because of the testosterone, has a very beneficial effect on balancing hormones and restoring regular periods in many obese women. Thus in many the best treatment is simply exercise and a change of diet. As most of these women have 'insulin resistance' there is usually a good response to insulin sensitisers such as metformin, a drug often used in diabetes. This drug is useful in that it has very few side effects (except diarrhoea) and is well tolerated.

Other ovulation inducing drugs are also often used. Clomiphene (Serophene or Clomid) is the most common. For those unresponsive to Clomiphene, injectable drugs (FSH) can be used but these require specialist facilities and close monitoring of the response to avoid severe side effects and multiple pregnancies. In very difficult situations IVF may be necessary. All treatment options are available at Virtus Fertility Centre and are always thoroughly discussed before implementing.

PCOS clinic for non-fertility related issues

Virtus Fertility Centre can help in the management of PCOS in women and help those women not seeking pregnancy, manage their PCOS symptoms.

- Menstrual irregularities
- Endometrial protection
- Excess hair, acne or hair loss
- Metabolic syndrome screening (diabetes, hypertension, hypercholesterolemia, hyperlipidemia)

Long term problems with PCOS

Although the long term effects of PCOS have yet to be fully determined, we do know that around the time of the menopause, women with PCOS are more prone to have high blood pressure and an increased risk of developing Type 2 diabetes. There is an effect on cholesterol and an increased risk of heart disease which may be associated with obesity and/or high testosterone levels. These facts should be remembered and we recommend women with PCOS have a glucose tolerance test and their cholesterol and blood lipid (fats) checked on a regular basis particularly after 40 years of age.

The oestrogen produced by the ovaries in PCOS is not balanced by the opposing effects of progesterone which is produced after normal ovulation. This is especially important in the womb. Oestrogen causes the womb lining (endometrium) to grow and thicken. The endometrium normally sheds with regular periods, however, over a long period of time without regular shedding, endometrial disturbances and rarely even cancer may occur. Thus long term management strategies are important and should be discussed with the specialist.

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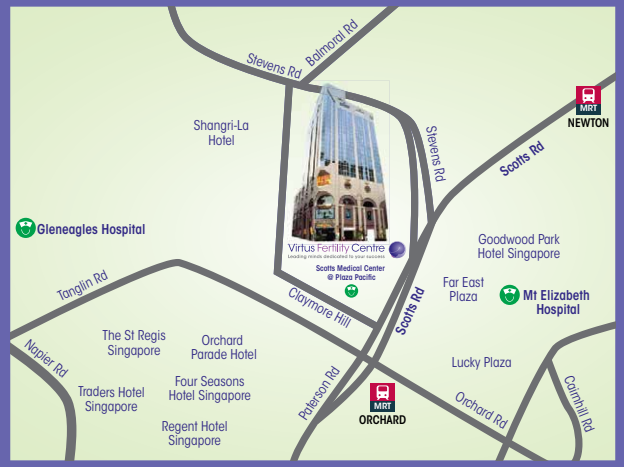

Find us

MRT Station	Nearest is Orchard MRT Station
Bus Stop	Alight @ Royal Plaza Hotel Bus Nos. 5, 54, 124, 128, 143, 162, 162M, 167, 171, 700, 700A, NR1, NR2, NR3
Parking	Available in the basement of Pacific Plaza *Entrance via Claymore Hill

SG-COMM-PI-005 | 10DECEMBER2014

Polycystic Ovary Syndrome

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"Weight loss has a very beneficial effect on balancing hormones and restoring regular periods in many obese women. Even a small (5%) weight loss in women with a high body mass index will significantly improve fertility."

Polycystic Ovary Syndrome

Polycystic Ovary Syndrome (PCOS) is a common hormone problem. The term 'polycystic ovaries' describes the appearance of the ovaries on an ultrasound scan. The symptoms that many women describe include irregular periods; increased hair growth; acne; obesity; and problems getting pregnant.

