

## An Atypical Presentation of Crohn Disease in the Elderly. A Case report and Literature review.

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**SUMMARY:** An atypical presentation of Crohn disease in the elderly. A case report and literature review.

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*The Authors present a case of an insidious onset of Crohn Disease (CD) in an elderly patient. Diagnosis complicated by extraintestinal manifestation properly of old age could be delayed and often made after surgery on the histological specimen as in our case.*

*CD is uncommon as primary manifestation in old age, often unsuspected, incorrectly diagnosed and in many case the clinical features may lead to late diagnosis. Differential diagnosis of CD in elder people with fever, diarrhoea and abdominal pain is difficult and other symptoms affecting intestinal tract can closely mimic CD symptoms, although the pattern of clinical presentation in older patient resemble those in younger.*

**RIASSUNTO:** Una presentazione atipica di malattia di Crohn nell'anziano. Report di un caso clinico e revisione della letteratura.

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*Gli Autori presentano un caso di una insidiosa modalità di insorgenza di morbo di Crohn in un paziente anziano. La diagnosi, complicata da manifestazioni extraintestinali proprie dell'età avanzata, può essere ritardata e spesso posta dopo il trattamento chirurgico sulla istologia definitiva del pezzo operatorio.*

*L'esordio clinico del Morbo di Crohn nell'età avanzata è infrequente, spesso diagnosticato in maniera non corretta ed in molti casi le caratteristiche cliniche possono ritardare la diagnosi. La diagnosi differenziale di morbo di Crohn nel soggetto anziano con febbre, diarrea e dolore addominale è difficoltosa ed altri sintomi di malattia del tratto gastroenterico possono mimare la sintomatologia dello stesso, sebbene le manifestazioni cliniche della malattia nel paziente anziano ricalchino quelle del paziente giovane.*

**KEY WORDS:** Crohn's Disease - Inflammatory Bowel Disease - Epidemiology - Elderly-Colitis - Ulcerative Colitis - Prevalence.  
Morbo di Crohn - Malattia Infiammatoria Cronica Intestinale - Epidemiologia - Colite Anziano - Colite Ulcerativa - Prevalenza.

### Introduction

Modality of presentation of Crohn's Disease (CD) in the elderly resemble those in younger people. There are typical symptoms like diarrhoea, abdominal cramps, low grade fever, anorexia, weight loss, and sometimes rectal bleeding, but diagnosis can be complicated by a relative lack of gastrointestinal complaints and extra intestinal manifestation, which can dominate the clinical picture.

High frequency of complication may reflect a delay in diagnosis: several times diagnosis is made only by histological examination and many patients undergo surgery for an acute complication.

We present a case of an elderly patient with an insidious obstruction onset in whom CD diagnosis was delayed, difficult and performed after surgery.

### Case report

An healthy 83 years old male presented with acute onset of fever, nausea, diarrhoea, vomiting, abdominal pain and bowe lobstuction. He was treated with short course of not specified antibiotic therapy without improvement and then admitted to our Unit. The physical examination revealed right iliac fossa tenderness and occlusive state with no peristaltic movement. Admission labs revealed 18,300/mm<sup>3</sup> white blood cell count, haemoglobin 8,3 g/dl, blood glucose 111 mg/dl, LDH 560, PCR 2,0 mg/dl, and erythro sedimentation rate 115 mm/h. Stool examination was negative for enteric pathogens and parasites. Right upper quadrant ultrasound wasn't performed.

An X abdomen ray without contrast was made and demonstrated multiple hydro-pneumatic levels with jejunal ansa bullation. An X ray iodine contrast revealed the terminal ileum with a suffering mucosa suggestive for external compression. An emergency colonoscopy didn't reveal ulcers or abnormal cecal wall: ileocecal wall mucosal structure was normal. The biopsies revealed acute inflammatory cells in lamina propria: the mucosa architecture was normal, and there were no granulomas. Intravenous broad spectrum antibiotics were performed but patient's condition continued in slow decline.

The patient underwent exploratory laparotomy on second day of hospitalisation. We found an acute inflammation of ileocecal valve with adhesion syndrome in the right iliac fossa: small bowel was bulleted. The adjacent colon serosa and mesentery presented severe inflammatory changes. The distal terminal ileum and right colon were resected; it was not performed a diverting ileostomy but

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TABLE 1 - FEATURES OF CHRON'S DISEASE IN THE ELDERLY.

- Female predominance
- Delay in diagnosis
- Mortality not significantly increased
- More frequent colonic and less frequent ileal disease
- Low postoperative recurrence rate
- Good response to medical therapy

*Adapted from Grimm I.S., Friedmann L.S.: Inflammatory bowel disease in the elderly. Gastroenterol Clin North Am., 19, 383, 1990.*

carried on a hand made ileus transversum colon anastomosis. The appearance of the surgical specimen was suspicious for Crohn's disease with presence of ulceration and cobblestoning not revealed on colonoscopy.

Microscopically there was an acute inflammatory bowel wall infiltration with white blood cell, edema and lymphoid aggregates. In postoperative period patient underwent an antibiotic therapy with metronidazole and cephalosporin. No fever and renewed leucocytosis was found.

