

Characterization of Crohn's disease patients in Maringá region

Pedrina Gonçalves Vidigal¹

Sidney Edson Mella Junior²

Abstract

Crohn's disease is characterized by chronic inflammation of the gastrointestinal tract, and its source of manifestation has not been clarified yet. Thus, the present work had as objective to describe Crohn's disease patients in Maringá region - Paraná state, and also, to describe their social, demographic and clinic characters as well. Seven patients with Crohn's Disease, diagnosed on the basis of accepted clinical, radiological, endoscopic, and pathologic criteria, and resident in the studied area, were recruited from ABCD centre in Maringá, Paraná State, Brazil. Patients were asked to fill up a standardized survey including questions related to demographic, social and clinical issues. Approximately 71.428% of patients were Caucasian, being 57.142% of them Italian descendants, and apparently without Jewish inheritance. Nobody presented inflammatory bowel diseases heritage or either smoking habit. The terminal ileum was the portion of the gastrointestinal tract more affected, corresponding to 71.42% of the patients. Clinical and demographic characteristics were similar to previous studies, aside from the patients that weren't tobacco user and did not present Jewish heritage.

Keywords: Crohn's disease- Epidemiology; Ileitis; Inflammatory bowel disease.

INTRODUCTION

Crohn's disease (CD) and Ulcerative colitis (UC) are the main chronic disorders related to inflammatory bowel disease. Enteritis, another nomination for CD, is characterized by chronic inflammation of the gastrointestinal tract (AUTSCHABACH et al., 2005) of unknown aetiology yet (AUTSCHABACH et al., 2005; GASCHE; GRUNDTNER, 2005; SOUZA et al., 2002). In general, the major causes of this disease are environmental, immunological and genetic factors, as demonstrated by several studies (AUTSCHABACH et al., 2005; BRIDGER et al., 2002; FIOCCHI, 1998; KARBAN et al., 2004; LOGAN; KAY, 1989; MOLINIÈ et al.,

2004; YANG et al., 1993). In addition, suffered stress can also influence for the development of this pathology. (MAWDSLLEY; RAMPTON, 2005) Even though it has been only observed in developed countries (STANGE et al., 2006), inflammatory bowel diseases, such as Crohn's Disease (CD) and Ulcerative Colitis (UC), are responsible for a serious worldwide health problem. The main reason for this is due to frequent relapses and severe clinic symptoms affecting especially young people (SOUZA et al., 2002). Thus, the increasing incidence of Crohn's disease has attracted attention from several health professionals, in order to develop effective prevention and control methods for this pathology (MOLINIÈ et al., 2004; STEINWURZ, 1999). Beyond that, according to Associação Brasileira de

¹ PICC Biomedical Undergraduate. Centro Universitário de Maringá – CESUMAR, Maringá-PR.

² MSc. Professor Biological Science - Pharmacy Department - Centro Universitário de Maringá – CESUMAR.

Correspondência para / Correspondence to:

Pedrina Gonçalves Vidigal. Rua Montreal, 59– Jardim Canadá.

CEP: 87080 -100 Maringá- PR - Brasil.

E-mail: pedrinagv@hotmail.com.

Colite Ulcerativa e Doença de Crohn (ABCD), there are not yet precise incidences of this pathology in Brazil. Although, it has a population of approximately 330,000 inhabitants, Maringá is the only non capital city in Brazil that presents one of these ABCD centers.

Therefore, our objective was to characterize Crohn's disease patients in Maringá city - Paraná state, and also, to describe their social, demographic, developed clinic characters.

MATERIAL AND METHODS

Seven patients with Crohn's Disease, diagnosed on the basis of accepted clinical, radiological, endoscopic, and pathologic criteria, and resident in the study area, were recruited from ABCD centre in Maringá, Paraná State, Brazil. The study protocol was approved by the Committees for Ethical Issue at Associação Brasileira de Doença de Crohn e Colite Ulcerativa and Centro Universitário de Maringá (Comitê de Ética Permanente em Pesquisa - COPEC) as well. Only patients registered at the Associação Brasileira de Doença de Crohn e Colite Ulcerativa (ABCD) that attended the meetings during the period from January 2007 to August 2007, and demonstrated desire to participate on this study, by signing a written informed consent, were included (n=7). In order to collect the data, patients were asked to fill up a standardized survey including questions related to demographic, social and clinical issues.

