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Original article

INFLAMMATORY BOWEL DISEASE AND PERIPHERAL ARTHRITIS: MESALAZINA AND PROBIOTICS

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Summary

The intestinal inflammatory bowel disease (IBD) are a group of inflammatory pathologies of the digestive line with chronicity and recurrent characteristics. The IBDs mostly recognized are the ulcerative colitis and Crohn's disease; they are more frequent in the industrialized countries and among the caucasian populations that among those africans or oriental. The secondary artropaties to IBD recognize a multifactorial genesis in subjects predisposed as a result genetically of environmental factors; a fundamental role of the intestinal dysbiosis they are hypothesized.

Introduction

The predominant etiological opinion is that the IBDs recognize a multifactorial genesis. Currently the more accredited pathogenetic hypotheses foresee the presence of three principal factors: genetic susceptibility; environmental factors; immune-pathogenetic factors [1,2]; instigating events that determine an alteration of the intestinal immune-regulation and his permeability with consequent inflammatory damage [3-5]. The elevated frequency of agreement for the illness among homozygote twins points out the importance of genetic factors in to determine the family distribution. The evidence of an agreement among monozygotic and dizygotic twins respectively of 37% and of 7% it corresponds to areduced penetrance of the genotype and it shows the importance of the environmental factors in the development of the illness [6,7]. Studies of linkage of the whole genome have allowed to identify different locus of susceptibility for the IBDs. The data most meaningful respect to an association between environmental fac-

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tors and IBD they are those related to the smoke of cigarette, to the appendectomy, the use of oral contraceptives in the women and use of FANS, the viral infections as the measles, in the infancy and some constituent ones of the diet, what the refined sugars and the unsaturated fats [8-10]. The eubiosis loss, necessarily determines the growth of manufacturing microorganisms of specific metabolic components, to toxic action, able to activate the immune local system (GALT) and therefore to bait an inflammatory reaction to load of the mucous same. You observes therefore a decrement of the *Lactobacillus* and an increase of the concentration of pathogen microorganisms, that expounds a for-inflammatory effect on the mucous one. In the subjects affections from IBD it is assisted to the cleavage of the mucos-epithelial layer, whose integrity is essential for the defense of the mucous colic [11-13]. The arthritis is the more common extra-intestinal demonstration, with a 30% frequency and it meaningfully influences the quality of life and the morbidity of the subjects that are stricken of it [14-20]. L' altered operation of the ability of migration and homing of the intestinal lymphocytes, such that the same are able of to reach the articulations, favored by the deregulate expression of the molecules of adhesion of the vascular endothelial, it is supposed both at the base of the pathogenetic trial responsible of the secondary peripheral arthritis to IBD.

Materials and Methods

The clinical and bio-umoralis evaluations performed on two groups of patients have the purpose to show the greatest effectiveness of the employment of probiotic mixtures in association to the conventional therapy for the treatment of the IBDs in comparison to the only standard treatment. We have we will only consider the patients with secondary articular demonstrations to IBD with light, moderate or severe degree of activity appraising the effectiveness of the complementary treatment with probiotics in comparison to the standard therapy without probiotics. The 18 patients of the

group (A) have received a FANS (Diclofenac - 75 mgs im/die in only administration for 10 days) associated to the mesalazina (compressed from 800 mgs, a pill twice a day in the light forms and a pill three times to day in the moderate forms; in these last ones you can be added in phase of exacerbation of the symptomatology a bland treatment with cortisones in the form of prednisone in pills from 25 mgs). The 19 patients of the group (B) have received the experimental treatment with probiotics, or a mixture constituted by *Lactobacillus Salivarius*, *Lactobacillus Acidophilus*, *Bifidobacterium Bifidum* and Vitamin C (*ACRONELLE*[®]- 1 capsule from 0,460 grs.), the all always in association to two capsules a day of mesalazina and FANS. The recruited patients have been thirty-seven (37) in an inclusive temporal interval between January 2010 and December 2013. The enlisted subjects already possessed diagnosis of IBD and in partnership secondary arthropathy. The patients have participated in our clinical study performed the University General Hospital "Paolo Giaccone" of Palermo, Italy, with the involvement of the Orthopedic and Traumatology Clinic. During the refuge and with follow-up to every months for the first 4 months and then every two months, all the patients have clinically been appraised with indexes what the Disease Index Score for the IBDs and the WOMAC score for the peripheral arthropathy. They have been, besides performed bio-umoralis sex aminations to dose the VES, the PCR and the leukocytes.

