REVISTA INTERDISCIPLINAR CIÊNCIAS MÉDICAS

CASE SERIES

https://doi.org/10.61910/ricm.v8i2.368

Clinical and lifestyle profile of patients with Crohn's disease assisted by the continuum of care at a public outpatient clinic in Belo Horizonte

Perfil clínico e de estilo de vida de pacientes com Doença de Crohn assistidos pela linha contínua de cuidados de um ambulatório público em Belo Horizonte

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ABSTRACT

Introduction: Crohn's disease (CD) is a chronic condition characterized by intestinal inflammation that can affect the entire gastrointestinal tract. The incidence and prevalence of CD have rapidly increased in recent years in Asia and Latin America, significantly impacting global health systems. This trend necessitates evaluating its consequences based on clinical factors. **Objective**: To outline the clinical and lifestyle profile of patients diagnosed with CD who are assisted by the Continuous Line of Care at a gastroenterology outpatient clinic in Belo Horizonte, Minas Gerais, Brazil. **Methodology**: This observational case series study included individuals diagnosed with CD. **Results**: Of the 38 individuals included, 55.3% (n=21) were female, with a mean age of 47.6 ± 19.4 years. Half of the sample (n=19; 50.0%) had no data on their Body Mass Index (BMI). Regarding lifestyle, 55.26% (n=21) reported not practicing physical activity and not smoking, while 60.52% (n=23) reported not consuming alcohol. **Conclusion**: The individuals analyzed had a clinical profile that corroborated previous studies published in the national literature. Furthermore, there is a need for more national studies to help address risk factors and improve the quality of life for this population.

Keywords: Crohn's Disease; Epidemiology; Lifestyle.

INTRODUCTION

Crohn's disease (CD) is a chronic pathology characterized by speckled lesions with transmural intestinal inflammation that can affect the entire gastrointestinal tract.[1] CD has an incidence of 3 to 20 cases per 100,000, with a predominance in females and adults over 30 years of age, with a higher occurring in developed countries.[2]

The incidence and prevalence of CD have increased in recent years in Western Latin American countries, and knowledge about the pathophysiology of the disease remains scarce.[3,4] In Brazil, there is a variation in prevalence between regions of the country, with the CD being more common in the Southeast.[5,6] The incidence of CD decreased from 3.7 in 2012 to 2.7 per 100,000 in 2020, and the prevalence from 12.6 to 33.7 per 100,000, with São Paulo, Paraná, and Santa Catarina being the states with the highest prevalence.[7]

Characterized by systemic and extraintestinal symptoms, it usually affects young adults between the second and third decades of life. Abdominal cramps, diarrhea, dysentery, weight loss, emesis, and fever are some of the common symptoms of the disease.[8] Failure to control the inflammation of this pathology can lead to long-term complications, such as fibrotic stenosis, intestinal abscesses, enteric fistulas, and the appearance of intestinal neoplasia.[9]

Given its multifactorial etiology, which is still not fully understood, the literature identifies various factors that may explain the possible causes of this pathology. Among these factors are inadequate lifestyle habits, such as harmful eating habits, smoking, and imbalances in the intestinal microbiota, which can directly influence the imbalance between luminal antigens and the intestinal immune response, leading to intensified inflammation.[10] In addition, a sedentary lifestyle has been associated with the pathogenesis of CD, negatively affecting the quality of life of these patients. By preventing the benefits of clinical improvement and the modulation of immune function, a sedentary lifestyle includes the suppression of pro-inflammatory factors and an increase in anti-inflammatory mechanisms.[11]

Given that the diagnosis of CD is made through a combination of several factors and that its predisposing factors are conflicting in the literature, it is essential to consider social, physiological, and psychological factors for a comprehensive approach to the treatment of CD, aiming not only to control physical symptoms but also to provide emotional and social support to patients, improving their overall quality of life.[12] Therefore, it is necessary to characterize the clinical and lifestyle profile of patients with a previous diagnosis of CD assisted by the continuum of care at a public gastroenterology outpatient clinic.

