



## FERTILITY MEDICATIONS AND THEIR SIDE EFFECTS

When discussing any medication, it is important to keep in mind some concepts when discussing “side effects.” Side effects are really those symptoms, usually minor, most commonly suffered by a significant proportion of patients taking the medication; for example headaches or nausea.

There are also “adverse effects.” These are more serious events, usually rare and often unpredictable. An example includes ovarian hyperstimulation syndrome (OHSS).

Overall, fertility medications are generally safe and usually associated with only very mild side effects, relatively rare and treatable adverse effects (most commonly OHSS) and no known significant long term effects.

Below is a list of some of the most common side effects patients mention, as well as some of the more common adverse effects. It is by no means an authoritative or exhaustive list. It is always important to read the enclosed medication literature supplied within the medication packaging, for a fully comprehensive list of side effects and adverse effects.

### THE MOST COMMON SYMPTOMS AND SIDE EFFECTS:

#### Clomiphene (Clomid, Serophene®)

- Clomiphene is prescribed for ovulation induction in anovulatory (absence of ovulation) women but widely used for unexplained infertility in women who do ovulate regularly on their own.
- Most common side effects include hot flushes, night sweats, dizziness and mood swings.
- Adverse reactions include OHSS, abdominal pain or bloating and temporary visual disturbances.

- Long term effects include possible increased incidence of noninvasive (“borderline”) ovarian tumours (not proven to be causative). Most recent studies find no link with invasive ovarian cancer.

#### GnRH agonists (Lucrin, Synarel)

- Lucrin and Synarel are used widely in Australia, to prevent premature ovulation in IVF cycles.
- Most common side effects include mild headache, hot flushes and mood swings which are temporary and variable.
- Adverse reactions include those patients with undiagnosed pituitary tumours experiencing a type of pituitary “stroke” when on Lucrin. This is very rare but potentially serious.
- Long term effects include bone loss in long-term users, not significant for the short courses used for IVF.

#### Gonadotropins (Puregon, Gonal-F)

- Puregon and Gonal-F are prescribed for ovulation induction in women undertaking IVF to recruit multiple eggs.
- Most common side effects include tiredness, skin redness over the injection site, abdominal tenderness and swelling, breast tenderness, mood swings, nausea and dizziness.
- Adverse reactions include OHSS (vomiting, diarrhoea, breathlessness, excessive abdominal pain and swelling) and multiple pregnancies.
- Long term effects: Most recent studies are reassuring that there is not an increased risk in breast cancer. There appears to be a slight increase in women diagnosed with ovarian or uterine cancer following IVF treatment however these diseases are prevalent in the general community, in older women who have never undergone IVF treatment and therefore it cannot be established gonadotropins are the causative agents. These studies are ongoing because this class of drug has only been in wide use for about 25 years.

#### GnRH Antagonists (Orgalutran, Cetrotide)

- Prescribed in use for IVF to prevent premature ovulation.

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- Most common side effects include redness of the skin over the injection site, headache and nausea.
- Adverse reactions include allergic reaction.
- Long term effects include bone loss in long-term users, not significant for the short courses used for IVF.

## **hCG (Pregnyl or Ovidrel)**

- Pregnyl or Ovidrel are prescribed to induce ovulation prior to egg retrieval in IVF or insemination (IUI) cycles, or to support the lining of the uterus after embryo transfer.
- Most common side effects include slight abdominal discomfort at the time of ovulation and redness of the skin over the site of injection.
- Adverse reactions include OHSS (If a patient has multiple follicles in response to gonadotropins, hCG administration plays a key role in the development of OHSS). This is not seen in natural cycles and rarely in patients prescribed clomiphene.
- Long term effects: None known.

## **Progesterone (Progesterone pessaries, Crinone applicators)**

- Progesterone is prescribed to support the lining of the uterus after embryo transfer in IVF treatment. These supplements are inserted vaginally. Progesterone is normally produced by the human ovary in the luteal phase and in early pregnancy so are widely used in fertility treatment.
- Most common side effects include uterine cramping, abdominal discomfort (mild) and bloating, breast tenderness or headache.
- Adverse effects include local vaginal reactions such as irritation or itching. Severe local skin reactions to progesterone are fairly rare. Allergic reactions include swelling of the face, tongue or other parts of the body and/or shortness of breath.
- Long term effects: Questions have been raised as to whether high doses of progesterone in early pregnancy may be associated with urinary tract abnormalities in the fetuses of the mothers taking progesterone. There has never been any such association proven.

## **Luveris**

- Luveris is prescribed to assist the stimulation of follicular development in women with severe Luteinising Hormone (LH) or Follicle Stimulating Hormone (FSH) deficiency. It is usually used in conjunction with gonadotropins.
- Most common side effects include redness of the skin over the injection site, headache and nausea.
- Adverse effects include OHSS (If a patient has multiple follicles in response to gonadotropins, hCG administration plays a key role in the development of OHSS) or allergic reaction.
- Long term effects include fetal abnormality in pregnancy if administered during pregnancy only. Long term carcinogenic studies have not been carried out.



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