Premature Ovarian Insufficiency

Women are born with a pre-defined number of oocytes. Unlike men who can replenish their supply of gametes, women's ovarian reserve reduces over time with increasing age. For the majority of women this reduction appears to be beyond 35 years of age, but for some, this may occur much earlier.

Premature ovarian insufficiency is defined as menopause/ amenorrhea before the age of 40. Diagnosis is pretty clear, but should exclude other causes of amenorrhea. A consistently high FSH over a couple of occasions, or a very low AMH/low antral follicle count in combination with periods that are getting progressively longer apart is diagnostic. Considerations should be given to investigating for chromosomal issues such as Turners syndrome, Fragile X, and autoimmune causes.

Part of the workup should include baseline testing for cardiac function and a baseline risk assessment for osteoporosis.

First line treatment is topical oestrogen to avoid the risks of first pass metabolism. If the uterus is present, micronized oral progesterone, or a progesterone coated IUD like the Mirena coil will provide adequate endometrial protection. Further treatment should be directed at the underlying cardiovascular or osteoporotic risks. Monitoring for endocrinopathies may be needed if the thyroid or adrenal antibodies are present.

Treatment from a fertility perspective is unfortunately very limited. Treatment with Donors eggs remains the main option if the woman has truly stopped ovulating. A young woman who has not yet stopped ovulating will still have a 20% per ovulatory cycle. Spontaneous ovulations can occur, and a 5% lifetime pregnancy rate is often quoted when starting low dose HRT that doesn't suppress ovulation.

In women with a significantly low ovarian reserve, but are still ovulatory, superovulation in the context of IUI can be considered.

The superovulation component is key, with the aim to push out 2-3 follicles in the last few remaining ovulatory cycles they have.
I often counsel them on the option of a laparoscopy, to ensure tubes are patent and if there was any endometriosis then excision could also improve natural pregnancy rates.

The less invasive option to test tubes will be hydrotubation with procedures such as HSG or hycosy. Lipidiol flush may also be added, but is costly and may have a small risk of medium-term side effects, and has also been shown to increase pregnancy rates in the subsequent cycles.

Unfortunately, if the above fails then donor remains the last option. The choices are fairly limited in Australia and costs are high.

A patient recruited donor remains their best chances and many women opt to go overseas. The endometrium is capable of accepting
the pregnancies and the decline in pregnancy rates is slow and marginal However, it is generally accepted in Australia, that treatment with egg donation must be undertaken before the 51st birthday as advanced maternal age carries its own risks with pregnancy and delivery.

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