

## ATYPICAL MANIFESTATIONS OF CROHN'S DISEASE: REVIEW ARTICLE

---

***Isadora Maciel Assis***

Student of the medical course of the institution: Faculdade Morgana Potrich (FAMP), Mineiros - GO, Brasil

***Natlin Rafaelly Dias Buscariol***

Student of the medical course of the institution: Faculdade Morgana Potrich (FAMP), Mineiros - GO, Brazil

***Paula Queiroz de Almeida***

Student of the medical course of the institution: Faculdade Morgana Potrich (FAMP), Mineiros - GO, Brazil

***Pedro Henrique Amorim***

Student of the medical course of the institution: Faculdade Morgana Potrich (FAMP), Mineiros - GO, Brazil

***Fabio Daniel Barbosa***

Specialist professor of the Medicine course of the institution: Faculdade Morgana Potrich (FAMP), Mineiros - GO, Brazil

All content in this magazine is licensed under a Creative Commons Attribution License. Attribution-Non-Commercial-Non-Derivatives 4.0 International (CC BY-NC-ND 4.0).



**Abstract:** Crohn's disease is a chronic inflammatory process that still has no known etiology. Clinical manifestations are usually of an inflammatory, obstructive and fistulizing nature. The most frequent sites of involvement are the small and large intestines, however, in 50% of cases they affect the perineal region, stomach, esophagus and mouth. Associated or isolated extraintestinal manifestations are manifested in the skin, joints, eyes, and liver. It is worth remembering that these are directly proportional to the intensity of the intestinal inflammatory process. The diagnosis of the disease is made with a combination of clinical data analysis (anamnesis, physical examination and complementary tests). Regarding the biological symptoms, patients affected by the disease can also trigger emotional disturbances during its outcome, thus, the psychological impact presents a great transformation in the patient's own experience, leading him to suffer serious emotional damage when the chronicity of the disease is discovered. Crohn. The physical limitations produced by this disease associated with clinical symptoms, promote direct impacts on intersocial relationships, especially in the family, bringing with them feelings of fear and insecurity, resulting from the physical changes that in certain cases can be clearly visible.

**Keywords:** Crohn's disease, Crohn's disease and atypical form, Extraintestinal symptoms and Crohn's, Emotional disorders.

## INTRODUCTION

Crohn's disease (CD) was first reported in 1932 by Crohn, Ginsburg and Oppenheimer. Its etiology is still unknown. It is an idiopathic disease, not curable by clinical or surgical treatment; moreover, it is believed that the inflammatory process is the result of a combination of genetic

predisposition, environmental factors and abnormal immune response of the intestinal microbiota. Crohn's disease is a chronic, transmural, discontinuous inflammatory disease that affects the intestinal thickness, causing damage to the integrity of the mucosa and the function of absorption, it can affect any portion of the gastrointestinal tract, reduce the quality of life, it can present fistulas, fissures, granulomas and thickening of the intestinal wall and, so far, its cure is unknown<sup>1,2</sup>.

The incidence of inflammatory bowel diseases is currently increasing, and first-degree relatives are about 20 times more likely to develop the disease than the general population. It has a prevalence of about 12 cases to close to 55 cases per 100,000 inhabitants, depending on the region and the epidemiological study. The highest concentration is in the Southeast and South regions due to the human development index and urbanization. Currently, the average incidence of new cases of Crohn's disease is 7 per 100,000 inhabitants. In developed countries, such as the USA, Canada and European countries, the prevalence is between 120/130 per 100,000 inhabitants. Over the decades, it is possible to observe a trend in the increase of Crohn's disease in developing countries similar to already developed countries, warns Dr. Rogerio Saad-Hossne, full member of the Brazilian Society of Coloproctology (SBCP) and president of GEDIIB, based on a study conducted by: Gasparini *et al.* <sup>1</sup> released in 2018.

The presentation of Crohn's disease varies according to the site of involvement and the predominant pattern of the disease, which can manifest itself as inflammatory, fibrostenosing or fistulizing. Thus, the inflammatory pattern of the disease is determined by ulceration of the mucosa and thickening of the intestinal wall. There is also

the appearance of edema, which can lead to narrowing of the intestinal lumen, which can give rise to obstructive symptoms. The fibrostenosing pattern, on the other hand, is characterized by cicatricial fibrosis, which reduces the intestinal lumen, can generate a partial or total intestinal obstruction and does not respond to clinical treatment. The fistulizing pattern is represented by fistulizing tracts, fistulas and abscesses secondary to deep ulcerations in the intestinal mucosa<sup>3</sup>.

