Severe gastrointestinal bleeding in Crohn's disease

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Abstract

Introduction: *acute gastrointestinal bleeding is rare in Crohn's disease.*
Methods: *we characterized the clinical features and course of such hemorrhage in patients seen at our institution from 1992 to 2000.*
Results: *five patients had gastrointestinal bleeding during Crohn's disease. All patients had a known Crohn's disease, with a mean duration of the disease of 6 years. The source of bleeding was identified in four patients (80%). Endoscopy was, in all patients, the first diagnostic procedure. An Hartmann total colectomy with closure of the rectal stump and ileostomy was performed in three patients, while two patients with ileal massive bleeding were treated conservatively. One patient had a recurrence of bleeding from the small bowel one week later but he didn't required surgical treatment. One patient with pancolic Crohn's disease died on 10th postoperative day because of multiorgan failure and septic complications.*
Conclusions: *gastrointestinal bleeding is rare in Crohn's disease, with a predilection for site of involvement. The preoperative diagnosis of the site of bleeding is not easy, and enteroscopy should be mandatory in such patients. Surgery is required for half of cases and recurrent haemorrhage should be an appropriate indication for surgery.*
Key words: Crohn's disease, bleeding, gastrointestinal hemorrhage, conservative management, surgery, ileo-colic resection.

Introduction

Gastrointestinal bleeding from inflammatory bowel disease had traditionally been associated with ulcerative colitis. Massive hemorrhage occurs in 0.6-6 % of cases of Crohn's disease (3, 5, 6, 12). Diagnostic and therapeutic approach of such a disease is very challenging, and only in few patients the source of bleeding is recognized preoperatively.
We sought to identify and characterize all cases of gastrointestinal bleeding during Crohn's disease (CD) seen in a eight-year period at our institution.

Patients and methods

We analyzed in a retrospective review our experience about the incidence of gastrointestinal bleeding in patients with Crohn's disease.
Two hundred eight patients affected by Crohn's disease were surgically treated, between January 1992 and September 2000, at the Department of Surgical and Gastroenterological Sciences of the University of Padua. Data on sex, age at time of diagnosis, location of the disease, indications for surgery, surgical procedures were collected.
We define as massive gastrointestinal hemorrhage any bleeding arising from the affected portion of the bowel requiring at least 2 units of blood within 24 hours.

Riassunto

Introduzione: *l'emorragia massiva gastrointestinale è rara nel morbo di Crohn.*
Pazienti e metodi: *abbiamo analizzato l'incidenza di emorragia gastrointestinale nella nostra esperienza nel trattamento del Morbo di Crohn.*
Risultati: *cinque pazienti hanno manifestato un sanguinamento gastrointestinale. Tutti i pazienti soffrivano di una malattia di Crohn già diagnosticata, con una durata media della malattia di 6 anni. La fonte del sanguinamento è stata identificata in quattro pazienti (80%). L'endoscopia è stata la prima procedura diagnostica in tutti i pazienti. Una colectomia totale con chiusura del moncone rettale e ileostomia è stata eseguita in tre pazienti, mentre due pazienti sono stati trattati conservativamente. Un paziente*

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ha manifestato una recidiva ileale che non ha richiesto correzione chirurgica. Un paziente è morto in decima giornata postoperatoria per insufficienza multiorgano.
Conclusioni: *l'emorragia gastrointestinale è rara nel morbo di Crohn e in genere la sua localizzazione segue quella della malattia di base. La diagnosi preoperatoria di sede non è sempre facile e può richiedere l'utilizzo dell'enteroscopia. Il trattamento chirurgico è richiesto in circa la metà dei casi e riveste particolare importanza nelle recidive.*
Parole chiave: Morbo di Crohn, sanguinamento, emorragia gastrointestinal, trattamento conservativo, chirurgia, resezione ileocolica.

