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Profile of the Inflammatory Bowel Disease Patient with Depressive Disorders

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Objective. **To describe the demographic and clinical characteristics of patients attending the Inflammatory Bowel Disease Clinic of the University of Puerto Rico School of Medicine and determine whether these characteristics are risk factors for the development of a depressive disorder.**

Method. **Sixty-seven patients attending the Inflammatory Bowel Disease Clinic of the University of Puerto Rico School of Medicine were assessed for the presence of depressive symptoms using a simple questionnaire (CES-D) and a detailed diagnostic evaluation (CIDI-DSM IV Module E). Age, gender, education, time of IBD diagnosis, duration of treatment, psychiatric history, treatment with corticosteroids, and activity of IBD were determined and correlated with the presence of depressive symptoms and depressive diagnosis. Study data was tabulated on Epi-Info 6.0 and it was analyzed using SPSS version 10. Univariate (includes means and frequencies), bivariate (t-student, Kruskal Wallis and Chi-square) and multivariate analyses (logistic regression) were performed.**

Results. **Patients older than 34 years old had three times higher probability of developing a depressive disorder ($p = 0.043$, $OR = 3.22$). Patients with a psychiatric history had seven times higher probability of developing depressive disorder ($p = 0.004$, $OR = 7$).**

Conclusion. **The risk factors identified with an increased probability of developing a depressive disorder were age older than 34 years and psychiatric history.**

Key words: Depression, Inflammatory Bowel Disease.

Psychiatric disturbances are prevalent in persons with chronic physical illness (1). Depending on the severity of the condition and the level of health care provided the patient may suffer from his/her chronic condition going through the path: disease →impairment → disability and handicap (2). There is evidence that a high clinical burden is associated with psychosocial burden for the patients and their family. The emotional reaction to the diagnosis of a chronic illness can be a greater challenge than coping with the physical manifestations of the disease. Some of the determinants that explain the emotional reactions are: premorbid personality, unresolved anger or grief, changes in life style, individual/familial resources for stress management, stages of individual and family life cycle, previous experiences with illness or crisis and codependence patterns (3).

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The term Inflammatory Bowel Disease (IBD) applies to the idiopathic, chronic inflammatory bowel diseases : Crohn's disease (CD) and ulcerative colitis (UC). Ulcerative colitis encompasses a spectrum of diffuse, continuous, superficial inflammation of the colon, which begins within the rectum and extends to a variable proximal level. The symptoms of UC depend upon the extent and severity of inflammation within the colon. UC always involves the rectum; patients with proctitis present with rectal bleeding, tenesmus, and passage of mucopus. As the severity of the inflammation increases, the patient is more likely to suffer from systemic symptoms. Low grade fever, malaise, nausea and arthralgias are frequent complaints. Crohn's disease is characterized by focal, asymmetric, transmural inflammation affecting any portion of the gastrointestinal tract from the mouth to the anus. The symptoms of CD also are determined by the site and extent of inflammation. Common manifestations include abdominal cramping, diarrhea and abdominal tenderness (4).

Inflammatory bowel disease patients have been described in the literature in a definite way. Engel in 1955 (5) described these patients as dependent , restricted in their relationships, emotionally immature and depressed. Other researchers have stated that inflammatory bowel

disease patients exhibit infantile and demanding behavior, anger, denial, loss of self control, social isolation and lack of self confidence (5).

Early literature described inflammatory bowel disease as a psychosomatic disease (6). One long lasting and still unresolved issue concerns the extent to which psychiatric disorders precede or occur as a reaction to the medical illness associated with inflammatory bowel disease. Walker (7) hypothesized that a current psychiatric disorder might amplify or produce additional gastrointestinal symptoms in patients with organic gastrointestinal diseases such as inflammatory bowel disease, leading to functional disability and decreased quality of life. Non-recognition of the psychiatric disorder may lead to unnecessary and aggressive intervention such as medication changes, invasive testing or surgery.

Depressive disorders and depressive symptoms are very common among persons with chronic general medical disorders ranging from 12% to 36% (8). Depressive disorders are manifested by symptoms of depressed mood, loss of interest in activities, appetite and sleep disturbances and inability to concentrate among others (9). Depressive symptoms are symptoms which do not meet the DSM-IV criteria for a depressive disorder.