Despite the absence of a definitive tissue diagnosis, we treat the patient with short term therapy with steroids (prednisone 70 mg per os on postoperative day 2). A period of physical rehabilitation and nutritional repletion was performed and the patient was able to discharge our unit on postoperative 12 day. He was admitted to Gastroenterologic Unit to define the medical therapy. A clinical control after twelve months reveal no recurrence of fever, abdominal discomfort or diarrhoea. The laboratory findings didn't reveal recurrence of inflammatory disease.

## Discussion

Crohn's Disease (CD) is a chronic illness and may be present at first time in elderly patient, or a subject may develop CD in earlier years and then carry the illness in old age (Table 1).

Grimm and Friedman (6) reviewed the "epidemiologic literature" in 1990 and concluded that the proportion of patients who develop CD after 60 years age overages about 16% (range 7-26%) with more women than man in some studies and an equal proportion in others. Informations about gender differences in CD has been reported by Stalnikowicz who demonstrated an increased percentage of women among older patients with CD; while nationality, ethnic origin, family history have the same influence on the development of CD in the edlerly as in younger people (19).

Van Pattern et al. report in 1954 an incidence of CD in the elderly with a rate of 4.2% of 600 patients and in 1958 a rate of 4.3% of 530 patients presented with late onset disease (21). A bimodal distribution in

TABLE 2 - CRITERIA FOR DIFFERENTIAL DIAGNOSIS OF CROHN'S IN THE ELDERLY.

### Clinical

- Perianal disease
- Symptoms of fistulas (e.g. fecaluria, stool per vagina)
- Abdominal mass (especially right lower quadrant)
- Intestinal obstruction
- Malabsorption (e.g. vit. B12, steathorrea)
- Extraintestinal manifestations (e.g. ankylosing spondylitis)

### Roentgenologic

- Presence of skip lesions
- Small bowel involvement
- Fistulas
- Mesenteric "mass effect"
- Deep transverse and linear ulcers, "cobblestoning"

### Pathologic

#### Gross

- Segmental involvement
- Small bowel disease
- Fistulas
- Fissures

#### Microscopic

- Granulomas
- Fissuring
- Transmural polymorphous infiltrates with lymphoid nodules
- Submucosal lymphangiectasia
- Submucosal fibrosis

*Adapted from Brabdt L.J.,Dckenstein G.: Inflammatory Bowel Disease: specific concerns in elderly. Geriatrics, 44, 107, 1989.*

age onset has been observed in CD: the first in the third decade and the second varies between age 50 and 80 most often near 70 year age (3). A series including that of Dr. Crohn himself reported that a 4% of patients diagnosed with CD were elderly. More recent studies support that the disease was diagnosed up of 16% of elderly people (22). Since CD is uncommon in elderly it is not surprising that it is not surprising that is often unsuspected, incorrectly diagnosed and in many case the clinical presentation lead to late onset diagnosis as in our case (5).

For several reasons symptoms in the elderly may not suggest at first time CD; there is a blended response to pain, poor communication, altered sensory perception, and a profused attention on cancer as the most usual cause of altered bowel habits and rectal bleeding. In addition other disease like diverticulitis or ischemic eterocolitis can closely mimics symptoms of CD (12).

The percentage in CD clinical course retrospective studies found abdominal pain (82%), diarrhoea

(72%), weight loss (56%), and bleeding (26%) as the most common way of presentation: also abdominal mass and fistulas (16 and 14% respectively), were seen (20).

Extraintestinal manifestation occurs with equal frequency in older and younger patients and includes: peripheral arthritis, spondylitis, iritis, erythema nodosum, pyoderma gangrenosum, and liver disease.

In patient with involvement of terminal ileum, or with a resection of that segment of bowel, gallstones and oxalate urinary calculi develop with increased frequency. CD in most patient follow a chronic intermittent course with mild to moderate disability (11, 13).

Carcinoma of both large and small bowel occurs in patient with CD, and although some investigators have found the incidence to be similar to that in ulcerative colitis, the disease is usually present for a longer time before malignancy develops. The role of surveillance for cancer in CD is still under assessment (1).

The laboratory in elder patient include anaemia, leucocytosis, hypoalbuminemia, and an elevated erythrocyte sedimentation rate. Some authors observe that the percentage of low serum albumin level and haemoglobin was higher in elder patient than in younger patient, but others have not confirm this finding. As pathologic features we can found deep fissuring ulcers, fistulas, strictures, and always segmental involvement with transmural inflammation.

Endoscopic examination reveals serpiginous ulcers with cobblestoing, skip lesions and rectal sparing; microscopic examination demonstrates always transmural inflammation with lymphoid follicles (7).

As many studies note, there is an high percentage, more once than 60%, of elderly patients with CD that receive an incorrect diagnosis: this cause a delay greater than 6 month before diagnosis in contrast with a 15% rate in younger people.

