Premature Ovarian Insufficiency (POI)

Why are there so many terminologies for this condition? What are the differences?

- Premature Ovarian Insufficiency is sometimes referred to as premature menopause. Women and people assigned female at birth who completely stop their periods before the age of 40 are said to have this condition. It affects about one in 100 women before the age of 40 and one in 10,000 women under the age of 20.
- Early Menopause: Women stop their periods completely and 5 in 100 women between the ages of 41-45 are affected. This can be natural or induced by surgery, ovaries are removed, or induced by medication such as chemotherapy or radiotherapy that stops the ovaries working.
- Primary ovarian insufficiency (POI) is a condition in which the ovaries stop functioning normally in women who are younger than 40 years. This is not the same as the first condition but is often confused with premature menopause. Women with POI do not always stop having periods and may have very irregular or infrequent periods as their ovaries do not always completely shut down. In POI, the function of the ovaries can return intermittently, and some women may even start to have periods or become pregnant many years later, although this is rare. With the diagnosis of POI, pregnancy is not necessarily impossible unlike in the situation where the ovaries have completely stopped working (premature menopause). Instead, in women with POI, the ovaries may stop releasing eggs, or release them only intermittently, and may stop producing the hormones oestrogen, progesterone, and testosterone, or produce them only intermittently. It is difficult to know the exact incidence of POI.

What are the possible causes of premature menopause and POI?

In premature menopause, the ovaries stop producing hormones (oestrogen, progesterone and testosterone) and as these levels drop, other hormones produced by the pituitary gland in the brain start rising in response (FSH, Follicular Stimulating Hormone for example).

In premature ovarian insufficiency, the ovaries stop producing normal levels of oestrogen and may not produce eggs regularly.

- The actual cause is not known in most cases (Idiopathic).
- There may be autoimmune factors in play, such as in conditions such as diabetes and thyroid problems. Here your body forms antibodies against your own cells. In this

situation, it occurs against your own ovaries, destroying the eggs. A virus may be implicated but diagnosis is difficult.
- The condition may run in families and have a genetic link. There may be chromosomal abnormalities (for example Mosaic Turner's Syndrome in which a woman has only one normal X chromosome and an altered second X chromosome and Fragile X syndrome, in which the X chromosomes are fragile and break) that may be responsible in some women.
- Rarely, infections such as mumps or tuberculosis may be the cause of the ovaries failing to work normally.
- Surgical removal of both ovaries causes permanent loss of function.
- Radiotherapy and chemotherapy in some situations can all result in ovaries stopping working temporarily or permanently. These therapies can damage genetic material in cells.
- Toxins such as cigarette smoke, chemicals, pesticides and viruses might hasten ovarian failure.

The medical team should be able to give you individualised advice.

What are the signs and symptoms of premature menopause and POI?

Periods may become infrequent or stop.

Menopausal symptoms include

- Hot flushes
- Night sweats
- Mood swings/tiredness
- Sleep disturbance
- Lack of concentration
- Depression/anxiety/stress
- Urinary symptoms
- Osteoporosis in the longer term
- Loss of libido (loss of interest in sex)
- Reduced sex drive
- Vaginal dryness
- Joint and muscle pain
- Heart disease in the longer term

- Symptoms of adrenal insufficiency, such as decreased appetite, weight loss, vague abdominal pain, weakness, fatigue, salt craving, or darkening of the skin should be communicated to your doctor, as 3% of women with premature menopause or POI develop adrenal insufficiency, which is a very serious condition needing treatment.

When should I seek medical advice?

If you have not had periods for more than 3 months, seek advice from your doctor. There may be many conditions that can cause you to miss periods including pregnancy, PCOS (see leaflet on Polycystic Ovary Syndrome), eating disorders, thyroid problems, stress, anxiety, mental health issues, medications and exercising too much. see a doctor

How is premature menopause and POI diagnosed?