The incidence of IBD in Puerto Rico appears to be increasing, as manifested by an increase in the number of patients admitted to the Puerto Rico Medical Center with the diagnosis of UC or CD (unpublished observations), as well as an increase in the number of patients referred to the IBD clinic of the University of Puerto Rico School of Medicine and the number of surgeries for IBD performed at the University Hospital (10).

Because of the depression risk in this population, it is important to focus on primary prevention. In this study, we describe the demographic and clinical characteristics of the patients attending the IBD Clinic of the University of Puerto Rico School of Medicine and correlate these characteristics with the presence of a depressive disorder. This is an initial step in an attempt to identify risk factors for the development of a depressive disorder, allowing us to define a strategy for preventive intervention.

Method

The Gastroenterology Division of the University of Puerto Rico School of Medicine holds a weekly clinic for patients with IBD at the Puerto Rico Medical Center. This clinic receives patients from all the island, and offers multidisciplinary services, including gastroenterology, surgery, nutrition and enterostomal consulting. In addition, active research is carried out in this population and most patients are willing and eager participants.

Eligible subjects for our study were defined as Spanish speaking, between the ages of 16 and 75, and having a confirmed diagnosis of either ulcerative colitis or Crohn's Disease. Potential subjects were interviewed by the research staff after the evaluation by the gastroenterologist and an informed consent was obtained. The study took place from July 1999 to February 2000. Sixty- seven of the 107 (63%) of patients attending the IBD clinic during this period were included in the study. Thirty five patients of the 107 were not interested in participating and five patients did not qualify for participation in the study.

The instruments used for detecting depression were the CES-D and the CIDI-DSM IV. The CES-D is a depression scale use to evaluate the presence of depressive symptoms during the last seven days prior to the day of the interview. It has been used in previous research studies in Hispanic populations. The spanish version of this test was used and it was administered by the research staff.

The CIDI-DSM IV, Module E (for depression), computerized version was administered as a diagnostic instrument. The module E may give diagnosis of dysthimia and major depression single or recurrent (mild, moderate or severe). The diagnosis is obtained by a computer algorithm, and diagnosis according to DSM-IV and ICD-10 criteria may be obtained. The CIDI has been widely used internationally, and the spanish version has been validated in Hispanic populations (13).

The dependent variables considered for the study were depressive symptoms and depressive diagnosis. The independent variables were the following: age, gender, marital status, IBD diagnosis, psychiatric history(previous treatment with psychiatrist or psychologist), education, history of surgery, use of corticosteroids, and activity of IBD as assessed by primary gastroenterologist. Data was tabulated on Epi-Info 6.0 (CDC, Atlanta) and it was analyzed using SPSS version 10. Univariate (means and frequencies), bivariate (t-student, Kruskal Wallis and Chi-square) and multivariate (logistic regression) analyses were performed. The study was approved by the Institutional Review Board of the Medical Sciences Campus.

Results

Sixty seven of the one hundred seven patients (63%) who attended to the IBD clinic from July, 1999 to February, 2000 were included in the study. Twenty-eight were males (41.8%) and thirty-nine were females (58.2%). Twenty-seven of the sixty seven patients (20.4%) had a psychiatric diagnosis. Twenty- three out of twenty seven had major depression and four patients (6.0%) had double depression.

Table 1 presents the distribution of the variables considered in this study. A majority of the patients were female (58.2%) and married (50.7%). The median age at the time of the study was 34 yrs., and 52.2% of the patients were younger than 34 years.

Sixty-eight percent of the patients had less than five years of treatment. Most of the patients had Crohn's disease (56.7%) and 68.7% has no history of IBD surgery.