METHOD

Study design

This is an observational case series study with data from the medical records of individuals assisted by the line of care at an outpatient clinic in Belo Horizonte, selected for evaluation between November and December 2023. This study was previously approved by the Research Ethics Committee of the Faculdade de Ciências Médicas de Minas Gerais (67124822.0.0000.5134) and followed ethical principles following Resolution 466/12 of the National Health Council.

Sample

The medical records were selected on a non-probabilistic basis, respecting the patient's decision whether to take part in the study. This study included individuals referred from Basic Health Units to the continuum of care of a gastroenterology outpatient clinic in Belo Horizonte. The individuals included had a confirmed diagnosis of CD by December 2023. As an exclusion criterion, participants without a diagnosis of CD were considered, even if they had been referred to the line of care.

Research instruments

Data was collected using the MV PEP electronic platform, made available by the institution. The data was tabulated in Excel® 2013 spreadsheets by double typing to ensure consistency. The following International Classification of Diseases, 10th Revision (ICD-10)13 codes were used to collect the information: K50, K50.0, K50.8, K50.9, K51, K51.2, K51.3, K51.9, K52, K52.2 and K55.

The following variables were collected: age (in years), gender (female or male), weight (in kilograms), height (in centimeters), BMI (kg/m2), smoking (smoking load), heart rate (in beats per minute), medication in use and how many classes of medication, physical activity and frequency of activity, triglycerides, HDL cholesterol, LDL cholesterol, glutamic-oxaloacetic transaminase (GOT), glutamic-pyruvic transaminase (GPT), fasting blood glucose and glycated hemoglobin (HbA1c).

Statistical analysis

The analysis was carried out using R statistical software, version 4.2.1. Categorical variables were analyzed descriptively, using frequency distribution and absolute numbers. Continuous variables were analyzed using the Shapiro-Wilk test. The confidence interval adopted was 95%. Parametric continuous variables were described by mean and standard deviation (SD), and non-parametric continuous variables were described by median and interquartile range.

RESULTS

The sample consisted of 38 participants. Of these, 55.3% (n=21) were female, with a ratio of 1.2 women for each man. Participants' ages ranged from 1 to 82 years, with an average age of 47.6 ± 19.4 years. [Table 1]

Regarding self-reported lifestyle, most of the participants evaluated denied smoking (n=21; 55.26%) and using alcoholic beverages (n=23; 60.52%). Of the participants who reported smoking, cigarette consumption varied by an average of 10.3 ± 18.1 years. When the number of packs per day was assessed, consumption ranged from 0 to 1, with an average of 0.3 ± 0.4 packs per day. Regarding physical exercise, 55.2% claimed to be sedentary (n=21), 15.7% reported exercising (n=6) and 28.9% did not answer (n=11).

Regarding BMI, half the sample had no data (n=19; 50.0%). Among those who did have data, 5.2% were classified as malnourished (n=2), 15.7% as eutrophic (n=6), 15.7% as overweight (n=6) and 13.1% as obese (n=5).

Table 1 - Baseline characteristics of CD patients receiving continuous care at a gastroenterology outpatient clinic in Belo Horizonte, 2023.

Variables	Mean ± SD
Age	47,6 ± 19,4
Weight	67,4 ± 20,4
Height	159,6 ± 23,2
BMI	26,0 ± 5,2
Smoking (years)	10,3 ± 18,1
Smoking (packs)	0,3 ± 0,4
HR	68,9 ± 11,0
HDL	53,5 ± 16,2
LDL	112,5 ± 50,2
Triglycerides	129,8 ± 42,4
TGO	25,7 ± 8,2
TGP	24,5 ± 12,7
Fasting blood sugar	95,4 ± 20,2
HbA1c	6,3 ± 2,7
Variables	**n (%)**
Gender	
Female	21 (55,26%)
Male	17 (44,73%)
Not described	0 (0%)
Categorical BP	
Normotensive	15 (39,47%)
Hypertensive	10 (26,31%)
Not described	13 (34,21%)
Smoker	
Yes	14 (36,84%)
No	21 (55,26%)
Not described	3 (7,89%)
Alcohol consumption	
Yes	12 (31,57%)
No	23 (60,52%)
Not described	3 (7,89 %)

