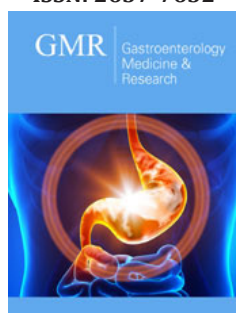


# Inflammatory Bowel Disease in The Elderly – Knowledge Gaps and Potential Directions in Research


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## Abstract

Elderly patients with Inflammatory Bowel Disease (IBD) are becoming more frequent in incidence and prevalence. Several topics concerning this particular population have been investigated in the last years but data are still insufficient and current guidelines frequently do not address this problem. The aim of this brief review was to highlight knowledge gaps in this setting of patients. To our opinion, the main gaps in literature concern therapy and prophylaxis of thromboembolism, fracture risk, response to pharmacological therapies, nutrition, faecal incontinence, and post surgical recurrence.

**Keywords:** Elderly; Infections; Surgery; Nutrition; Fracture risk

**Abbreviations:** IBD: Inflammatory Bowel Disease

## Introduction

Elderly subjects with IBD are divided into two distinct populations, one who experience disease onset beyond 60 years of age and the other reaching geriatric age after years or decades of bowel disease. On the former population we do have data on disease extension and behaviour at onset and the use (or suspected underuse) of pharmacological therapies, i.e. immunosuppressive and biological agents, and, finally, surgery [1-7]. Whereas concerning the latter population, much effort has been spent on critical issues such as infections, vaccinations, thromboembolism, osteoporosis, and, lately, biologic therapies but most of these issues are still not included in current clinical guidelines. The scope of this brief review is not to discuss differences in literature on this topic but to highlight knowledge gaps, concerning both populations, i.e. patients with longstanding disease and those with late onset disease.

## Discussion

### Infections

Infections due to opportunistic agents or real pathogens and the relative influence of various immunosuppressive therapies have been extensively studied in all age groups of IBD and were included in current guidelines [8]. Poor knowledge is available on issues like the epidemiology on TBC exposure in elderly patients, adherence to vaccination programs in elderly IBD patients and their response to specific vaccinations.

### Thromboembolism

The risk of thrombosis is well known in elderly individuals [9], especially when affected with IBD [10]. In a very large study on a US hospital discharge database, the risk for thrombosis was greater in hospitalized UC patient compared with CD (OR, Odds ratio, 1.85, 95% CI 1.70–2.01) leading to prolonged hospital stays and greater mortality. The older the age the higher was the risk for deep venous thrombosis with a 20% increase of odds for every additive decade of age (OR 1.20, 95% CI 1.15-1.25) [11]. Besides this epidemiological knowledge and guidelines on its prevention, no data are available on therapy especially in elderly IBD patients. In a very recent paper, increased needs for hospitalization and blood transfusions have been reported in IBD patients with active disease on anticoagulant therapy [12]. Although the aforementioned paper was not specifically analysed for elderly IBD patients, its importance seems to be predictable since indications for treatment with new oral anticoagulants like the prevention of central nervous events in atrial fibrillation or the treatment and prevention of deep venous thrombosis are increasing with age.

## Osteoporosis

In the most recent nationwide population based IBD cohort study from Sweden [13] an increased risk for hip fractures was found to be associated with systemic steroid use in elderly IBD patients. At present no data are available if steroids with low bioavailability may reduce this risk in the elderly IBD population. We do not know how many elderly patients do receive an adequate treatment for the prevention of complications of osteoporosis.

## Response to pharmacological therapies

Theoretically, all therapies for adult IBD patients are indicated for elderly IBD patients. Concerning steroids, there is only one report on a better outcome in late onset UC patients after systemic steroid therapy, [14] a finding not confirmed by other investigators [5]. The value of low bioavailability steroids such as budesonide or beclomethasone, are only occasionally reported in elderly IBD patients [7]. Virtually unknown is the efficacy of thiopurines in elderly IBD patients, most studies concentrate on safety issues in this population reporting an increased incidence of non-melanoma skin cancer, lymphomas, and urinary tract cancer when exposed to thiopurines [15-17]. No data were available on methotrexate. Elderly patients were mostly excluded from clinical trials with biologic therapies [18]. Only very recently, real world data on efficacy and safety of anti-TNF and anti-integrin therapies have been published pointing to a lesser persistence in therapy with anti-TNF [19,20].

## Nutrition in the elderly

Little attention has been given to the nutritional support in elderly IBD patients. There is some evidence concerning pancreatic insufficiency found in 18% of adult IBD patients [21] and this figure may increase with age. The nutritional status impacts greatly the response to biological therapies [22] and surgery outcome [23,24]. Another important issue is the effect of the diet on the composition of microbiome and on the intestinal immune status. Exclusive enteral nutrition is effective in inducing remission in patients with Crohn's disease [25]. Most of evidence comes from paediatric studies with remission rates from 50% to 80% in children fed with an exclusive polymer diet for 6-8 weeks. A study by Levine et al showed as a diet therapy with partial enteral nutrition associated with an exclusion diet induced high rates of remission at 8 weeks in paediatric patients and adults with mild to moderate CD 78 and 70% respectively [26]. No data are available on the elderly IBD population where malnutrition is a common finding,

## Faecal incontinence

Other important factors in determining poor quality of life in IBD patients are represented by a lower rectal compliance and the subsequent faecal incontinence limiting the approach with topical therapies, e.g. enemas [27]. This problem is surely more prominent after rectal surgery including pouch surgery [28]. Most studies have been carried out in younger adult IBD populations, but age seems to be associated with more prominent symptoms [29].

## Post-surgical recurrence

Surgical resection is an important treatment option for Crohn's disease but about 70-90% of patients show a recurrence within 12 months [30,31]. In population studies, the overall rate of clinical recurrence ranges from 28% to 45% and from 36 to 61% at 5 and 10 years respectively [32]. While several studies assessed disease outcome in the elderly patient, there are no data on incidence and risk factors for post-surgical recurrence. Also, data about treatments aimed to reduce recurrence refer to adult populations in which, treatments such as anti-TNF alpha are more frequent and effective.

## Conclusion

In conclusion, with the increasing prevalence of elderly subjects within the IBD population, this population needs more attention than given. Multidisciplinary teams are needed to correctly treat and follow these patients. This short review wanted to list up some issues worthy to get more awareness on the part of the caregivers.

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