- Blood tests need to be timed in the menstrual cycle, if still having periods (day 2-6 of cycle). If no periods they can be done at any time.
- Hormonal blood tests: FSH and oestrogen levels are tested and FSH levels tend to be raised while oestrogen levels are low. These tests need to be repeated at least 4 weeks apart to confirm the diagnosis.
- Blood tests for diabetes and thyroid (fasting blood tests).
- Karyotyping blood test to check the chromosomes if under the age of 35, after appropriate counselling.
- Baseline bone density scan and then regular scans as decided by specialist.
- Any other tests your specialist may recommend depending on individual situation, such as testing for the FMR1 premutation, a genetic test to determine a specific form of POI

Based on all the test results, the specialist will be able to give you the correct diagnosis and offer you appropriate management. You should ideally take a close friend or family member for support and to ask relevant questions you may not think to ask.

What treatments are available for premature menopause and POI?

There is no treatment to reverse these above conditions. Diagnosis can have a significant effect on women as fertility hopes may be dashed and coming to terms with a diagnosis of menopause associated with older women can be psychologically upsetting for many women. The average age for someone to go through the menopause, when they stop producing eggs,

is about 51.

Counselling should be offered and management of these women under the age of 40 should be as far as possible with a specialist who has a special interest in the condition, so appropriate support and management can be offered. Partners may need support too.

Management must be individualised.

Treatment is available for symptoms and for bone protection. However, treatment does depend upon the underlying cause and hormonal treatment may have to be discussed in detail to decide if appropriate if treatment was for a gynaecological cancer.

Younger women who need contraception should be offered the combined oral contraceptive pill (COCP, the pill) as this is more acceptable rather than hormone replacement therapy (HRT) because of the connotations. The pill works just as well as HRT. Older women who don't need contraception for a variety of reasons and have completed family and do not wish the Pill may choose to go on HRT. (see Hormone Replacement Therapy leaflet)

The right type of COCP or HRT will be decided after discussion with you by your specialist or doctor.

The main form of oestrogen that the ovaries normally produce is called oestradiol.

Women who opt for oestradiol can get it in tablets. A patch, gel or ring may be better in some situations, if liver function is abnormal or blood pressure is raised. This is because the hormone gets broken down and metabolised in the liver when taken in the oral form while in the other forms, the oestrogen bypasses the liver. The oestrogen also gets into the body in a slow, steady stream, rather than all at once and levels can be measured easily in the bloodstream.

Treatment should be reviewed regularly and adjusted accordingly.

It is important to continue treatment at least until the average age of natural menopause. By taking HRT, you are simply replacing the hormones your body is lacking, and so there are no added risks of breast cancer or stroke.

How do lifestyle modifications help?

Lifestyle modifications should not be underestimated in helping with both short term and

longer term symptoms and outcomes.

Please see lifestyle medicine, nutrition, menopause nutrition, what should I eat leaflets.

Can I have a baby if I have POI or premature menopause?

Women with idiopathic POI do sometimes ovulate and approximately 5-10% will become pregnant over their lifetime. However, this is unpredictable and there is no way of knowing who will get pregnant. If periods have completely stopped, it is highly unlikely for a spontaneous pregnancy to occur.

If fertility and pregnancy is a consideration, referral to a fertility specialist should be considered sooner rather than later to discuss all possible avenues, including egg donation, cryopreservation of healthy ovarian tissue in some situations such as before surgery, chemotherapy or radiotherapy (see link at end of leaflet).

Further information:

The Daisy Network – a support group for women with premature ovarian insufficiency (POI)

healthtalk.org – provides information about early menopause, including women talking about their own experiences

Fertility friends – a support network for people with fertility problems

Human Fertilisation and Embryology Authority (HFEA) – provides information on all types of fertility treatment

Adoption UK – a charity for people who are adopting children

Surrogacy UK – a charity that supports both surrogates and parents through the process

Daisy network

Where can I get more information?

https://www.daisynetwork.org/ A patient run support group based in UK

Human Fertility and Embryology Association – Information about IVF and list of

clinics https://www.hfea.gov.uk/

National Gamete Donation Trust – Information about donor eggs
https://www.dcnetwork.org/

British Infertility Counselling Association – List of counsellors https://www.bica.net/

Cryopreservation of ovarian tissue

https://www.ouh.nhs.uk/patient-guide/leaflets/files/12856Povarian.pdf

(See Perimenopause, Menopause Nutrition, Hormone Therapy, What Should I Eat and Nutrition and Lifestyle Medicine Leaflets)

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