Table 1. Description of the variables

Variable	Frequency	%
Gender		
male	28	41.8
female	39	58.2
Civil status		
married	34	50.7
not married	33	49.2
Age (years)		
16-34	35	52.2
> 34	32	48.8
Tme since IBD diagnosis (yrs.)		
0-8	43	64.2
> 8	32	35.8
Duration of treatment (yrs.)		
0-5	46	68.7
6-10	13	19.5
11-15	4	6.0
16-20	2	3.0
> 21	2	3.0
IBD diagnosis		
ulcerative colitis	29	43.3
Crohn's	38	56.7
IBD surgery		
yes	29	43.3
no	38	68.7
Psychiatric history		
yes	17	25.4
no	50	74.6
CES-D screening test		
positive	27	40.3
negative	40	59.7
Corticosteroids		
yes	21	31.3
no	46	68.7
Disease activity		
yes	41	61.2
no	26	38.8

The majority of the patients had no history of a mental condition (74.6%). The screening test for depressive symptoms was positive in 40.3% of patients. Thirty-one percent of the patients were using corticosteroids at the moment of the evaluation. A statistically significant association was found between age and depressive diagnosis (p=0.0213). Patients older than 34 years old had a higher probability of a depressive disorder diagnosis (Figure 1).

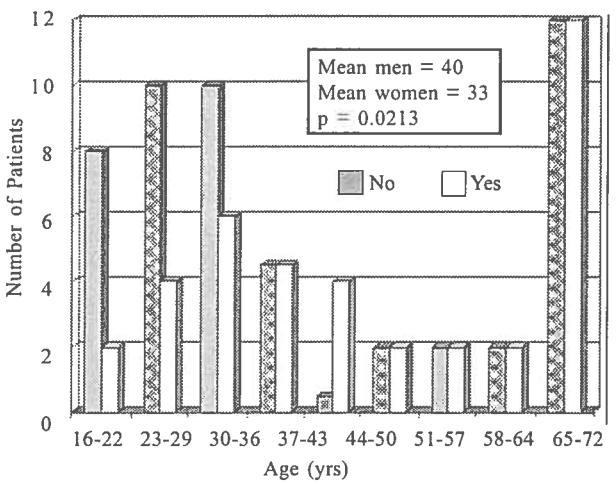

Figure 1. Age vs. Psychiatric diagnosis

No statistically significant association (p >0.05) was found between corticosteroid use and a depressive disorder (Table 2). However, corticosteroid therapy use was significantly associated with depressive symptoms

Table 2. Association between the variables and depression

	Depression	No Diagnosis	P Value
Gender			
Female	17	22	0.5168
Male	10	18	
Civil status			
married	13	20	0.8817
not married	14	20	
Corticosteroids			
yes	10	11	0.4091
no	17	29	
IBD diagnosis			
UC	13	16	0.5090
Chron's	14	24	
IBD surgery			
yes	15	14	0.09578
no	12	26	

(p=0.0148) (Figure 2) (11,12). When the association between a history of psychiatric diagnosis and a depressive disorder was studied using a logistic regression analysis, it was found that patients with a positive psychiatric history had seven times more probability to have a depressive disorder (p=0.004, odds ratios=7(95% CI 1.89-26.53) (Figure 3). In addition, the association between age and psychiatric diagnosis revealed that patients older than 34 years had a three times higher probability to have a depressive disorder (p=0.043, odds ratios=3.22(95% CI 1.04-9.96). Gender, civil status, school years, time since IBD diagnosis, duration of treatment, IBD diagnosis, IBD surgery and disease activity did not correlate significantly with a depressive disorder.