Demographic and social aspects included information about gender, age, race, marital status (single, married or divorced), origin (rural zone or urban zone) and tobacco consumption before and after the occurrence of the disease. The patients who had smoked at least 7 cigarettes per week for at least one year at anytime of their life were considered smokers.

Meanwhile, for clinical manifestation, the presence of symptoms, such as chronic diarrhea; constipation; intestinal cramps; perianal fissure; fistula; abscess; fever; weight loss; stenosis; abdominal mass; and extraintestinal features involving eyes, joints, skin, was evaluated. In addition, gastrointestinal inflammatory bowel disease (IBD) inheritance in a first cousin or more closely related relative, and disease location were

also investigated. Besides that, unusual events, such as hospitalization, surgery and use of medication that referred to clinical evolutions were also appraised. Therefore, data analysis and graphics were performed and designed by using Microsoft Excel Program.

RESULTS

Social-demographic characteristics demonstrated that most patients were women (FIGURE 1), married (71.428%) and presented a mean age estimated at 37.35 years. It was observed that, approximately, 71.428% were Caucasian and apparently nobody was Jewish descendant. In addition, 57.142% of them presented urban side origin and were Italian descendents. None of them presented inflammatory bowel diseases heritage or either smoking habit.

In relation to clinical features Figure 2 shows that the most reported ones were abdominal pain (57.142%), chronic diarrhea (57.142%) and abdominal mass (42.857%), followed by weight loss (38.571%) and fistula (38.571%). Aside from the characteristics cited, only a patient presented also a stricturing disease. In addition, another patient, who reported symptoms as chronic diarrhea and abdominal pain, had also demonstrated an ophthalmologic complication.

On the other hand, it was shown that the terminal ileum was the portion of the gastrointestinal tract more affected, corresponding to 71.42% of the patients (FIGURE 3).

Even only one was just treated with antibiotics, the majority of patients, approximately 85.714% (n=6), received some kind of corticosteroid treatment (FIGURE 4). A number of these patients, 57.142% (n=4), could fit corticosteroid dependent condition according to Stange and others (2006)

Meanwhile, an association of aminosalicylate and immunosuppressant medication had been shown in 57.142% (n=4) of them. Beyond that, a patient was treated with the combination of antibiotics (sulfa) and corticoid (prednisone).

According to Table 1, all involved patients had been hospitalized at least once, and 57.142%

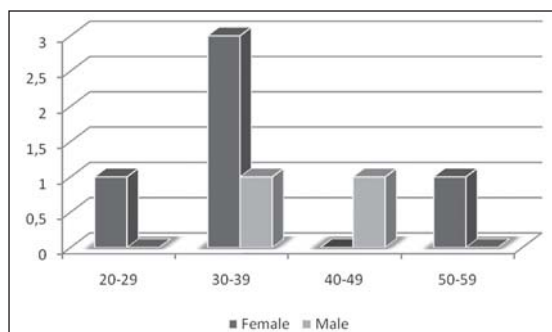


Figure 1 – Distribution of patients (integrants of Associação Brasileira de Colite Ulcerativa e Doença de Crohn de Maringá) according to age and gender, from January to August of 2007, Maringá – Paraná, Brazil.

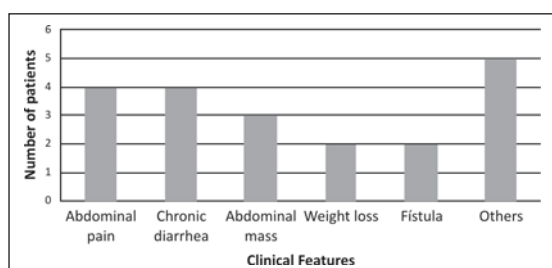


Figure 2 - Type of manifestations reported by patients at Associação Brasileira de Colite Ulcerativa e Doença de Crohn de Maringá, Maringá – Paraná, Brazil.

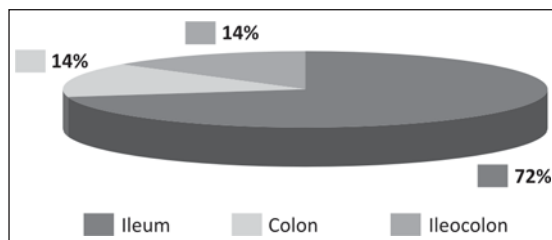


Figure 3 - Distribution of Crohn's Disease, according to affected region in patients at Associação Brasileira de Colite Ulcerativa e Doença de Crohn de Maringá, Maringá – Paraná, Brazil.