Results

A total of 208 patients were considered, 106 (51.3%) males and 102 (48,7%) females, with an average age of 36,5 years (range 12-75, years). The mean age at the onset of disease was 33 years.
A total number of 274 surgical procedures were performed. The side of the disease was terminal ileum in 109 patients (52,4%), ileal and colon in 46 (22,2%), terminal ileum and cecum in 43 (20,8%), small bowel in 24 cases (11,6%), colon in 52 (25%).
The indication for surgery was intestinal obstruction in 130 cases (47,5%), fistula or abscess in 77 (28,2%), failure of medical treatment in 51 cases (18,7%), perforation in 5 cases (1,8%), cancer in 4 (1,6%), ileal obstruction with fistula in 4 cases (1,6%), hemorrhage in 3 cases (1,6%).
Intestinal resection was the treatment for most of the patients, in 12 of them with one or more strictureplasties (Tab. I).
We encountered 5 cases (2.4%) of massive gastrointestinal bleeding: three from the colon and 2 from the small bowel. Four patients were male, with an average age of 35 years. All patients had a known Crohn's disease, with a mean duration of the disease of 6 years. All patients experienced a previous corticosteroid treatment. None of the patients encountered a previous surgical intervention for CD. Hemodynamic instability was seen in 4 patients (80%).
The site of bleeding was identified in four patients (80%). Endoscopy was, in all patients, the first diagnostic procedure, and it was successful in four patients; in one patient , because of severe bleeding, we performed an unsuccessful angiography, and site of bleeding was identified by intraoperative enteroscopy.
A Hartmann total colectomy with closure of the rectal stump and ileostomy was done in the three patients with colic hemorrhage: the indication was in two cases recurrent bleeding, while in one case a total colectomy was performed in emergency condition.
Two patients with ileal massive bleeding were treated conservatively. One patient had a recurrence of bleeding from the small bowel one week later but he didn't required surgical treatment. One patient died on 10th postoperative day: she was a 65 years-old women with pancolic Crohn's disease that had a multiorgan failure and septic complications.

Tab. I – SURGICAL PROCEDURES. (208 PATIENTS)

Surgical Procedures	*n=274*
Ileo-cecal resection	68 (24.8%)
Small bowel resection	23 (8,3%)
Right hemicolectomy	74 (27.0%)
Appendicectomy	1 (0.3%)
Ileal resection with strictureplasty	14 (5,1%)
Abdominal abscess drainage	13 (4.7%)
Ileocolic resection	15 (5,4%)
Colic resection + Hartman	16 (5,8%)
Total colectomy	8 (2,9%)
Colic resection	20 (7,2%)
Proctectomy	9 (3,2%)
Fistulectomy	6 (1,6%)
Sub-total colectomy	6 (2,1%)
Psoas abscess surgical drainage	1 (0,3%)

Discussion

Massive gastrointestinal bleeding is a rare occurrence in CD. Its aetiology has not been fully elucidated. It seems that a transmural inflammation, leads to the erosion of the large vessels and finally to gastrointestinal bleeding. Its correct definition has remained controversial. Cirocco et al. (5) define as massive gastrointestinal bleeding any haemorrhage arising from the affected portion of the bowel and requiring at least 4 units of red blood cells (RBC) during an interval not exceeding two weeks. Conversely, Belaiche et al. (3), define as gastrointestinal haemorrhage any bleeding occurring in the affected portion and requiring at least 2 RBC units within 24 hours. Massive gastrointestinal bleeding occurs in 0.6-6 % of cases of Crohn's disease (3, 5, 6, 12). Young males (5) with at least a 4-year diagnosed disease and an average age ranging between 28 and 35 years are most frequently affected (3, 5, 6, 9, 12). No correlation has been demonstrated with a previous corticosteroid treatment (3, 10). Most series have reported a larger incidence of gastrointestinal haemorrhage in patients affected by colic CD, as opposed to those with ileal involvement (3, 6, 12). On the other hand, in the experience of Cirocco et al. (5) massive gastrointestinal bleeding was localised to small bowel in 66% of cases. In most cases bleeding arises from an isolated ulcerous lesion or from frank and widespread mucous ulcerations. A correct preoperative identification of the site of bleeding may be obtained in only about half cases (3, 6, 12). From an extensive review of Mount Sinai Hospital in New York, only in 2 of 26 patients (7,6%) affected by severe gastrointestinal bleeding, was identified the source of bleeding preoperatively (12).

