CONDITION

Sheehan syndrome

Sheehan syndrome is lasting pituitary damage caused by severe blood loss or very low blood pressure during or after childbirth.

WHAT IT IS
Pituitary hormone loss after severe childbirth bleeding

BODY SYSTEM
Hormone system

MAIN SYMPTOMS
Fatigue, absent periods, low milk supply, low blood pressure

WHAT CAUSES IT
Reduced pituitary blood flow during childbirth

HOW IT IS DIAGNOSED
Blood hormone tests and pituitary MRI

MAIN TREATMENT
Lifelong replacement of missing hormones

CAN IT BE CURED?
No - pituitary damage is usually permanent

IS IT AN EMERGENCY?
Sometimes - adrenal crisis with vomiting, confusion, or collapse

LONG-TERM OUTLOOK
Usually manageable with correct lifelong hormone replacement

Overview

Sheehan syndrome is a condition in which the pituitary gland is damaged during or shortly after childbirth. It usually follows severe bleeding, a major fall in blood pressure, or both.

The pituitary is a small gland at the base of the brain. It releases hormones that control the thyroid gland, adrenal glands, ovaries, breast milk production, growth, and water balance. During pregnancy, the pituitary becomes larger and needs more blood. This can make it more vulnerable if blood flow drops sharply.

Damage may cause the pituitary to stop producing one hormone or several hormones. This is called hypopituitarism , meaning reduced pituitary function.

Symptoms may appear soon after delivery, but they can also develop slowly over months or

years. Some people are not diagnosed until a physical illness or other stress reveals that their body cannot produce enough cortisol, an essential stress hormone.

Sheehan syndrome matters because missing hormones can affect energy, blood pressure, periods, fertility, bone health, and the body's response to illness. With recognition, hormone replacement, and regular follow-up, the condition can usually be managed.

Symptoms

The symptoms depend on which hormones are missing and how severe the loss is.

An early clue may be little or no breast milk after delivery. However, milk supply can be low for many other reasons, so this symptom alone does not mean you have Sheehan syndrome.

Periods may not return after pregnancy, or they may become irregular and then stop. Other possible symptoms include reduced interest in sex, vaginal dryness, difficulty becoming pregnant, and loss of underarm or pubic hair.

Low thyroid-stimulating hormone can lead to too little thyroid hormone. This may cause tiredness, feeling cold, constipation, dry skin, slowed thinking, muscle aches, or weight gain.

Low adrenocorticotropic hormone, usually called ACTH, causes the adrenal glands to make too little cortisol. Symptoms may include:

Unlike primary adrenal conditions, Sheehan syndrome does not usually cause darkening of the skin or high potassium because the adrenal glands themselves are not the original problem.

Low growth hormone can affect body composition, cholesterol, muscle strength, and quality of life. These changes are often subtle and overlap with other conditions.

Rarely, damage affects the hormone that controls water balance. This can cause extreme thirst and passing large amounts of pale urine.

- Severe or persistent tiredness
- Dizziness, especially when standing
- Low blood pressure
- Nausea, poor appetite, or weight loss
- Low blood sugar
- Low blood sodium, which may cause headache or confusion

Causes and risk factors

Sheehan syndrome results from reduced blood and oxygen reaching the enlarged pituitary during or soon after childbirth. Severe postpartum haemorrhage-heavy bleeding after delivery-is the best-known cause. A major fall in blood pressure can also reduce pituitary blood flow.

Not everyone who has heavy bleeding develops the condition. Risk may be greater when blood loss is prolonged, blood pressure remains very low, or treatment and blood replacement are delayed.

Events linked with severe childbirth bleeding include problems with the placenta, poor contraction of the uterus after delivery, trauma during birth, and clotting problems. These events are risk factors for the bleeding, rather than direct causes of pituitary damage in every case.

Sheehan syndrome is not inherited and cannot be passed to a child. It is also not caused by anything a person did during pregnancy.

Other conditions can cause hypopituitarism, including pituitary tumours, surgery, radiation treatment, head injury, inflammation, and some infections. A clinician considers these alternatives when making a diagnosis.

Diagnosis

Diagnosis begins with your pregnancy and birth history, symptoms, examination, and blood tests. Tell the clinician if you had severe bleeding, needed a blood transfusion, had very low blood pressure, could not produce breast milk, or did not have periods after delivery.

Blood tests measure pituitary hormones and the hormones produced by the glands they control. These commonly include cortisol, ACTH, free thyroxine, thyroid-stimulating hormone, prolactin, and reproductive hormones. Other tests may check sodium, blood sugar, and insulin-like growth factor 1, which helps assess growth hormone function.

In Sheehan syndrome, a target gland hormone may be low while the pituitary signal is also low or not appropriately increased. For example, free thyroxine may be low without the expected rise in thyroid-stimulating hormone.

Some hormone levels change throughout the day or during illness. A stimulation test may therefore be needed. This measures whether the body produces enough of a hormone after receiving a substance that should trigger its release.

Magnetic resonance imaging, or MRI, provides detailed pictures of the pituitary. Over time, it may show a small gland or an empty sella , meaning that the space where the pituitary sits appears partly or mostly filled with fluid. MRI findings support the diagnosis but must be

considered alongside the birth history and hormone results.

Treatment and management

Treatment replaces hormones that the pituitary can no longer control. It does not restore damaged pituitary tissue, but it can correct many effects of hormone deficiency.

Cortisol replacement is the first priority when ACTH deficiency is present or suspected. This is important because starting thyroid hormone before treating significant cortisol deficiency can trigger an adrenal crisis. Your endocrinology team will decide which hormones need replacing and how they should be monitored.