The population object of study has been selected following well precise criterions of inclusion or diagnosis of IBD and in partnership secondary arthropathy, the data have been filed then using software for the management of electronic spreadsheets. Statistics analysis has been conducted with software SPSS, performing special tests we have verified if the data were distributed according to a normal distribution and therefore calculating the difference of the data using the parametric test of the T-test with limits of confidence to 95%.

Result

Statistics analysis has brought both for the group A, both for the group B, an improvement in the post treatment (survey to months. from the beginning) of the considered parameters: WOMAC score (Figure 1), PCR (Figure 2), VES (Figure 3) and Leukocytes (Figure 4) with $H_0:Me_1=Me_2$ vs $H_1:Me_1 \neq Me_2$ and meaningful difference ($p < .05$) among the two groups object of study.

The comparison of the group dates for the values WOMAC, mean 38 in the group A and 21,4 in the group B, has shown difference ($P < .05$) to point out a clinical and functional improvement of the articulations involved in the patients which the probiotics have been adminis-

tered (Figure 1).

The comparison of the data for the values of PCR, mean 27,55 in the group A and 15 in the group B, has shown with meaningfulness ($P < .05$) that the patients essays with probiotics have improved the owed general inflammatory condition both to the primary pathology IBD but also to the articular inflammation in how much the improvement is simultaneous with the values of the staircase WOMAC (Figure 2).

The comparison of the group dates both for the values of VES, mean 36,7 in the group A and 17,4 in the group B, that for the values of WBC, mean 16,3 in the group A and 10 in the group B, has shown difference meaningfulness ($P < .05$)

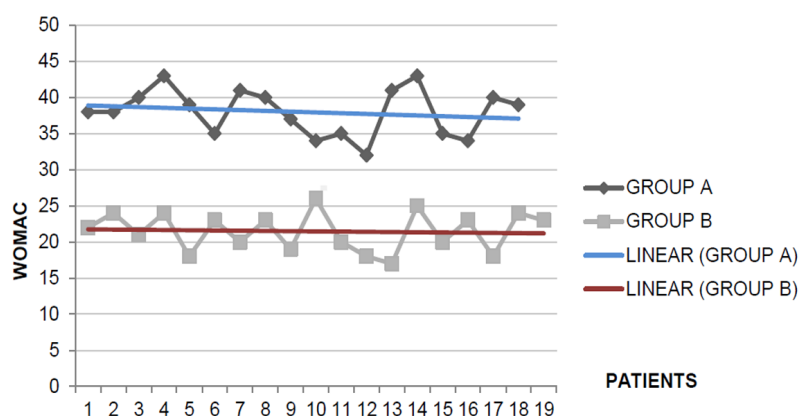


Figure 1: Results of the tests of normalcy and the T-test for the values of the WOMAC scale; (IC to 95%; $H_0:Me_1=Me_2$ against $H_1:Me_1 \neq Me_2$). Groups of different data meaningfully to point out the substantial improvement of the patients of the group B treated with probiotics. ($P < .05$).

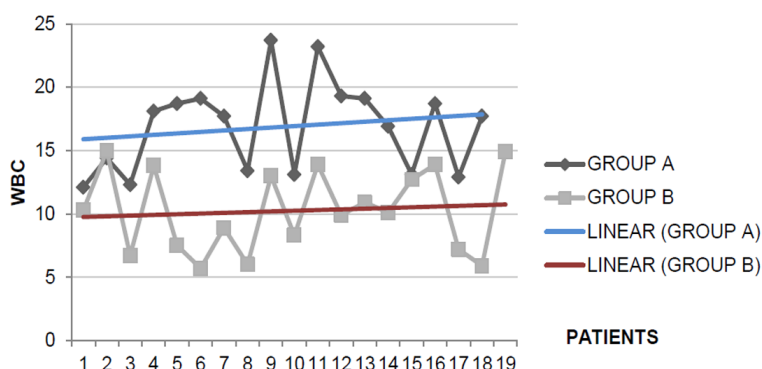


Figure 2: Results of the tests of normalcy and the T-test for the values of the C - Reactive Protein; (IC to 95%; $H_0:Me_1=Me_2$ against $H_1:Me_1 \neq Me_2$). Values of C - Reactive Protein post-therapy mostly meeting places in the patients of the group B treated with probiotics. ($P < .05$).

to point out a clinical improvement and of the general inflammatory condition in the patients which the probiotics have been administered, also nevertheless a condition of inflammation well born sub-clinic remains from the patients that it is typical of the IBDs (Figure 3 and 4).