Normal ovaries

From puberty, a woman's two ovaries begin releasing hormones and eggs. We know the ovaries have started to function in an adult manner when periods begin. Periods are the result of the hormones produced by the ovaries. The hormones themselves are made within small cysts in the ovaries, called follicles. These cysts/follicles are completely normal. Within most follicles is an egg. Every month a number of follicles, often as many as ten to twenty, begin to grow. One of these follicles will become the 'dominant' follicle and will subsequently release the egg at ovulation. The other follicles simply regress (die). The hormones produced, mainly by the dominant follicle, are called oestrogen, progesterone and testosterone. These hormones are regulated by hormones called follicle stimulating hormone (FSH) and luteinising hormone (LH) which are produced in the pituitary gland, a small gland at the base of the brain.

The dominant follicle grows to about 2cm in size, then it blisters and bursts releasing the egg, which should then pass into the fallopian tube. Some women can feel ovulation and this is called 'mittelschmerz' or middle pain and many notice mucus changes. The egg may be fertilised in the tube, from where it travels to the uterus (womb) and implants into the lining (endometrium) and the woman becomes pregnant. If the egg is not fertilised or does not implant it dissolves and a period begins approximately two weeks later.

Polycystic ovaries

Polycystic ovaries contain many small follicles. On an ultrasound scan there may be 12 or more, ranging in size from 2-8mm. In PCOS the dominant follicle does not develop as readily, and many of the small follicles produce differing amounts of hormones. Blood tests often reveal changes, with higher levels of testosterone and LH (levels >10), often in conjunction with a higher LH to FSH ratio (>2.5), than women having normal cycles. These levels may vary considerably and are best assessed early in the menstrual cycle (if there is one). Often a change in blood glucose and insulin levels occur in many of these women.

Symptoms

Irregular periods

The changes in the hormones being released from the ovary may result in irregular periods (called oligomenorrhoea) or even no periods at all (called amenorrhoea). This imbalance in hormone production means that ovulation may only occur irregularly or not at all (anovulation). Some women may experience very heavy, although infrequent periods, which may also be associated with pain, bloating and breast tenderness.

Hair growth, acne and obesity

Testosterone is the dominant sex hormone in males, but is still produced by normal females, just at much lower levels. PCOS can result in a mild increase in testosterone levels in females. This may cause hair growth in a similar pattern to males. The hair tends to be darker and thicker. In mild forms it appears on the upper lip, chin and around the nipples but in severe forms can be widespread. Troublesome acne may also appear on the face and back. It is important to realise that the testosterone levels found in women with PCOS are still much lower than those found in men.

Obesity worsens PCOS but is not a characteristic of PCOS. Whilst the ovaries do not produce the correct proportions of the sex hormones, we now also know that there is an abnormality in the way the body deals with carbohydrates (sugars). Insulin regulates sugar metabolism in the body. Women with PCOS tend to be resistant to the effects of insulin and thus also have higher levels of this as well as testosterone and LH. We have long been aware of the link between obesity, diabetes and insulin sensitivity.

Infertility

Where ovulation is not occurring or is only occurring infrequently, then the chance of getting pregnant is low. We also know that the eggs produced are less likely to fertilise normally. Added to this is a well-documented increase in miscarriages and more frequent occurrence of gestational (pregnancy) diabetes. These women often require medical assistance to have a family.

Treatment options

The advice women receive regarding treatment depends upon the main problem they are experiencing.

Irregular periods are common and can be treated successfully with the contraceptive pill. This treatment is obviously only useful for those women who do not wish to become pregnant. The Pill will produce a regular cycle as well as protecting against endometrial disturbances which otherwise result from the confusing hormonal signals the uterus is receiving. Those women who have trouble taking the Pill may benefit from taking synthetic hormones eg. Provera for around 10 days of each month.

Hair growth and acne problems mainly relate to the high levels of testosterone. The treatment of these is generally to use an anti-androgen such as spironolactone or cyproterone acetate. Oral contraception, like Marvelon or Diane 35-ED, are also effective in milder cases. Other non-contraceptive cosmetic measures are also available. It is important to continue any cosmetic and beauty treatments as it may take up to six months for improvements in hair and acne to become evident.

Those women who wish to acheive a pregnancy have a number of options. Weight loss, admittedly a little more difficult for these women