Physical exercise	
Yes	6 (15,78%)
No	21 (55,26%)
Not described	11 (28,94%)
BMI	
Malnourished	2 (5,26%)
Eutrophic	6 (15,78%)
Overweight	6 (15,78%)
Obese	5 (13,15%)
Not described	19 (50,00%)
Medication classes	
Less than 3	17 (44,73%)
Between 3 and 5	9 (23,68%)
6 or more	3 (7,89%)
Not described	9 (23,68%)

Legend: Standard Deviation (SD); Body Mass Index (BMI); Heart Rate (HR); Glutamic Oxaloacetic Transaminase (GOT); Glutamic Pyruvic Transaminase (GPT); Glycated Hemoglobin (HbA1c).

DISCUSSION

This is the first case series to evaluate the lifestyle and clinical parameters of participants diagnosed with CD, who entered a continuous care project, referred by the municipality to the specialized and continuous gastrointestinal care service at an outpatient clinic in Belo Horizonte.

Similar to the findings of Kleinubing-Júnior et al. (2011),[14] our study showed a higher prevalence of women among the participants, with an average age of 47.6 years, close to the average of 42.3 years found in the cited study. Most participants denied smoking (55.26%), corroborating the study by Elia et al. (2007)[15] which found that 67.4% had never smoked. In the latter study, it was also observed that participants with CD had low to normal levels of HDL-C (33 to 81 mg/dL) and high levels of LDL-C (52 to 207 mg/dL), contrasting with the reference values from the 2017 Brazilian Dyslipidemias Guideline (>40 mg/dL for HDL-C and <130 mg/dL for LDL-C).[16] Compared with data from the National Health and Nutrition Examination (NHANES),[17] participants with Inflammatory Bowel Disease (IBD) showed lower levels of HDL and higher levels of LDL.

Regarding BMI, 34.2% of the participants for whom data was available showed a change. A study carried out at the Clementino Fraga Filho University Hospital[15], located in the city of Rio de Janeiro, found that 26.2% of participants had changes in BMI, with obesity being more prevalent, making it important to relate IBDs to changes in BMI.

Regarding medication use, this study found that 76.3% used drugs, corroborating data from Rosa et al. in Santa Catarina, in southern Brazil, where 93.6% of participants with CD and ulcerative colitis were on pharmacological therapy. The most used were systemic salicylates, represented by mesalazine in 36.2% of the participants, and sulfasalazine in 14.9%.[18]

Physical activity was also assessed. However, 55.2% of the participants did not do any physical activity. A cross-sectional study carried out in Juiz de Fora, Minas Gerais, compared 18 patients with CD to 12 healthy patients and found a worsening in muscle strength and capacity, as well as a decline in quality of life in patients with CD. This study highlighted the importance of motivating patients with CD to increase their level of physical activity in daily life.[19] Although there is a lack of clinical trials proving the benefit of physical activity on cardiometabolic and inflammatory outcomes and the progression of CD,[20] exercise is recommended to improve quality of life and positively impact the health of patients with IBD.[21-23]

The body weight analyzed in our study varied significantly from 7.76 to 106.50 kg, with a mean of 67.4 ± 20.4 Kg, and height ranged from 72 to 181 cm, with a mean of 159.6 ± 23.2 cm. However, no population-based studies that included these parameters in the variables to be analyzed were found. Other parameters that did not present studies for comparison were fasting glucose, triglycerides, HbA1c, TGO, TGP, heart rate, and alcohol consumption.