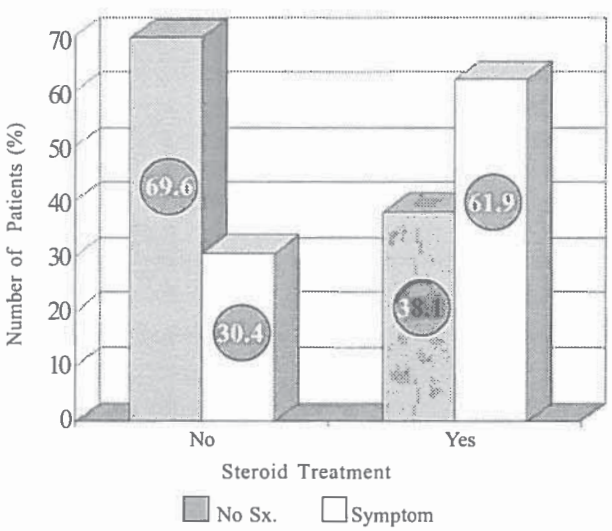

Figure 2. Steroid Treatment vs. Depressive Symptoms

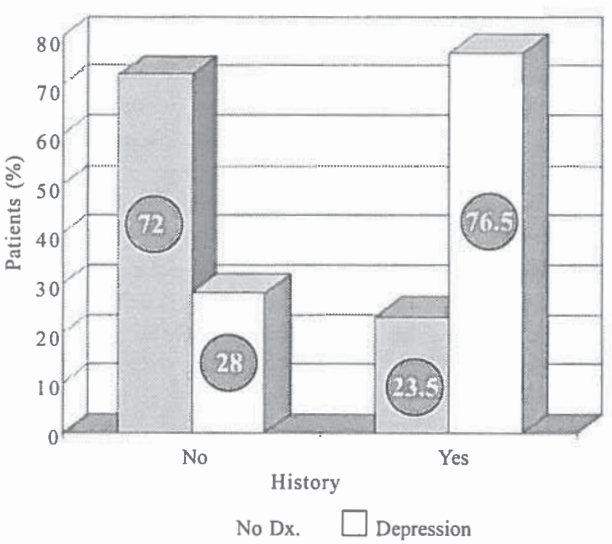

Figure 3. Psychiatric History vs. Psychiatric Diagnosis

Discussion

Age distribution for the subjects in our study is comparable to reports in the literature showing that the highest prevalence of IBD patients is found between 20 and 30 years of age (4). In this sample 56.7% of IBD patients had a diagnosis of Crohn's and 43.3% had ulcerative colitis as their diagnosis. No significant difference was found between depressive disorders and the IBD diagnosis the patient had.

Horowitz in 1982(1) established that psychiatric disturbances are prevalent in persons with chronic physical illness. Depressive disorders and symptoms among persons with chronic general medical conditions have been reported to range from 12 to 36% (8). Our findings agree with these literature, three-fourths (74.6%) of the evaluated patients in this study had previous psychiatric history. More than one third (40.3%) of the patients in the sample were positive for acute depressive symptoms and one fifth (20.4%) fulfill DSM IV criteria for depressive diagnosis.

Corticosteroids are frequently used in the treatment of IBD. An association between the use of steroids and psychiatric manifestations such as mood symptoms has been described (11,12). Steroid treatment in our patients was evaluated as a potential confounding variable in our study. We found that the relation between steroid treatment and acute depressive symptoms was statistically significant (p= 0.0148), nevertheless, the relation between steroid treatment and depressive diagnosis was not (p= 0.4091). Whether steroid therapy itself is associated to depressive symptoms or is a surrogate for more severe disease was not determined in our study.

A strong correlation was found between psychiatric history and depressive diagnosis (p= 0.00043). The mean age for women with IBD and psychiatric diagnosis was found to be 33 years old and for men 40 years old. This relationship demonstrates statistical significance and agrees with data in the literature concerning the age prevalence of depressive illness (14).

We found that patients with a psychiatric history had more years enrolled in treatment at the Inflammatory Bowel Disease Clinic of the University of Puerto Rico School of Medicine. This result suggests that comorbidity between physical and mental conditions plays an important role in treatment compliance (15). It is probable that this comorbidity leads patient to seek treatment for the IBD earlier in the course of the condition. This finding is in agreement with the literature in which Walker in 1996 (7) hypothesized that a current psychiatric disorder might amplify organic gastrointestinal diseases such as IBD.

Two factors were identified as correlating highly with

depressive symptoms in IBD patients: patients' age and psychiatric history. Our results lead us to conclude that:

1. There was a high prevalence of psychiatric history and depressive disorders in this population.
2. IBD patients with psychiatric history have longer duration of treatment.
3. IBD patients with psychiatric history have seven times more probability to have a depressive disorder.
4. IBD patients older than 34 years have three times more probability to have a depressive disorder.
5. No significant association was observed between the use of steroids and the existence of a depressive disorder.
6. This study suggests that psychiatric history and age are related to depressive disorder in IBD patients.

