

Early Menopause

Premature Ovarian Failure and Insufficiency





PREMATURE OVARIAN INSUFFICIENCY AND FAILURE

Ovaries usually produce hormones and eggs until the early fifties, but in some cases women can enter early menopause because of **Premature Ovarian Insufficiency** or **Failure (POI** or **POF)**.

SYMPTOMS

- Irregular or missed periods, which might be present for years or develop after a pregnancy or after stopping birth control pill
- Difficulty getting pregnant
- >> Hot flashes
- >> Dry eyes
- Night sweats
- >> Irritability or difficulty concentrating
- >> Vaginal dryness
- >> Decreased sexual desire



CAUSES

- ➤ Genetic disorders
- ➤ Chemotherapy and radiation therapy
- ➤ Cigarette smoke, chemicals, pesticides, and viruses
- Immune system response to ovarian tissue

RISK FACTORS

- Age. The risk goes up between ages 35 and 40
- >> Family history of POI
- >> Surgeries involving the ovaries

COMPLICATIONS

- Infertility: inability to get pregnant
- Osteoporosis: low levels of estrogen increase the risk
- Depression or anxiety: they are related to risk of infertility and complications from decreased estrogen level
- # Heart diseases: early loss of estrogen might increase the risk



STEM CELL THERAPY - THE PROCEDURE

- ▶ Collection of only 20 cc of fat
- ▶ Stem cell isolation and expansion (in two weeks)
- ▶ Treatment (intra-ovarian injection of stem cells)
- The cells not utilized are cryopreserved and can be used for other treatments

RESULTS & REFERENCES

- "After MSC therapy, the sizes of the ovaries returned to normal and the endometrial thickness was increased, along with rich endometrial blood flow, suggesting that stem cell therapy may be an effective therapeutic strategy for the treatment of POF".
- "Stem cell transplantation not only resulted in improvement of the hormonal profile of a POF patient but also in the resuming of menstruation and the occurrence of pregnancy, resulting in the delivery of a full-term healthy infant".

Experimental and Therapeutic Medicine 15: 4105-4118, 2018.

"It is evident that stem cell therapies have potential in treating POI. Stem cells and their exosomes, including content such as miRNAs, show positive effects in enhancing and restoring various aspects of ovarian function, such as folliculogenesis, the GC apoptosis rate, vascular formation, and genetic stability".

Journal of Ovarian Research 2020; 13: 74.