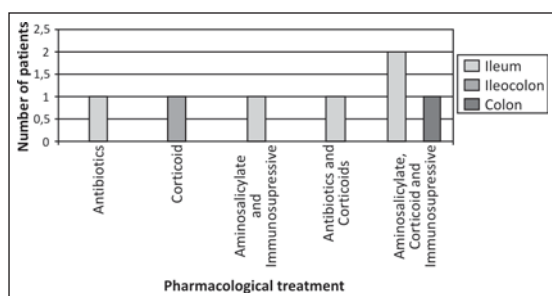


Figure 4 – Distribution of Crohn's Disease, according to affected region and medication treatment adopted in patients at Associação Brasileira de Colite Ulcerativa e Doença de Crohn de Maringá, Maringá – Paraná, Brazil.

Table 1 – Distribution of hospitalization, surgery and transfusion reported by patients at Associação Brasileira de Colite Ulcerativa e Doença de Crohn de Maringá, Maringá – Paraná, Brazil.

Variable	CD (n=7)	Percentage (%)
Hospitalization	7	100
Surgery	4	57.142
Transfusion	3	42.857

of them had to undergo surgery. Besides that, 42.857% of them needed blood transfusion.

DISCUSSION

Normally, CD affects individuals at the age from 20 to 30 (MOLINIÈ *et al.*, 2004) that are Caucasian and also female (HANAUER; SANDBORN; PRACTICE PARAMETERS COMMITTEE OF THE AMERICAN COLLEGE OF GASTROENTEROLOGY, 2001; JAFRI; PASRICHA, 2003). Women are probably more affected due to association between use of oral contraceptives and genetic and/or immunologic susceptibility. The using of oral pills could lead to a possible vascular lesion basis resulting in ischemic intestinal tissue, which explains the high incidence of this disease in women (LOGAN; KAY, 1989). Even though, studies about gender predominance in CD are not uniform, it is considered a disease with relatively homogenous distribution either in women or men (ANDRADE *et al.*, 2005).

Smoking is considered an external trigger for Crohn's Disease (GASCHE; GRUNDTNER, 2005), thus, it increases the likelihood of needing surgery. According to Bridger and others (2002), a population of familial patients that presented smoking habit was positively associated with Crohn's Disease. Nonetheless, this cohort had only non-smoker patients.

Several studies have reported a higher incidence and prevalence rate of IBD in Jewish population, especially the Ashkenazi group when compared to their non-Jewish neighbors (KARBAN *et al.*, 2004; YANG *et al.*, 1993). However, in this study there was not any Jewish heritage report.

Hence, it is probable that the present cohort carries one or more susceptibility genes that associated with environmental risk factors are capable to set off the disease.

Chronic diarrhea, when the stool decreases its consistency for more than six weeks, is known as the most common symptom (57.142%) of Crohn's disease (STANGE *et al.*, 2006). Additional, abdominal pain, abdominal mass, weight loss, perianal fistulas and abscesses are also symptoms that characterize this pathology (HANAUER; SANDBORN; PRACTICE PARAMETERS COMMITTEE OF THE AMERICAN COLLEGE OF GASTROENTEROLOGY, 2001). Usually, weight loss, chronic and/or nocturnal diarrhea, abdominal pain and anal bleeding reflect the evolution of the inflammatory process (FIOCCHI, 1998). According to Stange and others (2006), approximately 70% of patients have intestinal abdominal pain; similar data was also observed in this work. Extra intestinal manifestations include ophthalmologic, articular, dermatologic, hepatobiliar, and thromboembolic problems.

The most commonly compromised sites are the ileum and colon (FARMER; WHELAN; FAZIO, 1985; MEKHJIAN *et al.*, 1979) usually complicated by intestinal obstruction, inflammatory mass or abscess. Moliniè and others (2004) and Louis and others (2001) have also found and published similar data, which were also in agreement with the present work.

Mesalazine (ASA) is an aminosalicilate that was often used to treat inflammatory bowel diseases because of its local actions (JAFRI; PASRICHA, 2003). However, recently, some studies had revealed that mesalazine was not as effective as placebo for treatment of ileal and colonic activity in CD (FEAGAN, 2004; TRAVIS *et al.*, 2006).

