

Guideline

Endometriosis And Role Of Mmps And Hsps In Endometriosis.

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Background:

Endometriosis is characterized by the presence of ectopic endometrium causing pain, infertility, or lesion progression. It affects ~5% women of reproductive age, with prevalence peak between 25 years and 35 years age. It refers to the presence of endometrial cells that were supposed to be shed off, in parts of female reproductive system other than uterus. These endometrial cells may even enter the pelvic region. Proteins like MMPs and HSPs may be associated with the endometriosis, as these perform in tissue regeneration and wound healing etc.

Etiology of endometriosis:

The basic etiology of endometriosis is still unknown, but certain factors can be associated with its development;

- Transformation of peritoneal cells.
- Embryonic cell transformation
- Immune system disorder.
- Retrograde menstruation
- Endometrial cell transport.

Precautions and Treatment of endometriosis:

Endometriosis can't be prevented. But the chances of its development can be reduced. Taking pills to lower estrogen levels, Exercising regularly, avoiding consumption of alcohol; can be adopted to minimize the chances of endometriosis. It also has no cure, but the symptoms can be reduced by taking pain medications, hormone therapy and in severe cases surgery can be performed.

Role of MMPs in endometriosis:

Matrix metalloproteins (MMPs) are responsible for collagen and other proteins degradation in extracellular matrix (ECM). MMPs participate in the histological changes of endometrium with higher expression during the proliferative and menstrual phase and lower expression in the secretory phase. They stimulate the dispersal of endometrial cells. MMP-2 plays a major role in tumor angiogenesis and implantation of endometrial tissues

Role of HSPs in endometriosis:

Heat shock proteins are produced in response to exposure to stressful conditions.

Abnormally increased expression of HSPs plays a crucial role in pathophysiology of endometriosis. The levels of HSP-27 and HSP-70 in the ectopic endometrium in patients of endometriosis were low as compared to eutopic endometrium.

Conclusion:

Endometriosis is a painful disorder. There is no main cause of it and no prominent cure For endometriosis is yet available. MMPs and HSPs are abnormally expressed in Endometriosis and related to its prevalence.

References:

1. Paolo, V., Paola, V., Edgardo, S., Luigi, F., 2014. Endometriosis: pathogenesis and treatment. *Nature Reviews Endocrinology*, 10, pp. 261-275.
2. Mousazadeh, S., Ghaheri, A., Shahhoseini, M., Aflatoonian, R., 2019. The effect of Imbalanced progesterone receptor-A/-B ratio on Gelatinase expressions in endometriosis. *Intl J FertilSteril*, 13(2), pp. 127-134.
3. Shanmugam, M. k., Warriar, S., Kumar, A.P., Sethi, G., 2017. Potential role of natural compounds as anti-angiogenic compounds in cancer. *Current Vascular Pharmacology*, 15(6), pp. 503-519.
4. Benagiano, G., Brosens, I., Habiba, M., 2014. Structural and molecular features of the endomyometrium in endometriosis and adenomyosis. *Human Reproductive Update*, 20(3), pp. 386-402