Crohn's disease is considered an autoimmune disease because the body's immune system mistakenly defends itself against healthy body tissue. Thus, inflammation causes the bowel to swell and bleed, impairing the bowel's ability to absorb nutrients. The disease manifests itself among young adults, with a higher peak between 20 and 30 years of age, and may also affect children and the elderly. Stress and diets do not cause the disease, but they can aggravate it. Smoking and blood relatives diagnosed with Crohn's disease are considered risk factors for the disease<sup>4</sup>.

Genetically, Crohn's Disease initiates its immune response by Th1 cells, which are responsible for activating the immune response to the CD carrier and the cytokines: IL-12, TNF $\alpha$  and IFN- $\gamma$ . Studies establish different patterns of cytokines in different stages of the disease. Chronic injuries associated with elevated levels of: IL-2, IFN- $\gamma$ , TNF- $\alpha$  and IL-12 and IL-18<sup>5</sup>.

The pathophysiology raises many questions, because its cause is unknown, but it is believed that a nonspecific event, such as an infection, associated with environmental factors, works as a trigger in a genetically susceptible individual that activates a deregulated and inflammatory immune response<sup>4</sup>.

The activity of Crohn's disease can be classified as mild, moderate and severe, but

it depends on the intensity of the symptoms, through: *Crohn's Disease Activity Index (CDAI)*, which uses daily data, for a week, on: number of liquid evacuations, intensity of abdominal pain, general well-being of the patient, presence of complications of the disease, use of antidiarrheals, presence of abdominal mass, hematocrit and body mass<sup>6</sup>.

There are two phases of the disease: active and silent. The disease becomes symptomatic when extensive or distal lesions appear associated with a systemic inflammatory reaction or when the patient's condition presents complications such as stenosis, abscesses or fistulas. Since the emergence of strictures and fistulas can take years to develop<sup>6</sup>.

Symptoms are variable. They occur according to the location of the lesions, but include abdominal pain, weight loss and chronic diarrhea for more than 6 weeks – which may have mucus, pus or blood –, malnutrition, anorexia, fever and asthenia<sup>3</sup>.

In Crohn's disease, extra intestinal manifestations may also occur, related to disease activity, which can cause even more severe symptoms than the disease itself. These extraintestinal manifestations are ocular, cutaneous, hepatobiliary and joint, in addition to renal lithiasis and thromboembolic phenomena<sup>2</sup>.

The most common cutaneous manifestations in CD are erythema nodosum and pyoderma gangrenosum. Erythema nodosum precedes or may indicate CD activity in the colon, is more common in females, and manifests as a 1- to 5-cm red or purplish nodule on the surface of the extremities. Ocular manifestations such as conjunctivitis, iritis, episcleritis and uveitis can lead to blindness associated with periods of disease activity<sup>2</sup>.

The diagnosis results in the analysis of clinical data, anamnesis, physical examination,

combination of endoscopic, histological, radiological and/or biochemical investigation and proctological examination. It is important to highlight that in CD there is no specific diagnostic test. In the anamnesis, one must ask about the onset of symptoms, whether the patient has recently traveled, whether they have food intolerance, regarding the previous use of medications, about the history of appendectomy. One must also ask if the patient has risk factors such as smoking, family history and recent infectious gastroenteritis, if he has noticed any changes or manifestations involving the mouth, eyes or joints<sup>7</sup>.

During the physical examination, assess the general condition of the patient, perform pulse measurement, blood pressure measurement, temperature measurement and body mass index measurement. Also perform oral inspection, abdominal inspection and palpation looking for tenderness, abdominal distension or palpable mass, perineal inspection and digital rectal examination<sup>6</sup>.

Thus, the diagnosis will only be confirmed through clinical evaluation and a combination of endoscopic, histological, radiological and/or biochemical investigation, proctological examination, because there are cases of anal canal stenosis, ulcers and asymptomatic fistulas, which makes it essential the inclusion of the exam. If possible, sigmoidoscopy must also be performed, as it allows the assessment of disease activity in addition to biopsy. In radiological examinations, computed tomography and magnetic resonance imaging are being increasingly used, as they assess intestinal parietal involvement and the frequent complications associated with CD. Computed tomography can reveal thickening of the intestinal loops, alterations in the mesenteric fat, retroperitoneal and greater omentum, presence of regional lymph node enlargement, abscesses, fistulas and inflammatory masses<sup>7</sup>.

However, colonoscopy is increasingly being used to confirm the diagnosis of CD, to assess the extent of the disease, and to obtain a biopsy<sup>7</sup>.

During the investigation of Crohn's disease, it is important that a laboratory evaluation occurs, requesting blood count, erythrocyte sedimentation rate (ESR), inflammatory markers (C-reactive protein and fecal calprotectin), iron kinetics, if necessary, hepatogram. Combined tests, particularly C-reactive protein, erythrocyte sedimentation rate, and fecal calprotectin, are useful as a screening test in individuals who report gastrointestinal problems<sup>6,9</sup>.