Endoscopy plays a major diagnostic and minor therapeutic role in the management of these patients (2). However, colonscopy cannot often locate the bleeding site, as a large amount of blood is present in the intestinal lumen preventing a correct examination of the gastrointestinal tract (3).
Angiography can detect the source of bleeding, allowing for the perfusion of intra-arterial vasopressin during the procedure (1, 3, 8). Whenever angiography fails to locate exactly the bleeding site, intraoperative enteroscopy is mandatory, as it has proven to be a fast, sensitive, sure and effective method (3, 7, 11). Vasopressin may temporarily stop bleeding, but it does not seem to be effective as definitive treatment (13).
The treatment should be conservative at first, as it is likely that bleeding may stop spontaneously.
Recent studies have corroborated thalidomide to be effective to a certain extent in controlling bleeding (4).
According to different reviews, 20-90% of patients require surgical treatment at first episode of bleeding (3,12). Absolute indications to surgical intervention are massive bleeding that cannot be controlled by blood transfusions, bleeding causing severe alterations of the hemodynamic parameters, or again recurrent hemorrhage (3). Failure to recognize these cases and appreciate the potential for life-threatening bleeding may lead to potentially fatal consequences (5).
The recommended surgical treatment is total or subtotal ileocolectomy (3,4). Belaiche et al. (3) suggested that, in contrast with normal agreement concerning surgery for CD where conservative resection is preferable, it often became necessary to remove all the involved bowel if possible.
In about 35% of patients treated conservatively a new bleeding episode is likely to occur (3, 9, 12).
Primary surgical treatment does not protect completely from re-bleeding, with a percentage of 3-10% recurrent bleeding that, however, requires a new resecting intervention only in 3% of cases (5, 12).
Overall mortality amounts to 3-8 % (1, 3, 5-8, 10-12), even though some Authors have reported 14-20% of death rate, higher in patients treated conservatively (3, 5, 12).

Conclusions

The management of severe gastrointestinal bleeding in CD depends on the propensity for recurrence. Conservative therapy sometimes has been advocated. The removal of affected bowel at the time of the first episode of massive bleeding guarantee less morbidity and mortality than patients with a massive rebleeding.
Enteroscopy is mandatory in every case in which preoperative diagnosis was not obtained.
In our experience the colic bleeding can be well controlled with total colectomy with Hartmann procedure and we didn't observed any recurrence of bleeding.
Massive bleedings from the small bowel could be successfully treated conservatively in most cases.

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Commento Commentary

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La malattia di Crohn è considerata una patologia infrequente. Tuttavia, nelle sue innumerevoli presentazioni cliniche, la malattia può manifestarsi con complicanze rare, che possono rendersi potenzialmente pericolose per la salute del paziente. L'emorragia gastrointestinale in corso di malattia di Crohn è una complicanza inusuale che, in circa metà dei casi può essere trattata conservativamente. Tuttavia, qualora essa dovesse recidivare o comportare gravi turbe emodinamiche, il trattamento chirurgico è obbligatorio, e deve essere esteso quanto più è possibile al fine di prevenire le recidive.
Sebbene l'esperienza sia limitata a pochi casi, dall'esposizione dei dati appare chiaro come un corretto inquadramento diagnostico, non sempre facilmente attuabile, possa essere considerato propedeutico al trattamento. Tuttavia, sottolineano gli Autori, la possibilità di una recidiva o un grave sanguinamento deve indurre il chirurgo ad agire, riservando il trattamento conservativo a tutti gli altri casi.

Crohn's disease is regarded as a rare disease. However, novertheless it has not failed to arouse researchers-and practicing physicians' great attention on account of its extremely variable clinical features and course, during which it could present with some potentially life-treathening rare complications. Gatrointestinal bleeding is a rare complication of Crohn's disease that, in half of cases, could be safely treated with conservative management. However, in case of recurrence of bleeding or in hemodynamically unstable patients, surgery is mandatory, and could be as aggressive
as possible to remove all involved bowel and prevent recurrences. From the experience reported, it seems clear how a correct preoperative diagnosis is mandatory for an appropriate treatment of such patients. Moreover, the Authors suggest that a re-bleeding or a severe hemorrhage is an absolute indication for surgery, reserving conservative management, whenever it is feasible, to other patients.