Limitations of the study include the absence of data such as the Crohn's Disease Activity Index (CDAI) and the measurement of inflammatory markers in the medical records used. There is a need to improve the front-line medical records to allow for more detailed analysis and in-depth study of the subject. It is necessary to increase the number of publications in the literature on inflammatory bowel diseases, including CD, to fill any gaps found from prevention to treatment.

CONCLUSION

There was a higher frequency of female CD patients, an age range of 1 to 82 years, and a high proportion of changes in BMI, indicating the need for greater attention to obesity and overweight in CD patients. The importance and need for more national, clinical studies and epidemiological trials on the current Brazilian panorama and factors related to CD are highlighted, especially concerning biochemical values such as HbA1c, fasting glycemia, triglycerides, TGO, and TGP, as well as heart rate and lifestyle habits such as alcoholism and smoking.

REFERENCES

1. Kellermann L, Riis LB. A Close View on Histopathological Changes in Inflammatory Bowel disease, a Narrative Review. Digestive Medicine Research. 2021 Mar 30;4(0).
2. Feuerstein JD, Cheifetz AS. Crohn Disease: Epidemiology, Diagnosis, and Management. Mayo Clinic Proceedings. 2017 Jul;92(7):1088–103.
3. Yamamoto-Furusho JK, Bosques-Padilla F, de-Paula J, Galiano MT, Ibañez P, Juliao F, et al. Diagnóstico Y Tratamiento De La Enfermedad Inflamatoria intestinal: Primer Consenso Latinoamericano De La Pan American Crohn's and Colitis Organisation. Revista De Gastroenterología De México. 2017 Jan 1;82(1):46–84.
4. Melo M do C, Gazzinelli BF, Oliveira A de, Rodrigues A, Fagundes E, Pimenta J. Intestinal Inflamatory Disease in Childood. Revista Médica De Minas Gerais. 2017;26.
5. Brito IG de S, Da Silva CST, Bravin BC, Mota HST, Nunes APP, Cotrim GHP, et al. A Prevalência De Casos Da Doença De Crohn Na População Brasileira No Período Entre 2013 a 2017 / the Prevalence of Crohn's Disease Cases in the Brazilian Population from 2013 to 2017. Brazilian Journal of Development. 2022 May 27;8(5):41656–70.
6. Paiva VV, Sousa DC da S de, Lima CAN, Damascena AFL, Silva TVC da, Silva MCS da, et al. A Doença De Crohn E Colite Ulcerativa: Uma Análise De Dados Epidemiológicos Da Morbidade Hospitalar Do Sus. Brazilian Journal of Implantology and Health Sciences. 2023 Oct 7;5(5):598–609.
7. Quaresma AB, Damiao AOMC, Coy CSR, Magro DO, Hino AAF, Valverde DA, et al. Temporal Trends in the Epidemiology of Inflammatory Bowel Diseases in the Public Healthcare System in Brazil: A Large population-based Study. The Lancet Regional Health - Americas. 2022 Sep; 13:100298.
8. Franco CAS, Marques SFP, Gomes EV. Doença De crohn: Uma Revisão Da Literatura. Brazilian Journal of Development. 2023 Jan 17;9(1):3797–805.
9. Cushing K, Higgins PDR. Management of Crohn Disease. JAMA. 2021 Jan 5;325(1):69.
10. Neto G da SF, Damasceno IA de M. Doença De Crohn E Suas particularidades: Uma Revisão De Literatura. Research, Society and Development. 2023 May 26;12(5): e26112541923–e26112541923.
11. Cabalzar AL, Azevedo FM de, Lucca F de A, Reboredo M de M, Malaguti C, Chebli JMF. Physical Activity in Daily Life, Exercise Capacity and Quality of Life in Patients with Crohn's Disease on Infliximab-Induced Remission: a Preliminary Study. Arquivos De Gastroenterologia. 2019 Oct 14; 56:351–6.
12. Baêta OM, Rotatório T, Santos S, Alves A, Moreno J, Rodrigues J, et al. Brazilian Journal of Health Review. Brazilian Journal of Health Review. 2023;6(4):17438–54.