Fecal calprotectin plays an important role during laboratory investigation. This test has been increasingly used, since the level of calprotectin in feces is approximately six times higher than in serum. This means the stool test is more sensitive and more specific for bowel disease, helping clinicians identify and differentiate between Inflammatory Bowel Diseases (IBD). Fecal calprotectin has characteristics that allow discrimination between inflammatory and non-inflammatory disorders and their severity. High levels show that the disease is in the active phase, which helps the doctor to start treatment or request other tests, such as computed tomography and colonoscopy. The test is also used for monitoring intestinal diseases, mainly monitoring response to treatment and preventing possible recurrence of intestinal diseases<sup>9</sup>.

In CD there is no definitive cure, clinical treatment must be individualized and aims at remission of the disease and to prevent possible complications. Thus, clinical treatment is focused on providing mucosal healing, improving the patient's quality of life, reducing or eliminating the use of medications, avoiding hospitalization and surgery, restoring and maintaining nutritional status<sup>4</sup>.

Drug treatment starts from the location of the disease, intensity of presentation, response to previous drug therapy and diagnosis of complications. Corticosteroids are used in the acute phase of the disease, with the aim of inducing remission, at a dose of 0.5 to 0.75 mg/kg/day, they can be administered orally, parenterally or rectally, and must not exceed 40mg/day in one shot in the morning. During the use of corticosteroids, it is imperative to warn the patient about the early side effects of the drug, such as acne, full moon face, sleep or mood disorders, dyspepsia and hyperglycemia. Antibiotics will be indicated for cases of septic complications and perianal disease and the most used are ciprofloxacin and metronidazole<sup>3</sup>.

Immunosuppressive drugs are also used in CD when the disease presentation is mild to moderate. Azathioprine, at a dose of 2 to 2.5 mg/kg/day, and 6-mercaptopurine, at a dose of 1 to 1.5 mg/kg/day, can be combined with corticosteroids or biologic agents to induce remission of disease faster<sup>3,4</sup>.

There is also fecal transplantation as a treatment route for Crohn's disease because it has varied and not very consensual results. However, there are reports of cases of clinical remission of the disease through fecal transplantation. Thus, it is worth noting that, in the future, fecal transplantation will play an important role as an alternative treatment for Crohn's disease<sup>10</sup>.

Surgical treatment of Crohn's disease is indicated for complications and when clinical intractability or refractory disease is characterized. It aims to relieve symptoms, treat complications, prevent the development of carcinoma, remove medications, reestablish the patient's quality of life. However, the surgical decision is based on the severity of the symptoms, the failure of the clinical treatment and the evaluation of the operative risk<sup>3</sup>.

Currently the surgical options for Crohn's disease are intestinal resections, intestinal stomas, by-pass, enteroplasty and laparoscopy. Among these, intestinal resection is the most performed procedure. Resection of diseased tissue is performed, not being fundamental, resections with safety margins to avoid short bowel syndrome. Bypass is a technique of exclusion of the diseased segment, it is used in cases where there is a fixed ileocecal mass adhered to the retroperitoneum. Enteroplasty is used to avoid resection and preserve the function and length of the small bowel. Laparoscopic surgery has been increasingly used, especially in young patients in good physical condition, it is safer and reduces hospitalization time and postoperative morbidity<sup>3</sup>.

Patients with Crohn's disease can become pregnant, as long as preconception counseling occurs and the disease is in remission. Regarding the mode of delivery, cesarean section is indicated in cases of active perianal or rectal disease and vaginal delivery can be performed in other cases<sup>2</sup>.

## METHODOLOGY

This study was carried out through a literature review in a narrative form. The research was carried out based on an analysis of scientific articles about Crohn's disease, in the databases: Scielo, Pubmed, CAPES journal portal, Journal of Translational Medicine and academic Google. Research carried out in the last 20 years was taken into account, with preference for studies from 2010 to 2021, both in Portuguese and in English. The following descriptors/keywords were used: Crohn's disease, Crohn's disease and atypical form, Extraintestinal symptoms and Crohn's, Emotional disorders.

## DISCUSSION AND RESULTS

### MANIFESTATIONS

The manifestations of Crohn's disease are characterized by a period in which the disease is active. There is a high number of infiltrated neutrophils, causing the so characteristic abscesses. The main symptoms in this acute phase are: abdominal pain, rectal bleeding, diarrhea, vomiting, fever and weight loss, which can last for several years and even decades, becoming risk factors for the development of colorectal cancer.