Treatment may include:

If you take cortisol replacement, you will need a plan for illness, injury, surgery, or other major physical stress. The body normally makes extra cortisol at these times. Your plan may involve temporarily changing your medicine and using an emergency steroid injection if tablets cannot be kept down.

Carry a steroid like prednisone or hydrocortisone emergency card or medical alert identification if advised. Make sure close family members know where emergency medicine is stored and how to use it.

Regular follow-up usually includes a review of symptoms, blood pressure, blood tests, menstrual or sexual health, and bone health. Hormone needs can change with ageing, pregnancy, menopause, weight changes, and other medical conditions.

- Glucocorticoid medicine to replace cortisol
- Thyroid hormone replacement
- Oestrogen with or without progesterone, when appropriate
- Fertility treatment using hormones that stimulate the ovaries
- Growth hormone for selected adults after specialist assessment
- Desmopressin if water-balance hormone deficiency is present

Complications

The most urgent complication is an adrenal crisis , caused by a severe lack of cortisol. It can lead to very low blood pressure, low blood sugar, vomiting, confusion, and collapse. Infection, surgery, injury, or missed steroid medicine may trigger it.

Untreated thyroid hormone deficiency can cause worsening fatigue, slowed thinking, high cholesterol, and, in severe cases, dangerously reduced body function.

Low reproductive hormones may contribute to infertility, vaginal dryness, reduced sexual wellbeing, and loss of bone strength. Long-term growth hormone deficiency may also affect bone, muscle, cholesterol, and quality of life.

Low sodium can range from mild to severe. Marked sodium disturbance may cause confusion, seizures, or reduced consciousness.

Complications are less likely when missing hormones are recognised, replaced correctly, and reviewed regularly.

Prevention

Sheehan syndrome cannot always be prevented. Once pituitary tissue has been permanently damaged, there is no known way to reverse that damage.

Prompt prevention and treatment of severe bleeding during childbirth can reduce the chance of prolonged low blood pressure and pituitary injury. This is mainly achieved through maternity care, rapid control of bleeding, fluid and blood replacement when needed, and close monitoring after delivery.

If you previously had Sheehan syndrome, this does not mean that a future pregnancy is impossible. Pregnancy needs planning with endocrinology and maternity specialists because hormone replacement and monitoring may need to change.

Living with it and what to expect

Sheehan syndrome is usually lifelong. Pituitary function may be partly or extensively reduced, but it does not usually continue to worsen once the original injury has passed.

Finding the right hormone replacement can take time. Symptoms such as low energy, dizziness, feeling cold, or slowed thinking may improve as deficiencies are corrected. Some symptoms are less specific, so ongoing tiredness may still need assessment for anaemia, sleep problems, mood conditions, or other causes.

Most day-to-day management centres on taking replacement medicines consistently and attending routine reviews. If you use cortisol replacement, preparing for illness is especially important. Keep emergency information and medicine accessible when travelling, and arrange repeat supplies before they run out.

Periods and fertility do not always return with routine hormone replacement. Specialist fertility treatment may help some people become pregnant. A planned pregnancy requires close supervision because thyroid, cortisol, and reproductive hormone needs may change.

Over the years, follow-up may include attention to bone density, cardiovascular risk, sexual health, and emotional wellbeing. Menopause and ageing can change which replacement hormones remain suitable.

Many people can work, exercise, travel, and care for their families with an appropriate treatment plan. The exact impact differs according to which hormones are missing, other health conditions, and access to consistent care.

When to get medical help

Arrange routine medical review if you have a history of severe childbirth bleeding and later develop persistent fatigue, low blood pressure, absent periods, difficulty producing breast milk, reduced body hair, or unexplained low sodium or low blood sugar. These symptoms have several possible causes and need proper assessment rather than self-diagnosis.

If you have diagnosed Sheehan syndrome, contact your usual care team when symptoms change, medicines are repeatedly missed, or you are planning pregnancy, surgery, or prolonged travel. Routine blood tests and treatment reviews should continue even when you feel well.

Seek urgent medical advice if you take cortisol replacement and develop vomiting or diarrhoea that prevents you from keeping medicine down. Follow your emergency steroid plan if you have one.

Call emergency services for possible adrenal crisis, especially with:

Use an emergency steroid injection as instructed, but do not delay emergency care.

- Severe weakness, fainting, or collapse
- Confusion, unusual drowsiness, or seizure
- Repeated vomiting with inability to take steroid medicine
- Very low blood pressure or signs of shock
- Severe illness with rapidly worsening symptoms

Common questions

Can Sheehan syndrome appear years after giving birth?

Yes. The pituitary injury happens around childbirth, but the effects may be mild or overlooked at first. Symptoms can become clearer years later, especially during an illness or other physical stress.

Does low breast milk mean I have Sheehan syndrome?

Not by itself. Low milk supply is common and has many possible causes. Sheehan syndrome is more likely to be considered when low milk production follows severe childbirth bleeding and occurs with other signs of pituitary hormone loss.

Can the pituitary recover?

Some people retain partial pituitary function, but established hormone loss is usually permanent. Long-term blood tests show which hormones still need replacement.

Can I get pregnant with Sheehan syndrome?

Pregnancy may be possible, but absent reproductive hormones can prevent regular ovulation. Some people need specialist fertility treatment. Pregnancy should be planned with endocrinology and maternity teams so hormone replacement can be adjusted safely.

Will I need steroids for life?

If Sheehan syndrome has caused lasting ACTH deficiency, cortisol replacement is usually lifelong. Never stop prescribed steroid replacement suddenly without medical guidance. You also need specific instructions for illness, surgery, and vomiting.

Is Sheehan syndrome the same as an empty sella?

No. Empty sella is an imaging appearance in which the pituitary space looks partly or mostly filled with fluid. It may occur after Sheehan syndrome, but it can also have other causes and does not always mean pituitary hormones are low.

Sources

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