13. Laurenti R. Décima Revisao Da Classificaçao Internacional De Doenças E De Problemas Relacionados Ã Saúde (CID-10): a Revisao Do Final Do Século. Boletín De La Oficina Sanitaria Panamericana (OSP);118(3), mar 1995 [Internet]. 1995;118(3). Available from: https://iris.paho.org/handle/10665.2/15603
14. Kleinubing-Júnior H, Pinho M de SL, Ferreira LC, Bachtold GA, Merki A. Perfil Dos Pacientes Ambulatoriais Com Doenças Inflamatórias Intestinais. ABCD Arquivos Brasileiros De Cirurgia Digestiva (São Paulo). 2011 Sep 1;24(3):200–3.
15. Elia PP, Fogaça HS, Barros RGGR, Zaltman C, Elia CSC. Análise Descritiva Dos Perfis social, clínico, Laboratorial E Antropométrico De Pacientes Com Doenças Inflamatórias intestinais, Internados No Hospital Universitário Clementino Fraga Filho, Rio De Janeiro. Arquivos De Gastroenterologia. 2007 Dec;44(4):332–9.
16. Faludi A, Izar M, Saraiva J, Chacra A, Bianco H, Afiune Neto A, et al. Atualização Da Diretriz Brasileira De Dislipidemias E Prevenção Da Aterosclerose - 2017. Arquivos Brasileiros De Cardiologia. 2017;109(1).
17. National Health and Nutrition Examination Survey. NHANES - Questionnaires, Datasets, and Related Documentation [Internet]. wwwn.cdc.gov. 2023 [cited 2023 Dec 7]. Available from: https://wwwn.cdc.gov/nchs/nhanes/continuousnhanes/default.aspx?Cycle=2021-2023
18. Rosa JRD, Júnior JDS, Rosa MID. Perfil Epidemiológico De Portadores De Doença Inflamatória Intestinal Epidemiological Profile of Patients with Inflammatory Bowel Disease ARTIGO ORIGINAL Arquivos Catarinenses De Medicina. Arq Catarin Med. 2014;43(2):53–8.
19. Cabalzar AL, Oliveira DJF, Reboredo M de M, Lucca FA, Chebli JMF, Malaguti C, et al. Muscle Function and Quality of Life in the Crohn's Disease. Fisioterapia Em Movimento. 2017 Apr 1;30(2):337–45.
20. Lund K, Knudsen T, Kjeldsen J, Nielsen RG, Juhl CB, Nørgård BM. The IBD-FITT Study — moderate-intensity Exercise for Patients with Inflammatory Bowel Disease with Moderate Disease activity: an open-label Randomized Controlled Trial. Trials. 2023 Nov 20;24(1):742.
21. Jones PD, Kappelman MD, Martin CF, Chen W, Sandler RS, Long MD. Exercise Decreases Risk of Future Active Disease in Patients with Inflammatory Bowel Disease in Remission. Inflammatory Bowel Diseases. 2015 May;21(5):1063–71.
22. Cronin O, Barton W, Moran C, Sheehan D, Whiston R, Nugent H, et al. Moderate-intensity Aerobic and Resistance Exercise Is Safe and Favorably Influences Body Composition in Patients with Quiescent Inflammatory Bowel Disease: A Randomized Controlled cross-over Trial. BMC Gastroenterology. 2019 Feb 12;19(1).
23. Klare P, Nigg J, Nold J, Haller B, Krug AB, Mair S, et al. The Impact of a Ten-Week Physical Exercise Program on Health-Related Quality of Life in Patients with Inflammatory Bowel Disease: A Prospective Randomized Controlled Trial. Digestion. 2015 Mar 24;91(3):239–47.

WE THANK THE FACULTY OF MEDICAL SCIENCES FOR THE GRANT FROM THE INSTITUTIONAL SCHOLARSHIP PROGRAM FOR SCIENTIFIC INITIATION (PROBIC).