Our patient underwent an evaluation of blood tests, colonoscopy, iodate enema, ultrasound abdomen scan and explorative laparotomy that lead to a sure diagnosis. The chronic course of patient, the response to resection of the inflammatory mass, the histological findings, and the improvement with steroid treatment all support diagnosis of CD, confirmed by the presence of aphthous ulcers in colon mucosa and characteristic involvement of terminal ileum and cecum (4).

There are clear selection criteria, clinical, roentgenologic and pathologic to diagnose CD in elderly patients (Table 2).

In our patient definitive diagnosis was supported by tissue obtain at surgical resection: ulceration, cobblestone appearance of mucosa and transmural inflammatory disease suggest for CD.

The patient evaluation was made by elicit a clinical history, including infection, medical therapy, household contact, previous diagnosis and family history

of CD. The stool should be examined for parasites, enteric pathogens, and *Clostridium Difficile's* toxin, the agent involved in pseudomembranous colitis. A pancolonoscopy, as in our patient, should be performed to procure proper stool cultures and appropriate biopsy material; to accomplish the usefulness of pancolonoscopy a barium or iodate enema is usually necessary. Computerized abdomen and pelvis tomography usually is not required for diagnosis or management of CD, but it is valuable for detecting extraintestinal masses and for evaluating thickness of small bowel wall.

A higher frequency of complication in elderly patient reflect a delay in diagnosis or misdiagnosis of CD. Harper report a delay in diagnosis of 6.4 years after symptoms onset in elderly patients compared with 2.4 years in younger patients (10).

A delay in diagnosis described by Serpell and Johnson demonstrate that 5 of 7 over age 70 patient undergoing surgery for an acute complication incorrectly diagnosed before surgery; only two patient presented without complication, and in both cases as in our the diagnosis of CD was made only by histological examination (17). The differential diagnosis of CD in the elder people with fever, diarrhoea and abdominal pain is difficult because concurrent disease of other systems affecting intestinal tract can mimic CD symptoms. Moreover some gastrointestinal diseases have a predilection for elderly and thus must enter in the diagnostic arena. The differential diagnosis with transmural involvement include phlegmonous enteritis but in our report the mucosal changes wasn't characteristic for this entity (16). The histological features of transmural fissuring or lymphoid aggregates may be seen in Bechet's syndrome: no vasculitis has been described either in our resection specimen (18).

Ischemic colitis and colonic diverticulitis can be confused easily with CD; in the elderly CD often involve left side of colon as diverticula and in particular case may also coexist. The infectious diarrhoea often mimic the findings of CD with organism involved such *Campilobacter Jejuni*, *Salmonella* and *Shigella* that may develop in patients who already has CD.

Intestinal tuberculosis and *Clostridium Difficile* infection is of particular concern in the elderly. Collagenous colitis and lymphocytic colitis are unusual condition that may lead to a wrong diagnosis. Non steroid inflammatory drugs have been found to produce ulcers and stricture of small bowel mucosa similar to those in CD: the anamnestic evaluation of skeletal pain and relative use of these drugs should be essential in this case.

Colon carcinoma or small bowel carcinoma, especially in its scirrhus or linitis plastica form, may resemble CD. Small bowel or colon lymphoma and multiple carcinoids may resemble CD too. Radiation

injury, especially following treatment of prostate or female genital cancer, may be associated with diarrhoea and rectal bleeding history and endoscopy help in diagnosis. Medical treatment is essentially the same for elderly and young people: 5-ASA agents, corticosteroid, immunomodulators and monoclonal antibody as infliximab are indicated for reducing sign and symptoms and inducing and maintaining clinical remission (2), (14). There are not contraindications in elderly to use agents as mercaptopurine or corticosteroids although prolonged use of such agents in elderly may exacerbate hypertension, diabetes mellitus, salt retention, congestive heart failure and osteoporosis. Adverse effect can be avoided by minimizing the dose and duration of corticosteroid, therapy; immunosuppressive agents may be considered in patients refractory to standard first line medications or in those intolerant to side effects (8, 9). Currently there is debate as the frequency of surgery in CD in elderly population although the age does not appear to be associated with increased mortality; elderly have nevertheless a higher incidence of morbidity due to infection and cardiorespiratory complications following colorectal surgery. Most important predictors of adverse outcome after surgery

are patient's pre-existing health, coexisting disease, the severity of the acute attack and the need for emergency surgery. It is allowed that postoperative complication and mortality are more common in elderly when surgery is performed in emergency: sometimes is dangerous for patient outcome prolonging the operation time until a serious complication (e.g. perforation, toxic megacolon, stricture, haemorrhage or occlusion as in our patient) necessitates emergency surgery (15).

## Conclusions

Inflammatory bowel disease ongoing in old age can be confused with other disease affecting intestinal tract: the clinical manifestation usually resemble those in younger people but higher frequency of complications may reflect a delay in diagnosis or misdiagnosis. The basic principles of medical and surgical therapy remain the same in younger and elder patient: the elder age is not considered a factor increasing mortality although the patient's preexisting health, coexisting disease, acute onset, and need for emergency surgery may lead to adverse outcome.

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