Subsequently, due to all the above manifestations, they may still develop extra intestinal problems such as arthritis, eye, skin, liver and kidney complications.<sup>1,11,12</sup>

Therefore, CD is defined as a chronic inflammatory pathology of the intestinal mucosa that occurs in a certain region and can manifest in other proximal organs.<sup>13</sup> It commonly affects the intestinal wall in a segmental way and, asymmetrically, the entire intestinal tract or specific regions (gastrointestinal, mouth and even anus), as previously defined. However, it can also manifest in the ileum and colon, in regional lymph nodes and in the mesentery, histologically presenting ulcerations, fistulas and granulomas<sup>14</sup>.

The symptoms presented may progress to anemia, fatigue, weight loss, lack of appetite and rectal bleeding. It can be observed, in many cases, the occurrence of some abscesses and fistulas<sup>11,12</sup>.

The clinical manifestations of CD are very variable and are related to the anatomical location and severity of inflammation. In light of this placement, CD is subdivided into subcategories, whose denominations are connected to the affected areas, exemplifying these consonants, we have in Table 1<sup>11,13</sup>:

The ileus and the cecum	The symptomatology resembles appendicitis and here the diagnosis of CD is occasionally made by surgery abdominal.
The ileus	The main clinical manifestations are pain in the right lower quadrant, intermittent diarrhea and fever, and the appearance of a hypersensitive mass in the lower quadrant. abdomen right.
In fasting	The main manifestations can be bad absorption and malnutrition.

Table 1 – subcategories of affected areas.

Source: RUBIN e PALAZZA, (2006).

Crohn's disease can be estimated as having a low incidence, considering the large number of pathologies in the gastrointestinal tract. Studies confirm that the disease, in the general population, is difficult to establish, mainly due to the difficulty of diagnosis, variety of its clinical forms, limitations of specialized and professional resources.<sup>13</sup>

The diagnosis of this group of pathologies is currently based on the analysis of clinical, radiological, laboratory, endoscopic and histological data, but this approach has some limitations, especially in cases with the simultaneous presence of features related to Crohn's disease. However, there are genetic, immune factors that trigger inflammatory situations, and environmental factors. Crohn's Disease differs from other Inflammatory Bowel Diseases (IBD) by its inflammatory characteristic, damage to the gastrointestinal tract, distribution and penetration into the mucosa. The formation of ulcers are characteristic manifestations that initially occur due to the inflammatory process, narrowing of the lumen, thickening of the intestinal wall and granulomas in the mucosa, which are marked by signs of abdominal pain, diarrhea, and may progress to hemorrhage, asthenia, weight loss, fever and nutritional deficit<sup>11,15</sup>.

A number of infiltrated neutrophils causing the characteristic abscesses may appear in the active phase of the disease. Fistula formation is also common.<sup>11,12</sup> In addition to the aforementioned manifestations, systemic and extraintestinal problems that occur frequently and often complicate the treatment may arise. Symptoms can involve almost any organ system, although they are considered a separate systemic disorder of unknown etiology. These extraintestinal manifestations in CD are described in Table 2:<sup>11</sup>

Arthritis	<ul style="list-style-type: none"> <li>Peripheral arthritis: involvement of large joints; migratory aspect, and non-deforming asymmetrical.</li> <li>Ankylosing spondylitis: morning stiffness, low back pain, and hunched posture</li> </ul>
Ocular	<ul style="list-style-type: none"> <li>Ocular uveitis, episcleritis, and serous retinopathy are conditions affecting the eyes related to the retina.</li> </ul>
Cutaneous	<ul style="list-style-type: none"> <li>Skin bumps or occasionally open sores that taper to a point usually appear on the lower part of the body. This skin condition is erythema nodosum and appears when redness appears on the skin. It is located in front of the leg and causes discomfort. Pyoderma gangrenosum causes skin sores, severe necrotizing pain, particularly in the early stages of the affliction.</li> </ul>
Hepatobiliary	<ul style="list-style-type: none"> <li>Chronic hepatitis and fatty liver come from cholestasis. Danger when associated with active disease and liver damage, pericolangitis.</li> </ul>
Renal	<ul style="list-style-type: none"> <li>Kidney stones and urinary tract obstruction</li> </ul>

Table 2 – extra intestinal manifestations in CD.

Source: FRANCES, et al. (2010).

CD patients face complications typically associated with bleeding and obstructions. Intestinal narrowing, especially in the final portion of the ileum, occurs in excess. Obstruction can be caused by fibrous adhesions and other causes. Openings in the intestines usually due to ulcers with

deep fissures, which result in inflammation, fistulas, perianal abscesses, toxic megacolon and intra-abdominal fissures and are all associated with Crohn's disease. Cellular dysplasia can eventually turn into colorectal carcinoma - providing a final indicator of disease progression<sup>11,13,16</sup>.

