical decision-making, management changes were heterogeneous: in 37.1% of cases the procedure was considered sufficient to guide management and conclude further investigations; in 25.8%, colonoscopy led to extension of diagnostic workup with additional tests; 11.3% underwent endoscopic therapy; 12.9% were referred for palliative treatment; 9.7% for chemotherapy or radiotherapy; and 3.2% for surgery.

Importantly, although the overall complication rate was low (2.3%), two of the four complications resulted in procedure-related mortality, underscoring the potential severity of adverse events in this very elderly population. In this context, colonoscopy frequently provided clinically relevant information that supported individualized clinical decision-making.

An additional relevant observation was the limited systematic assessment of frailty in routine endoscopic and clinical practice, which precluded its formal analysis in our study. This finding reflects a real-world limitation and highlights the need for the systematic incorporation of validated frailty assessment tools to improve patient selection and risk stratification in very elderly patients.

In conclusion, in nonagenarian patients, the value of colonoscopy should not be judged solely by its therapeutic yield. Although the rate of active intervention was modest and serious adverse events can occur, colonoscopy often provided clinically relevant information that supported individualized clinical decision-making in a substantial proportion of cases. A more systematic integration of frailty assessment may help optimize the risk–benefit balance and better align endoscopic practice with patient-centered care in this growing population.

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Table 1. Clinical characteristics, indications, and outcomes of colonoscopy in nonagenarian patients.

Variable	Result (n=132)
Age, years	91.9 ± 2.0 (median 91; IQR 90–93; range 90–99)
Female	54.5%
≥4 comorbidities	53 (40%)
Estimated 10-year survival <20% (Charlson Comorbidity Index)	37%
Any frailty scale formally recorded	5 (3.8%)
Outpatient colonoscopy	53%
Requested by Internal Medicine	44%
Main indications (anaemia and rectal bleeding)	51%
Adequate bowel preparation	64%
Complete examination	76.5%
Relevant lesions identified	50%
Therapeutic impact	23 (17.4%)
Clinical impact	47%
Overall complications	4 (2.3%)
Type of complications	2 perforations; 2 mucosal tears
Procedure-related mortality	2 (1.5%)
Six-month all-cause mortality (procedure-unrelated)	20 (15.2%)