On the other hand, azathioprine (AZA) is an immunosuppressive of second line for treatment for CD patients in severe category or yet those ones that are resistant or dependent on steroids (PEARSON *et al.*, 1995). Further, Pearson and others (2000) observed that azathioprine not only presents positive effects to maintain CD remission, but also points out the capacity to save and reduce the necessity of steroids to take care of patients. Although, Campbell and Ghosh (2001) demonstrated that relapse rates of inflammatory bowel diseases (Ulcerative Colitis and Crohn's disease) were not reduced by concurrent use of 5-aminoalicylate in patients under azathioprine therapy, in a 30 year review period.

In relation to surgeries, the main reason consists yet on complications during the disease course, such as intestinal obstruction and stenosis (COSNES *et al.*, 2005). Therefore, surgeon and patient must consider risk factors and complications, considering that medical treatment should optimize an individual's quality of life.

CONCLUSION

In conclusion, clinical and demographic characteristics were similar to previous studies, aside from the patients that weren't tobacco and did not present Jewish heritage. This study is in agreement with previous data, since most affected patients were the young. Since young people consist on economical active population of job market, it is natural that medical community has been working hard in order to provide better treatments and also prevention. Even though, medical therapy has the intention to get the patient well, usually they imply in big expenses. However, if there is any medication that prevents future hospitalizations and surgeries, then they should be used to benefit the patient.

Caracterização da Doença de Crohn na região de Maringá

Resumo

A doença de Crohn é caracterizada por uma inflamação crônica do trato gastrointestinal, cujas razões ainda não estão esclarecidas. Assim, o presente trabalho teve como objetivo descrever os pacientes portadores da doença de Crohn na região de Maringá, no Estado do Paraná, e também relatar suas características sociais, demográficas e clínicas. Um total de sete pacientes portadores de

doença de Crohn, diagnosticados com base em critérios clínicos, radiológicos, endoscópicos e patológicos devidamente aceitos, residentes na área de estudo, foram recrutados no centro ABCD em Maringá, Estado do Paraná, Brasil. A fim de coletar os dados, foi requerido aos pacientes que respondessem a um questionário padronizado, o qual incluía perguntas relacionadas às questões demográficas, sociais e clínicas. Aproximadamente 71,428% dos pacientes eram caucasianos, sendo que 57,142% deles apresentavam descendência italiana, sem vestígio de herança judaica. Além disso, nenhum dos pacientes relatou histórico familiar de doença inflamatória intestinal ou ainda hábito de fumar. A porção do trato gastrointestinal mais acometida observada nos pacientes foi a do íleo, correspondendo a 71,42%. As características clínicas e demográficas observadas foram similares a estudos prévios. No entanto, nenhum paciente era fumante e, aparentemente, não apresentavam ascendência judaica.

Palavras-chave: Doença de Crohn- Epidemiologia; Ileíte; Doença inflamatória intestinal.

REFERENCES

- ANDRADE, A.C.M. et al. Perfil da doença de Crohn fistulizante em atividade em dois serviços universitários em Salvador-Bahia. **R. Bras. Coloproctol.**, Rio de Janeiro, v.25, p.241-248, 2005.
- AUTSCHABACH, F. et al. High prevalence of *Mycobacterium avium* subspecies paratuberculosis IS900 DNA in gut tissues from individuals with Crohn's disease. **Gut**, London, v.54, p.944-949, 2005.
- BRIDGER, S. et al. In siblings with similar genetic susceptibility for inflammatory bowel disease, smokers tend to develop Crohn's disease and non-smokers develop ulcerative colitis. **Gut**, London, v.51, p.21-25, 2002.
- CAMPBELL, C.; GHOSH, S. Effective maintenance of inflammatory bowel disease remission by azathioprine does not require concurrent 5-aminosalicylate therapy. **Eur. J. Gastroenterol. Hepatol.**, London, v.13, p.1297-1301, 2001.
- COSNES, J. et al. Impact of the increasing use of immunosuppressants in Crohn's disease on the need for intestinal surgery. **Gut**, London, v.54, p.237-241, 2005.
- FARMER, R.G.; WHELAN, G.; FAZIO, V.W. Long-term follow-up of patients with Crohn's disease: relationship between the clinical pattern and prognosis. **Gastroenterology**, Philadelphia, v.88, p.818-825, 1985.
- FEAGAN, B.G. 5-ASA therapy for active Crohn's disease: old friends, old data and a new conclusion. **Clin. Gastroenterol. Hepatol.**, Philadelphia, v.2, p.376-378, 2004. Editorial.
- FIOCCHI, C. Inflammatory bowel disease: etiology and pathogenesis. **Gastroenterology**, Philadelphia, v.115, p.182-205, 1998.
- FRASER, A.G.; ORCHARD, T.R.; JEWELL, D.P. The efficacy of azathioprine for the treatment of inflammatory bowel disease: a 30 year review. **Gut**, London, v.50, p.485-489, 2002.
- GASCHE, C.; GRUNDTNER, P. Genotypes and phenotypes in Crohn's disease: do they help in clinical management? **Gut**, London, v.54, p.162-167, 2005.
- HANAUER, S.B.; SANDBORN, W.; PRACTICE PARAMETERS COMMITTEE OF THE AMERICAN COLLEGE OF GASTROENTEROLOGY. Management of Crohn's disease in adults. **Am. J. Gastroenterol.**, New York, v.96, p.635-643, 2001.
- JAFRI, S.; PASRICHA, P.J. Agentes utilizados para diarreia, prisão de ventre e doenças intestinais inflamatórias: agentes utilizados para doença biliar e pancreática. In: GOODMAN, L.S. et al. **Goodman & Gilman: as bases farmacológicas da terapêutica**. 10.ed. Rio de Janeiro: McGraw-Hill, 2003. p.788-795.