Crohn's disease, in the general population, is difficult to diagnose, considering that the onset of symptoms is similar to Ulcerative Colitis and the clinical manifestations require a rigorous clinical history and a physical examination, since there are no specific tests for the disease, being a set of investigations is necessary to establish the diagnosis. Initial symptoms are usually constant diarrhea, abdominal pain, weight loss and mild fever. These symptoms can often be interpreted as not being sufficient to request a detailed and necessary investigation, as they often delay the diagnosis even for a few years. Manifestations can also be caused by extra-intestinal symptoms, making clinical diagnosis even more difficult.<sup>14</sup>

Findings on physical examinations may vary with the degree of disease progression. The most relevant alterations are: anemia, malnutrition and fever. Pain on palpation in the lower right quadrant of the abdomen is an indication that there may be a fissure, lesions or even abscesses or fistulas in the perianal region. Abscesses can give rise to constant pain, fever peaks, extraintestinal manifestations and fistulas. Abdominal pain accompanied by cramps is an inflammatory reaction of the walls of the intestines. These pains often bring a feeling of abdominal distention, worse during meals, as they obstruct the injured segment. Feeling around the navel or right side, these abdominal pains and inflammatory reactions of the intestinal walls can hinder the desire to eat, consequently leading to the appearance of anemia, anorexia and weight loss.<sup>6,14</sup>

Diarrhea is one of the most common complaints in patients with Crohn's disease. What leads to this conclusion is the number of bowel movements of up to 6 times a day – being more recurrent at night – and may be accompanied by abdominal fever. These manifestations become more critical when liquid diarrhea leads to the loss of hydroelectrolytes, leading to anemia, excessive weight loss, weakness and malaise. Diarrhea in Crohn's disease manifests itself in two ways: high, when it affects the ileocecal region, and low, it covers the colon and rectum region and there is the presence of occult blood in the stool, which can lead to anemia. Tenesmus and the need to seek treatment are common if the rectum is involved. In Crohn's disease, diarrhea can be composed between low and high - high, when it attacks the small intestine and colon. In children, these symptoms can lead to vitamin deficiency, negative nitrogen balance and with that delayed growth, among others<sup>13,14</sup>.

The main differential diagnoses can be summarized according to Table 3.<sup>3</sup>

CD related to the small intestine	<ul style="list-style-type: none"> <li>• Irritable bowel syndrome</li> <li>• Acute appendicitis</li> <li>• Intestinal tuberculosis</li> <li>• Endometriosis</li> <li>• Pelvic inflammatory disease</li> <li>• Lymphoma</li> </ul>
Colonic CD	<ul style="list-style-type: none"> <li>• RCU</li> <li>• Undetermined colitis</li> <li>• Pseudomembranous colitis</li> <li>• Substance-induced colitis – NSAIDs, cytostatic drugs, gold, contraceptives, suppositories containing ergotamine, acetylsalicylic acid, phenylbutazone, vasopressin and digitalis)</li> <li>• Actinic colitis</li> <li>• Ischemic colitis</li> <li>• Infectious colitis</li> <li>• Collagenous colitis</li> <li>• Diverticulitis</li> <li>• Solitary rectal ulcer</li> <li>• Behçet's disease</li> <li>• Colorectal neoplasia</li> </ul>

Other CD differential diagnoses	<ul style="list-style-type: none"> <li>• Bacterial enterocolitis (Samonella, Shoghella, Campylobacter, Yersinia, Clostridium, Staphylococcus, enteroinvasive Escherichia coli and amoebiasis)</li> <li>• Actinic enteritis</li> <li>• Intestinal injury secondary to non-steroidal anti-inflammatory agents (NSAIDs)</li> <li>• Gynecological malignancies</li> </ul>
---------------------------------	---

Table 3 - Differential diagnosis.

Source: LOUSA (2019).

This way, the non-classical clinical manifestations of Crohn's disease can often be associated with another pathology, however, when the differential diagnosis is made, we can prove that the patient's clinical condition is related to Crohn's disease, that is, featuring an atypical manifestation.<sup>3,11</sup>

## FINAL CONSIDERATIONS

Crohn's disease is a chronic inflammatory pathology, with manifestations such as abdominal pain, rectal bleeding and diarrhea. The diagnosis is based on clinical, laboratory and histological data. It is considered difficult to establish the diagnosis, as the clinical manifestations of Crohn's Disease and Ulcerative Colitis are similar. Therefore, treatment will be based on medications that help control the disease. Thus, it can be seen that the clinical manifestations of Crohn's disease are extremely variable, associated with the anatomical location and magnitude of inflammation. One of the most common complaints of abdominal pain is distention, which is worse during meals, which, associated with colic, can interfere with the desire to eat.