Conclusions

The primary objective of our study was to appraise the entity of the improvement of the articular picture recording the conditions of the patients at the end of the follow-up (keeping in mind of clinical evaluations and) comparing the final results of the two groups in study. The gotten results have sometimes been superior to our attended, already to a first

clinical analysis and also without an objective evaluation of the picked data, in fact, the benefit was evident gotten by the patients by the association of the probiotics to the standard treatment, evidence that has been proven then by the statistic analysis of the data [21-23]. Analyzing the final results of both the groups is deduced as the subjects essays with the addition of the probiotics (Group B) introduces a best answer to the standard therapy with meaningfulness ($p < .05$) in comparison to the subjects that have not profited any probiotics, in how much the use of the mixture probiotics strengthens the already positive effects of the anti-inflammatory. The analysis of this group of patients with

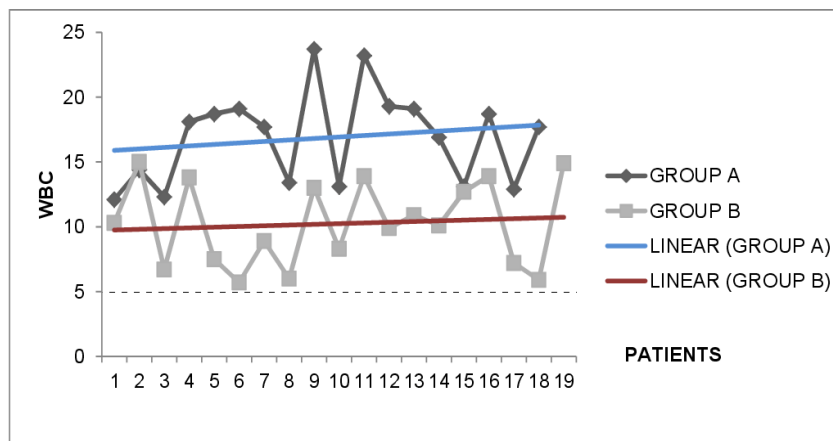


Figure 3: Results of the tests of normalcy and the T-test for the values of the Eritrocite Sedimentation Rate; (IC to 95%; $H_0:Me_1=Me_2$ against $H_1:Me_1 \neq Me_2$). Values of Eritrocite Sedimentation Rate post-therapy mostly decreased in the patients of the group B treated with probiotics. ($P < .05$).

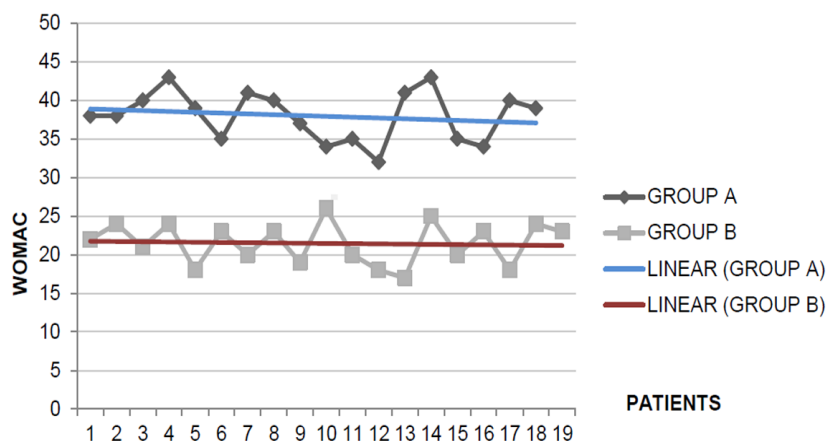


Figure 4: Results of the tests of normalcy and the T-test for the values of the WBCs; (IC to 95%; $H_0:Me_1=Me_2$ against $H_1:Me_1 \neq Me_2$). Values of WBC post-therapy decreased in the patients of the group B treated with probiotics. ($P < .05$).

secondary arthropathy to IBD shows that the behavior and the elapsed clinical it is tightly dependent from the entity from the intestinal inflammation, motive for which if we intervene on the intestinal microbiota so that to resolve the dysbiosis we can favor a notable clinical improvement both of the secondary arthritis to the IBDs and of the other demonstrations extraintestinal, both of the same intestinal illness [24,25].

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