This study has the following limitations that should be considered in future studies. First, the sample size was small and further studies with larger numbers would be highly desirable. Second, the patient sample was drawn from a tertiary care clinic, a setting that is known to overrepresent patients with emotional disorders.

There is a growing awareness of the importance of psychological factors and quality of life issues in the management of chronic illness. Depressive symptoms and psychiatric diagnosis adversely influence reports of health status, pain levels, and physical and social function (16), thus the importance in the early identification and management of these conditions in patients with a comorbid chronic physical condition. This study confirms the importance of focusing on primary prevention according to health promotion principles.

We recommend that the evaluation of IBD patients include documentation of pertinent psychiatric history and symptomatology and a screening for depressive symptoms in the initial visit. This is particularly important in patients with risk factors that increase the probability of developing a depressive disorder: age and psychiatric history (Figure 4). The training of personnel for amenable strategical interventions, interdisciplinary group strengthening including mental health care professionals, and organization of support groups will be of help in the management of patients with IBD.

Resumen

El objetivo de este estudio fue describir las características clínicas y demográficas de los pacientes que asisten a la Clínica de Enfermedad Inflamatoria del Intestino(EII) de la Escuela de Medicina de la Universidad de Puerto Rico, y determinar si estas características son factores de riesgo para el desarrollo de un trastorno depresivo. Se evaluaron 67 pacientes que asistieron a la Clínica de Enfermedad Inflamatoria del Intestino de la Escuela de Medicina de la Universidad de Puerto Rico para la presencia de síntomas depresivos utilizando la prueba de cernimiento CES-D y una evaluación