Extraintestinal manifestations may occur at the beginning of the changes. Articular, ocular, dermatological, hepatobiliary, nephrological, hematological, vascular, pancreatic, pulmonary and cardiac alterations may occur. Thus, this review strengthens the theory that manifestations can occur in several ways.



## REFERENCES

1. Protásio BK, Barbosa CM, Neufeld CB, Buck LD, Laund LS, Toporovski MS, et al. Especificidades da apresentação da doença de Crohn na infância. *Einstein* (São Paulo), v.1, p.16-19, 2018
2. MACHADO, K.E, Andrade P.C., Toledo T.T, Peres E.M., Gomes H.F, Almeida I.S, et al. Aspectos sociodemográficos e clínicos relacionados a doença de Crohn em adolescentes. *Enfermagem em Foco*, v.12, p.957-963, 2021
3. MACHADO, R.L.; Doença de Crohn. In: Colégio Brasileiro de Cirurgiões; PROACI Programa de Atualização em Cirurgia: Ciclo 15. Artmed Panamericana. Porto Alegre, p. 67- 104, 2017
4. COELHO, Júlio. Aparelho digestivo: clínica e cirurgia. Quarta edição. São Paulo: Editora Atheneu, 2012
5. ROBBINS & CONTRAN, Tratado de Fisiologia Médica: Patologia, Conhecimento sem fronteiras, Rio de Janeiro, Rosane Guedes, p. 820-823, 2011.
6. LIMA, Flávia D. et al. Oscilação do humor em pacientes com doença de Crohn: incidência e fatores associados. *Revista da Associação Médica Brasileira*, v. 58, n. 4, p. 481-488, 2012.
7. CANTARELLI BCF, OLIVEIRA RS, ALVES AMA, RIBEIRO BJ, VELLONI F, D'IPPOLITO G. Avaliação da atividade inflamatória da doença de Crohn por métodos seccionais de imagem. *Radiol Bras.* 2020 Jan/Fev;53(1):38-46.
8. COLOPROCTOLOGIA, Sociedade Brasileira de. et. al. Doença de Crohn: manejo. *Rev. Assoc. Med. Bras.*, vol. 57, n 1, p. 10-13, 2011
9. Kotze LMS, Nisihara RM, Marion SB, Cavassani MF, Kotze PG. Fecal calprotectin: levels for the ethiological diagnosis in Brazilian patients with gastrointestinal symptoms. *Arq. Gastroenterol.*, v. 52, n.1, p. 50-54, 2015.
10. Weingarden, AR, Vaughn BP. Intestinal microbiota, fecal microbiota transplantation, and inflammatory bowel disease. *Gut Microbes.* 2017;8(3):238-52.
11. Frances, D., Monahan, F, Sharon, A., et al. (2010). Problemas do intestino. In: Monahan. F, D., Sands, J., K., Neighbors, M., et al. (Ed.). *Enfermagem Médico Cirúrgica. Perspectivas de Saúde e Doenças.* 8ª edição. Loures, Lusodidacta, Volume III, pp. 1284-1291.
12. Sérgio, J., S., Coutinho, I., e Marques, S. (2004). Aparelho Digestivo. In: Sérgio, J., S., Coutinho, I., e Marques, S. (Ed.). *Fundamentos da Patologia para Técnicos de Saúde.* 2ª edição
13. Rubin, E., Palazza, J. P., DOENÇA INTESTINAL INFLAMATÓRIA, Rio de Janeiro, Guanabara Koogan 2006.
14. KOTZE LMS; PAROLIN MB; KOTZE PG. Doença de Crohn. In: DANI R. *Gastroenterologia Essencial.* Rio de Janeiro: Guanabara Koogan, 2001.
15. DA SILVA, Marcos Miranda. Biomarcadores na Doença Inflamatória Intestinal. 2013.
16. Stevens, A., e Lowe, J. (2002). O trato alimentar. In: Stevens, A., e Lowe, J. (Ed.). *Patologia.* 2ª edição

## GLOSSÁRIO

CDAI - Crohn's Disease Activity Index

DC - Doença de Crohn

DII - Doenças Inflamatórias Intestinais

GEDIIB - Grupo de Estudos de Doença Inflamatória Intestinal do Brasil RCU - Retocolite Ulcerativa

SCBCP - Sociedade Brasileira de Coloproctologia VHS - Velocidade de hemossedimentação

#### Instruções aos Autores

#### 1. FINALIDADE

A REVISTA BRASILEIRA DE COLOPROCTOLOGIA é publicada sob a orientação da Comissão Editorial, sendo os conceitos emitidos de inteira responsabilidade dos autores. Tem por finalidade a apresentação de trabalhos sobre medicina e cirurgia humanas, elaborados por especialistas nacionais ou estrangeiros, que se enquadrem no “Regulamento dos Trabalhos”.

