

## **Development of Crohn's disease in husband and wife: the role of major psychological stress**

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The influence of environmental factors on the development of Crohn's disease (CD) is well established. The development of CD in a married couple might be an example underlying the importance of environmental factors involved in the pathogenesis of the disease. So far, scattered cases of the appearance of CD during the period of marriage in both the husband and wife appeared in the literature [1-3].

We describe the case of a husband and wife who developed severe CD soon after they had divorced. Five years after their divorce, one of their children, a boy, now aged 20, developed CD of the terminal ileum. To our knowledge, no similar cases have been described so far.

The wife, aged 41, developed CD of the terminal ileum at the age of 35. The diagnosis was based on the histological picture of the surgical specimen of a right hemicolectomy performed on the basis of a catastrophic situation compatible with acute abdomen (bowel perforation) appearing as the first manifestation of the disease. The postoperative course was uneventful, and she was discharged from the hospital in good health. During the six-year follow up, she experienced at least two flare-ups of mild to moderate severity. Exacerbations were promptly settled with oral administration of steroids. She is under regular follow up in our unit, on maintenance treatment with azathioprine and immunomodulating diet (Modulen IBD).

Her husband, now aged 43, developed ileocecal CD at the age of 36. The course of the disease was quite severe requiring the use of anti-tumor necrosis factor- $\alpha$  agent (adalimumab) at a dose of 160 mg at week 0, 80 mg at week 2, and 40 mg every 2 weeks, thereafter. Under this treatment the disease is running with a mild profile.

In both patients, CD was diagnosed 12 and 20 months respectively after their divorce, while they were not cohabitants. Both patients were smokers for many years. The female patient gave up smoking soon after the operation. However, her husband continues to be a smoker.

Their marriage lasted for 13 years. During this period, they acquired two children (a boy and a girl) aged now 20 and 17 years, respectively. Six months ago, their son (aged 20) developed CD of the terminal ileum. The diagnosis was based on the compatible clinical picture, and the findings of ileoscopy. Histology of the ileal mucosa confirmed the diagnosis of CD. The patient responded well to oral administration of budesonide (9 mg per day). He is now under maintenance treatment with oral budesonide, and we are planning to continue this kind of treatment for at least one year.

The development of CD after marriage in both the husband and wife seems to be a rare event, although the frequency of inflammatory bowel disease (IBD) in children could be higher if both parents had already developed IBD at the time of conception [4]. There is increasing evidence that psychological stress is linked with and can adversely affect the course of IBD [5]. Stress has both central and peripheral effects, promoting anxiety and depression. Moreover, stress can exacerbate symptoms of CD by lowering visceral pain thresholds, thus increasing the sense of it and decreasing mucosal barrier function [5]. It is of interest that our patients strongly emphasized the fact that their divorce acted as a strong and persistent psychological stress being a causative factor for the development of IBD. However, most gastroenterologists actually dispute the role of psychological disorders in CD, and a number of conflicting opinions are expressed in the literature based on the fact that prospective investigations of life events as causative factors for IBD are relatively few.

In conclusion, we strongly believe that severe psychological stress (due to the divorce) triggered the appearance of CD in this couple, acting as an environmental risk factor.

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