



Libyan International Medical University Faculty of Basic Medical Science

Relationship between endometriosis and allergic disease

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❖ **Abstract:-**

While the underlying mechanisms of endometriosis are not yet understood, the available data to date suggest that endometriosis may have important long-term health consequences. Over recent decades, endometriosis has been associated with the risk of several chronic diseases, such as cancer, autoimmune diseases, asthma or allergic manifestations, and cardiovascular diseases. Because the underlying mechanisms for these relations are not known, a deeper understanding is needed as it may lead to novel discoveries on the causes or consequences of endometriosis. Our studies in this report have results that high rate of prevalence of allergic disease and other autoimmune disorder in patient surely diagnosed, where done by (Headquarters, Milwaukee, WI, USA), Yale University Hospital (USA) and Ain shames university hospital respectively.⁽²⁾

❖ **Introduction:-**

Endometriosis, a disease in which endometrial tissue grows outside the uterus (most commonly found inside the pelvis, ovaries, fallopian tubes and outside the womb. It can also be found in the bowel, the bladder, the intestines, the vagina and the rectum), affects an estimated 8–10% of reproductive age women, and may cause pelvic pain or infertility, although in many it is asymptomatic. A definitive diagnosis of endometriosis currently requires a laparoscopy, though growths can sometimes be detected during a manual pelvic exam or on ultrasound. The pathogenesis of endometriosis is not well understood. It is likely that endometrial cells from retrograde menstruation adhere to the peritoneal surfaces and proliferates, causing peritoneal inflammation. Since retrograde menstruation is more common than endometriosis, other factors must enable the attachment and growth of ectopic endometrial tissue. One theory is that a defect in immune surveillance, such as impaired apoptosis of menstrual effluent, may occur in some with endometriosis. Features of women with endometriosis that are consistent with an autoimmune etiology include increased polyclonal B-cell activity, abnormalities in T- and B-cell function, familial inheritance, high T- and B-lymphocyte counts, reduced natural killer cell activity, high serum levels of IgG, IgA and IgM autoantibodies and anti-endometrial antibodies. Since degranulating eosinophil and eotaxin have been reported in those with endometriosis, atopic diseases, such as allergies, asthma and eczema may also be more common with endometriosis.⁽¹⁾

❖ **Discussion:-**

1-In 1998, the Endometriosis Association (Headquarters, Milwaukee, WI, USA) mailed a survey to ~10 000 female members living in the USA and Canada, with ~5% of members being in Canada. This questionnaire gathered self-reported information about symptoms of endometriosis and general medical history. Of 5500 women respondents, 4000 surveys were available for analysis in the present study. the study revealed That rates of allergies and other atopic conditions were higher among women with endometriosis than among women in the USA population, and higher still if they had other diseases. Allergies occur in 18% of women in the general population compared with 61% among women with endometriosis. The asthma rate among women in the general population is 5%, compared with 12% for those with endometriosis alone. Those respondents reporting fibromyalgia and/or chronic fatigue syndrome, and one other autoimmune inflammatory or endocrine disorder had rates of allergies (79%), asthma (29%) and eczema (19%), similar to those observed in women with only fibromyalgia or chronic fatigue syndrome.⁽⁴⁾

2-This study was conducted to examine whether the prevalence of allergies is higher in patients with endometriosis than in the control group, and to show potential correlation with endometriosis stages. We evaluated the medical files of 501 women with laparoscopically-diagnosed endometriosis and 188 women without endometriosis enrolled in Yale University Hospital. The Main outcome measures used were allergy on medications, complaints of sinus or perennial allergic rhinitis, asthma, family history of allergic disease, and correlation with stages of endometriosis. Our results indicated that the overall risk of women with

endometriosis and positive history of allergies was 4.28 (95% CI, 2.9-6.3).and increased risk of allergic autoimmune disorders. ⁽¹⁾

3- this study include 1800 female patient surely diagnosis to have endometriosis by laparotomy at gynecological department ain shams university in period from may to November 2000 , the patient varying in ages , while the control group comprised 1500 female proved by laparotomy to be free of endometrosis . in the study full history and clinical examination according to stander allergy sheet used in allergy clinic {skin test , food elimination and provocation diet test , spirometric studies , complement assay (c3&c4)}. in this study 44% of female showed allergic manifestation comparing with the control groupe that show 6.7% . 18%patient complained of allergic sinusitis (half of patient gave strong positive immediate skin test) , while the other 27%patient complain from bronchial asthma , 65% patient showed skin allergy in form of typical urticarial , skin itching, angioedema , and eczema . all subject showed normal level of serum IgG and IgM in both the study and control group .also no abnormal finding were found regarding C3 &C4 in both group . 77% patient among endometriosis group were infertile and all this cases have allergic disorder and elevated IgE level. ⁽³⁾

In our studies it was found that the incidence of allergic disorder in patient with endometriosis is much higher with normal people and this result is statistically significant . may the type of allergy varying in rate where in the last study showed the skin allergy is predominant while in other study done in 1986 reported that hay fever is the most predominant but still the allergy in any type is higher in endometriosis patient than other group of people and support the theory that may immunological factors play role in endometriosis development and early onset that showed in the study number one for of thyroid disease and rheumatoid arthritis, as well as the higher rate of autoimmune inflammatory diseases, supports our hypothesis of an immunological aspect to endometriosis. Adding to co-existence of allergies, asthma, eczema and autoimmune disease in women with fibromyalgia or chronic fatigue syndrome may also suggest an underlying role for the immune system. Significant excesses were identified for medications, sinus allergic rhinitis, and asthma; also, women with endometriosis were significantly more likely to report a positive family history of allergies. Overall, our study indicated a link between endometriosis and increased risk of allergic autoimmune disorders that should further be explored.⁽¹⁾⁽³⁾⁽⁴⁾

❖ **Conclusion:-**

Based on the review studies , the available evidence suggests that women with endometriosis may be more susceptible to allergic manifestations (eg. eczema, hay fever, food sensitivities, allergies to medication) and to allergy-related conditions such as asthma but it seems to be important that to further investigations should take place on a larger number of patient in hope of clarification of the etiology of these allergic observation during the course of endometriosis. Finally take massages to the home any female patient complain from pelvic pain and have allergic disorder should to scan for endometriosis and vas versa .

❖ **Reference:-**

- 1-Sinaii N, et al., High rates of autoimmune and endocrine disorders, fibromyalgia, chronic fatigue syndrome and atopic diseases among women with endometriosis: a survey analysis. Hum Reprod 2002;17(10):2715-24.
- 2- our bodies ourselves ,Endometriosis, <https://www.ourbodiesourselves.org/health-info/endometriosis/>
- 3- allergic disorders and endometriosis - WHO EMRO, www.emro.who.int/imemrf/Sci_Med_J_1991_3_2_209.pdf.
- 4- Matalliotakis, Cakmak H, Matalliotakis M , High rate of allergies among women with endometriosis, 2012 Apr <https://www.ncbi.nlm.nih.gov/pubmed/22369407>.