#### 2. APRESENTAÇÃO

A REVISTA BRASILEIRA DE COLOPROCTOLOGIA é publicada trimestralmente num volume anual, com índice remissivo em dezembro. É remetida exclusivamente a seus assinantes, colaboradores, bibliotecas, hospitais, sociedades médicas, centros de estudo e aos periódicos nacionais e estrangeiros com os quais mantém permuta. A RBCP aprova e segue os preceitos recomendados em um guideline publicado em 1997 pelo Committee on Publication Ethics (COPE), sugerindo e recomendando que os autores leiam as instruções contidas no mesmo antes de encaminharem para avaliação.

#### 3. REGULAMENTO DOS TRABALHOS

##### 3.1. Normas Gerais

Os trabalhos devem ser inéditos e destina-se exclusivamente à REVISTA BRASILEIRA DE COLOPROCTOLOGIA. Os artigos de revisão serão inseridos a convite da Comissão Editorial. Em casos excepcionais de republicação de trabalhos nacionais ou estrangeiros, deverão estes conter autorização formal do autor e do periódico detentor do copyright. \*Estrutura do Trabalho\* Elementos Preliminares-a) \*Cabeçalho\* - título do trabalho, em português, e nome(s) do (s) autor (es). b) \*Filiação científica e endereço para correspondência.\* Texto Sempre que possível, deve obedecer à forma convencional de artigo científico-a) \*Introdução\* - Estabelecer com clareza o objetivo do trabalho, relacionando-o com outros do mesmo campo e apresentando, de forma sucinta, a situação em que se encontra o problema investigado. Extensas revisões de literatura devem ser substituídas por referências aos trabalhos bibliográficos mais recentes, onde tais revisões tenham sido apresentadas. b) \*Pacientes e Métodos\* - A descrição dos Métodos usados deve limitar-se ao suficiente para possibilitar ao leitor sua perfeita compreensão e repetição; as técnicas já descritas em outros trabalhos serão referidas somente por citação, a menos que tenham sido consideravelmente modificadas. c) \*Resultados\* - Devem ser apresentados com clareza e, sempre que necessário, acompanhados de Tables e material ilustrativo adequado. d) \*Discussão\* - Deve restringir à apresentação dos dados obtidos e dos resultados alcançados, relacionando as novas contribuições aos conhecimentos anteriores. Evitar hipótese ou generalizações não baseadas nos resultados do trabalho. e) \*Conclusões\* - Devem ser fundamentadas no texto.

As normas que se seguem foram baseadas no formato proposto pelo International Committee of Medical Journal Editors e publicado no artigo: Uniform requirements for manuscripts submitted to biomedical journals, que foi atualizado em outubro de 2004 e está disponível no endereço eletrônico <http://www.icmje.org/>.

Para apresentação de ensaios clínicos randomizados, recomenda-se que o trabalho esteja em conformidade com o CONSORT guidelines (Begg C, Cho N, Eastwood S et al. Improving the quality of reporting of randomized clinical trials: the CONSORT atatement. JAMA 1996;276:637-9).

Uma lista de verificação está disponível no web site do JAMA: <http://jama.ama-assn.org>.

## PROCESSO DE JULGAMENTO DOS MANUSCRITOS

Os manuscritos submetidos à Revista, que atenderem às “instruções aos autores” e que se coadunem com a sua política editorial são encaminhados a 4 membros do conselho editorial, que considerarão o mérito científico da contribuição. Os manuscritos são encaminhados aos relatores previamente selecionados aleatoriamente pelos Editores.

O anonimato é garantido durante todo o processo de julgamento. A decisão sobre aceitação é tomada pelos Editores, após avaliação de 4 membros do conselho editorial e, tendo sua publicação recomendada por pelo menos 3/4 dos mesmos. Cópias dos pareceres poderão ser encaminhados aos autores e relatores, estes por sistema de troca entre eles.

Manuscritos recusados - Manuscritos não aceitos não serão devolvidos, a menos que sejam solicitados pelos respectivos autores. Manuscritos recusados, mas com a possibilidade de reformulação, poderão retornar como novo trabalho, iniciando outro processo de julgamento.

Manuscritos aceitos - Manuscritos aceitos ou aceitos sob condição poderão retornar aos autores para aprovação de eventuais alterações no processo de editoração e normalização de acordo com estilo da Revista.

