

Pathological Process of Primary Ovarian Insufficiency

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DESCRIPTION

Women are born with a certain ovarian reserve i.e a set number of eggs that diminishes as we grow up and approach perimenopause. Each cycle, our ovaries retain numerous follicles to produce eggs, but only one of these eggs is actually released during ovulation and the rest no longer survive. Over time, as women cycle ovulates, our ovarian reserve gets lower and lower. A lowering ovarian reserve is a normal process that comes with age and is something women generally witness gradationally, starting in their late 30s and early 40s. As our ovarian reserve step-downs, our ovaries have a harder time growing an egg, until ultimately there are no further eggs left. This is when we reach menopause.

Some of the causes of primary ovarian insufficiency are inheritable diseases like turner syndrome or chromosome X, chemotherapy and radiotherapy in oncology treatments, genetically low ovarian reserve, metabolic diseases like-vulnerable diseases like addison's condition or thyroid dysfunctions and exposure to poisons like fungicides, chemicals and indeed cigarette smoke.

The majority of cases of Primary Ovarian Failure (POF) are idiopathic. In some, the cause could be

- Chromosomal and inheritable abnormalities involving the X chromosome or autosomes-a large number of genes have been screened as candidates for causing POF, still none has been accepted as a inheritable marker for POF.
- Autoimmune ovarian damage-anti-ovarian antibodies are reported in POF but their particularity and pathogenic part are questionable.
- Environmental factors like viral infections and poisons for which no clear method is known.

The clinical presentation of POF is variable. Some women present with symptoms of oestrogen insufficiency, others as part of a work up for impotent or menstrual disturbance or as part of a syndromic condition which can be inheritable or autoimmune. The opinion is depended on the finding of elevated serum Follicle Stimulating Hormone (FSH) concentrations (>40 IU/l) on at least two occasions separated by a multiple weeks. The reason for the need for two samples is that the determination is

frequently destructive and certainty is needed and also because the natural history of POF can be truly variable. While it's the usual expectancy that the condition will be everlasting, multiple women follow an uncertain course of relapse and absolution frequently given the marker 'shifting ovarian function'. In our health centers we see a gestation rate of around 1-5 in women with POF. Because of this background fertility, anecdotes of effective treatment of POF must be viewed with caution. On the other hand, it's important to inform women with POF of this situation so that they use contraception when suitable.

Secondary examinations have the aspiration of determining the cause of POF or monitoring complications. Ovarian autopsy adds little to the investigative process because the small samples attained aren't predictive of the natural history of the condition. Pelvic ultrasound is also not predictive but might have a place in determining those who may be applicants for oocyte preservation or maturation in the future. Being non-invasive, ultrasonography is frequently of psychological benefit in coming to terms with and understanding the process with a description of small ovaries with little follicular conditioning. An autoimmune screen for thyroid and adrenal autoantibodies is an important alternate line test in order to set the program for coming surveillance of thyroid, adrenal or vitamin B12 insufficiency in particular.

Inheritable screen is getting increasingly used for this domestic POF group but can also be applied to sporadic demonstration were the cost and effectiveness is lower. At present, the only extensively available tests in routine practice are karyotype and FRAXA pre-mutation screening which should be considered in those with a family history or unanticipatedly immature onset.

There are various treatments available. Some of them are:

- HRT: Hormonal Replacement Therapy (HRT) for unseasonable ovarian failure is one of the most recommended treatments for this condition. It can help enhance your sexual health and reduce the threats of other health complications.
- Supplements: Since POI increases the hazard for osteoporosis, a premature ovarian failure treatment will include Vitamin D and calcium supplements to enhance your bone health.

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- Physical exertion: Getting physically active by following a good exercise routine to maintain ideal body weight can help reduce the menaces of complications related to POI.
- IVF: This is a common treatment for fertility issues. It can help you get pregnant rather than depend on your menstrual cycle to track dates.
- Treating other issues: If POI causes any other health issue, it's important to treat that as well. Indeed if it cannot help with enhancing your condition, it can assure your health doesn't deteriorate further due to POI.