- KARBAN, A. et al. NOD2/CARD15 genotype and phenotype differences between Ashkenazi and Sephardic Jews with Crohn's disease. **Am. J. Gastroenterol.**, New York, v.99, p.1134-1140, 2004.
- LOGAN, R.F.A.; KAY, C.R. Oral contraception, smoking, and inflammatory bowel disease: findings in the Royal College of General Practitioners Oral Contraception Study. **Int. J. Epidemiol.**, London, v.18, p.105-107, 1989.
- LOUIS, E. et al. Behaviour of Crohn's disease according to the Vienna classification: changing pattern over the course of the disease. **Gut**, London, v.49, p.777-782, 2001.
- LOUIS, E. et al. Early development of stricturing or penetrating pattern in Crohn's disease is influenced by disease location, number of flares, and smoking but not by NOD2/CARD 15 genotype. **Gut**, London, v.52, p.552-557, 2003.
- MAWDSLEY, J.E.; RAMPTON, D.S. Psychological stress in IBD: new insights into pathogenic and therapeutic implications. **Gut**, London, v.54, p.1481-1491, 2005.
- MEKHJIAN, H.S. et al. Clinical features and natural history of Crohn's disease. **Gastroenterology**, Philadelphia, v.77, p.898-906, 1979.
- MOLINIÈ, F. et al. Opposite evolution in incidence of Crohn's disease and ulcerative colitis in Northern France (1988-1999). **Gut**, London, v.53, p.843-848, 2004.
- PEARSON, D.C. et al. Azathioprine and 6-mercaptopurine in Crohn's disease: a meta analysis. **Ann. Intern. Med.**, Philadelphia, v.123, p.132-142, 1995.
- PEARSON, D.C. et al. Azathioprine for maintaining remission of Crohn's disease. **Cochrane Database Syst. Rev.**, Chichester, UK, n.2, 2000. CD000067.
- SOUZA, M.H.L.P. et al. Evolução da ocorrência (1980-1999) da doença de Crohn e da retocolite ulcerativa idiopática e análise das suas características clínicas em um hospital universitário do sudeste do Brasil. **Arq. Gastroenterol.**, São Paulo, v.39, p.98-105, 2002.
- STANGE, E.F. et al. European evidence based consensus on the diagnosis and management of Crohn's disease: definitions and diagnosis. **Gut**, London, v.55, p.1-15, 2006.
- STEINWURZ, F. A follow-up study of fistulae in Crohn's disease. **Arq. Gastroenterol.**, São Paulo, v.36, p.207-209, 1999.
- TRAVIS, S.P.L. European evidence based consensus on the diagnosis and management of Crohn's disease: current management. **Gut**, London, v.55, p.16-35, 2006.
- YANG, H. et al. Familial empirical risks for inflammatory bowel disease: differences between Jews and non-Jews. **Gut**, London, v.34, p.517-524, 1993.

Acknowledgments

We thank the patients who participated in this study, Dr. Aline Satie Oba Kuniyoshi who contributed for data collection, and Andressa Gonçalves Vidigal for critical review.

Recebido em / Received: 16/10/2008
Aceito em / Accepted: 17/11/2008