Aprovação para Publicação - Todos os artigos propostos à publicação serão previamente submetidos à apreciação de 4 membros do Conselho Editorial. Quando aceitos, estarão sujeitos a pequenas correções ou modificações que não alterem o estilo do autor. Eventuais modificações na forma, estilo ou interpretação só ocorrerão após prévia consulta. Quando recusados, os artigos serão devolvidos com a justificativa do Editor Chefe. Os comentários dos Conselheiros, nestes casos, poderão ser enviados pelo Editor Chefe ou solicitados pelo Autor

### Correção Final

Os Artigos para publicação serão encaminhados, em prova gráfica, ao autor para as correções cabíveis e devolução no menor prazo possível. Se houver atraso na devolução da prova, o Editor Chefe reserva-se o direito de publicar, independentemente da correção final.

A prova gráfica será enviada ao autor cujo endereço foi indicado para correspondência, ficando o mesmo responsável pela apreciação final da matéria, estando os demais de acordo com a publicação da mesma.

## PREPARO DO MANUSCRITO

• **Página de Identificação:** Deve conter: a) Título do artigo, em português, que deverá ser conciso, porém informativo; b) nome completo de cada autor e afiliação institucional; c) nome do departamento e Instituição aos qual o trabalho deve ser atribuído; d) nome, endereço, fax

e e-mail do autor responsável e a quem deve ser encaminhada correspondência, e) Sources de auxílio à pesquisa, f) potenciais conflitos de interesse.

- **Resumo e descritores:** A segunda página deve conter o resumo, em português e inglês, de não mais que 200 palavras para artigos originais, de revisão, comunicações breves e artigos de atualização. Para os artigos originais, de revisão e comunicações breves deve ser estruturado, destacando os objetivos do estudo, métodos, principais resultados apresentando dados significativos e as conclusões. Para as atualizações, o resumo não necessita ser estruturado, porém deve conter as informações importantes para reconhecimento do valor do trabalho. Abaixo do resumo, especificar 5 descritores que definam o assunto do trabalho. Os descritores deverão ser baseados no DeCS (Descritores em Ciências da Saúde) publicado pela Bireme que é uma tradução do MeSH (Medical Subject Headings) da National Library of Medicine e disponível no endereço eletrônico: <http://decs.bvs.br>

- **Texto:** Deverá obedecer à estrutura exigida para cada categoria de artigo. Em todas as categorias a citação dos autores no texto deverá ser numérica e seqüencial, utilizando algarismos arábicos entre parênteses e sobrescritos, evitando indicar o nome dos autores. Citações no texto e referências citadas em legendas de Tables e figuras devem ser numeradas consecutivamente na ordem em que aparecem no texto, com algarismos arábicos (números índices). Deve-se incluir apenas o número da referência, sem outras informações.

- **Tables:** Cada Table deve ser enviada em folha separada. As Tables devem ser numeradas consecutivamente, com algarismos arábicos, na ordem que foram citadas no texto encabeçadas por um título apropriado. Devem ser citadas no texto, sem duplicação de informação. As Tables, com seus títulos e rodapés, devem ser auto-explicativas. Tables provenientes de outras Sources devem citar as referências originais no rodapé.

- **Figuras e gráficos:** As ilustrações (fotografias, gráficos, desenhos etc.) devem ser enviadas individualmente.

Devem ser numeradas consecutivamente com algarismos arábicos, na ordem em que foram citadas no texto e serem suficientemente claras para permitir sua reprodução. As legendas para as figuras deverão constar em página separada. Fotocópias não serão aceitas. Se houver figuras extraídas de outros trabalhos previamente publicados, os autores devem providenciar permissão, por escrito, para a sua reprodução. Esta autorização deve acompanhar os manuscritos à publicação.

- **Análise estatística:** Os autores devem demonstrar que os procedimentos estatísticos utilizados foram não somente apropriados para testar as hipóteses do estudo, mas também corretamente interpretados. Os níveis de significância estatística (ex.  $p < 0,05$ ;  $p < 0,01$ ;  $p < 0,001$ ) devem ser mencionados.

- **Abreviações:** As abreviações devem ser indicadas no texto no momento de sua primeira utilização. Em seguida, não se deve repetir o nome por extenso.

- **Nome de medicamentos:** Deve-se usar o nome genérico.

- **Agradecimentos:** Devem incluir as colaborações de pessoas, grupos ou instituições que merecem reconhecimento, mas que não tem justificadas suas inclusões como autoras; agradecimentos por apoio financeiro, auxílio técnico, etc.

- **Referências:** Devem ser numeradas consecutivamente na mesma ordem em que foram citadas no texto e identificadas com números arábicos. A apresentação deverá estar baseada no formato denominado “Vancouver Style”, conforme exemplos abaixo, e os títulos de periódicos deverão ser abreviados de acordo com estilo apresentado pela ListofJournalIndexed in Index Medicus, da National Library of Medicine e disponibilizados no endereço: <ftp://nlmpubs.nlm.nih.gov/online/journals/ljiweb.pdf>