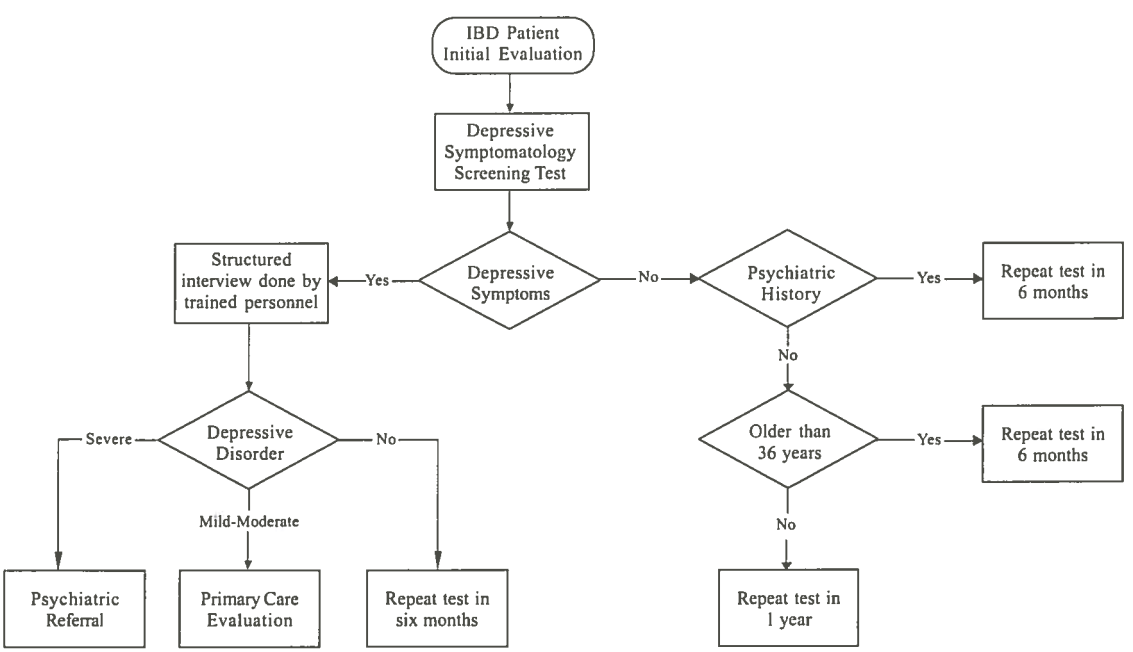

Figure 4. Algorithm for Evaluation of Depression in IBD

diagnóstica detallada, CIDI- DSM IV Modulo E. La edad, género, educación, tiempo de diagnóstico de EII, duración de tiempo en tratamiento, historial psiquiátrico, tratamiento con esteroides, y actividad de EII fueron determinados y se correlacionaron con la presencia de síntomas depresivos y diagnóstico depresivo. La data de estudio fue tabulada en Epi Info 6.0 y analizada en SPSS version 10. Los niveles de análisis utilizados fueron univariado, bivariado y multivariado (regresión logística). Los pacientes mayores de 34 años de edad tenían tres veces mayor probabilidad de desarrollar un trastorno depresivo ($p = 0.043$, $OR = 3.22$). Los pacientes con historial psiquiátrico tenían siete veces mayor probabilidad de desarrollar un trastorno depresivo ($p = 0.004$, $OR = 7$). Los factores de riesgo que identificamos que aumentan la probabilidad de desarrollar un trastorno depresivo en los pacientes de nuestra muestra fueron edad mayor de 34 años e historial psiquiátrico.

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References

1. Horowitz LN. Electrophysiologic testing of antiarrhythmic therapy. Drug Intell Clin Pharm 1982; 16: 284-90.
2. Politis C. The psychosocial impact of chronic illness. Ann N Y Acad Sci 1998; 850: 349-54.
3. Lewis KS. Emotional adjustment to chronic illness. Lippincotts Prim Care Pract 1998; 2: 38-51.
4. Hanauer SB Inflammatory bowel disease. In: Wyngaarden JB, Smith LH, Bennett JC, editors. Cecil textbook of medicine 19th ed. Pennsylvania: WB Saunders Company; 1992. p. 699-708
5. Joachim G, Milne B. Inflammatory bowel disease: effects on lifestyle. J Adv Nurs 1987; 12: 483-487
6. Epstein SA, Wise TN, Goldberg RL editors In: Gastroenterology. Specific diseases and medical subspecialties. th ed
7. Walker EA, Gelfand MD, Gelfand AN, Creed F, Katon WJ. The relationship of current psychiatric disorder to functional disability and distress in patients with inflammatory bowel disease. Gen Hosp Psychiatry 1996; 18(4): 220-9.
8. Cuijpers P. Prevention of depression in chronic general medical disorders: a pilot study. Psychol Rep 1998; 82: 735-738.
9. Trastornos afectivos. In: López JJ,editor. Manual diagnóstico y estadístico de los trastornos mentales. 4th ed. Masson SA; 1995. p.348.
10. Iñesta M, Torres EA, Lojo JJ, Mas M, Soto A, Quijano M. Surgery for inflammatory bowel disease: the University of Puerto Rico Experience. Río Grande (PR): American College of Surgeons; 2000.
11. Lipkin M Special areas of interest. In: Sadock BJ, Sadock VA, editors. Comprehensive textbook of psychiatry. 7th ed. New York: Lippincott Williams & Williams; 2000. p.1027.
12. Brown ES, Suppes Trisha. What are the mental health complications of steroid therapy? [forum]. Dallas (Tx.): University of Texas; 2000.
13. Rubio S, Bravo M, Canino G. La entrevista diagnóstica internacional compuesta (CIDI): un instrumento epidemiológico adecuado para ser administrado conjuntamente con otros sistemas diagnósticos en diferentes culturas. Acta Psiquiatr Psicol Am Lat 1991; 37: 191-204.
14. Akistal HS Mood disorders: introduction and overview. In: Sadock BJ, Sadock VA, editors. Comprehensive textbook of psychiatry. 7th ed. New York: Lippincott Williams & Williams; 2000. p.1284-97.
15. Research on co-morbidity: etiology and prevention. National Institute of Mental Health. PA-99-071(March,1999).
16. Wells KB, Stewart A, Burman A, Hays R, Daniels M, Greenfield S, et al. Profiles of health and functioning for depressed and nondepressed adult outpatients of mental health and medical clinicians. Presented at the annual meeting of the American Psychiatry Association. Chicago, Illinois, May 1987.