A GUIDE TO FERTILITY AND PREGNANCY

Australian Pituitary Foundation

FERTILITY AND PREGNANCY

Pituitary conditions mayimpact fertility and pregnancy due to the important role the pituitary gland plays in regulating reproductive hormones.

All pituitary disorder types can potentially affect fertility where there is either excess of hormone or hormone deficiencies. The most common pituitary disorders affecting fertility include pituitary tumours such as prolactinoma, acromegaly and hypopituitarism.

THE PITUITARY GLAND IN FERTILITY

Pituitary conditions impact fertility by disrupting the production and balance of reproductive hormones such as follicle stimulating hormone (FSH), luteinising hormone (LH), and prolactin. These hormones are important for both the ovaries and the testes.

In females, FSH and LH help control the menstrual cycle and play important roles in the growth of eggs in the ovaries and ovulation (when one ovary releases an egg each month).

In males, FSH and LH work together to stimulate the release of the male sex hormone testosterone and the production of sperm in the testes.

Prolactin is another important reproductive hormone. However, higher than normal prolactin levels can also contribute to infertility.

Disruptions to these reproductive hormones can affect fertility by causing:

- Irregular or absent menstrual cycles
- Anovulation (failure to ovulate)
- Reduced testosterone levels
- Erectile dysfunction
- Low or no sperm production
- Reduced libido (sex drive).
- Excess sweat and oily skin
- Splaying of the front teeth

FERTILITY TREATMENTS FOR PITUITARY CONDITIONS

Fortunately, various treatment options are available and can help people with pituitary conditions conceive.

HORMONE THERAPY

The most common pituitary condition that affects fertility is prolactinoma — where a tumour in the pituitaryproduces too much prolactin. Treatment involves medication to reduce prolactin levels, normalise oestrogen or testosterone levels and shrink the size of the tumour.

In most cases, medication is effective and results in reproductive hormones returning to normal. However, in some cases, surgery may also be required. Once prolactin levels return to within normal limits, natural conception is usually possible.

For women with hypopituitarism, hormonal replacement therapy, including growth hormone, is important before undergoing reproductive technologies. This approach has been shown to improve ovarian response and increase the chances of successful pregnancy.

ASSISTED REPRODUCTIVE TECHNOLOGY (ART)

If fertility issues are caused by abnormal levels of FSH or LH, other fertility treatments (also called assisted reproductive technology – ART) may be used. [1]

Stimulation of the ovaries or testes

Injections of stimulating hormones may be used to stimulate the production of eggs from the ovaries, or sperm from the testes. These injections are usually self-administered.

Intrauterine insemination

Intrauterine insemination (IUI) involves inserting a sample of sperm into the uterus close to the time of ovulation.

In vitro fertilisation (IVF)

IVF involves stimulating the ovaries to produce multiple eggs. These eggs are then collected during a short surgical procedure and fertilised in a laboratory using the partner's or donor's sperm. Once fertilisation has taken place, one or more embryos and transferred into the uterus.

Often, these treatments can be used together to enhance reproductive outcomes. For instance, hormone replacement therapy for pituitary deficiencies may be used alongside standard fertility treatments like controlled ovarian stimulation or IVF.[1]

SPECIAL CARE DURING PREGNANCY

Women with pituitary conditions require special care and monitoring throughout their pregnancy. Given the complexity of pituitary disorders in pregnancy, management should ideally be provided by a team including an endocrinologist, obstetrician, and potentially a neurosurgeon, especially in complex cases to ensure the best outcomes for both mother and baby. Care should include:[2] [3]

Hormone monitoring

Hormone replacement doses may need to be adjusted as the pregnancy progresses and it is ideal to have a plan ahead of time and be familiar with it, to feel reassured

However, as many hormones change during pregnancy, usually blood tests are not performed routinely except for thyroid hormone levels if thyroid hormone is being replaced as part of management of hypopituitarism.

Tumour surveillance

For women with pituitary tumours, MRI scans may be necessary to monitor tumour size, especially if there are concerns about tumour growth during pregnancy. However, MRIs are typically postponed until after birth if possible or done without contrast if needed during pregnancy. For women with larger pituitary tumours, regular visual field testing may be needed to monitor for any changes that occur during pregnancy.

Endocrine management

Close collaboration between endocrinologists and obstetricians is essential. Careful management is required for conditions like diabetes insipidus or adrenal insufficiency.

Medication adjustments

Some medications used to treat pituitary disorders may need to be discontinued or adjusted during pregnancy. For example, dopamine agonists for prolactinomas are often stopped, but may be resumed if tumour growth occurs.

Labor and delivery planning

Women with adrenal insufficiency may require stress-dose steroids during labour and delivery.

Postnatal care

Due to rapid hormonal changes that can occur after birth, it's important to monitor potential tumour growth or changes in hormone levels that may affect pituitary function.

TALK TO YOUR DOCTOR

While pituitary conditions can complicate fertility and pregnancy, proper management and treatment can often lead to conception and a healthy pregnancy.

It's important to speak to your endocrinologist about your plans to try for a baby, or as soon as you find out you're pregnant as some medications may need to be stopped before conception or during pregnancy.

MORE INFORMATION

The Australian Pituitary Foundation provides social support for patients and carers, and has published a range of patient resources on pituitary conditions and treatments.

For more information, please visit our website: www.pituitary.asn.au

Email: support@pituitary.asn.au

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REFERENCES

The Pituitary Foundation, Infertility, https://www.pituitary.org.uk/information/infertility

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