



A Synoptic Note on Cushing Syndrome in Children

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DESCRIPTION

Cushing syndrome occurs when child body is exposed to high levels of the hormone cortisol for a long time. It's caused by a tumor on the pituitary gland or adrenal gland, or taking some kinds of medicine. Cushing syndrome may cause excess weight, slow growth, and problems with sexual development. Treatment for overactive adrenal glands may include surgical removal of growths on the adrenal glands or the adrenal glands itself [1]. Physician may also prescribe medications that block the excessive production of certain hormones. Cushing syndrome can affect a child's growth, development, and self-esteem. Treatment should get as soon as possible can help less problems. A healthy diet can prevent some symptoms and protect bones with helps of calcium and vitamin-D nutrition's.

Cushing's syndrome also called hypercortisolism and condition in which the body produces considerable hormone cortisol. In most cases, it is caused by an abnormality in the adrenal or pituitary glands. Cortisol helps child's body respond to an illness or injury [2]. It also stabilizes blood pressure and blood sugar levels. When the body produces more cortisol, it effects to child's growth, disrupt puberty, and cause obesity, mood changes, and a variety of other symptoms.

Cushing syndrome causes

Cushing syndrome happens when there is additional cortisol in the body. The disorder often starts with pituitary gland. A tumor in the gland makes more Adrenocorticotropin Hormone (ACTH) it causes the adrenal glands to make corticosteroids [3].

Another main cause is taking glucocorticoids medicine like prednisone for a long time and sometimes to treat chronic diseases such as asthma and including other causes like:

- Some certain cancer conditions
- Tumor on an adrenal gland
- An inherited endocrine disorder
- Chronic conditions such as inflammatory bowel disease, lupus, or rheumatoid arthritis.

Symptoms os cushing syndrome

Cushing syndrome may cause:

- Excess weight gain, especially in the upper body, face, and neck
- Fat pad on the back of the neck
- Red streaks (striae) on the belly (abdomen)
- Thin arms and legs
- Slow growth rate
- High blood pressure
- Fragile and thin skin
- Darkened color of the skin
- Acne and Bruising
- Stretch marks on abdomen, thighs, buttocks, arms, and chest
- Bone and muscle weakness
- Severe fatigue and high blood sugar
- Irritability and anxiety
- In girls child: Excessive hair growth and irregular or no menstrual period
- In boys child: Low sex drive and infertility

DIAGNOSTIC STUDIES

If a health child is diagnostic the physical exam should be taken in 24 hours. Mainly urinary test, and urine is collected for 24 hours to measure hormone levels. Diurnal cortisol test with children's cushing's syndrome will have elevated cortisol levels and dexamethasone suppression test. It measures child's pituitary gland is producing more with an Adrenocorticotrophic Hormone (ACTH). Corticotrophin releasing hormone stimulation test, which can determine extra cortisol child's body is developing, it result of a tumor in the adrenal or pituitary gland [4]. Magnetic Resonance Imaging (MRI), which uses a combination of large magnets, radiofrequencies and a computer to produce detailed images of organs, soft tissues, muscles, ligaments and other structures within the body. Computed Tomography (CT) scan, which uses a combination of x-rays and computer technology to examine bones and produces cross-sectional images slices of the body.

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TREATMENT AND MEDICATION

Cushing's syndrome may require life-long treatment. Team of specialists will support child family in every step of the way as child grows. The goal of treatment is to stop or remove the source of the extra cortisol in child's body [5]. There are different causes of Cushing's syndrome, treatment options vary. If the cause of Cushing syndrome is long-term use of corticosteroid medications, physician able to keep Cushing syndrome signs and symptoms under control by reducing the dosage of the drug over a period of time, while still adequately managing your asthma, arthritis or other condition. For many of these medical problems and non-corticosteroid drugs, which will allow child to reduce the dosage or eliminate the use of corticosteroids altogether. Abruptly discontinuing these medications could lead to deficient cortisol levels, slowly tapering off corticosteroid drugs allows child body to resume normal cortisol production.

SURGERY AND RADIATION

If child has tumors or growths on the adrenal or pituitary glands that are causing it to overproduce cortisol, surgery may be needed to remove these growths. In rare cases, surgical removal of the entire adrenal or pituitary gland may be recommended [6]. Radiation may also be used to treat tumors or growths on the adrenal glands. It may be used alone, or in conjunction with surgery.

Complications child untreated Cushing syndrome may cause

- Abnormal growth and development, especially sexual development
- High blood pressure
- An impaired immune system
- Diabetes
- Infertility

CONCLUSION

Children with Cushing's syndrome should follow-up with the endocrinologist every 3 to 6 months for monitor hormone levels, adjust medication as needed, and measures the effectiveness of treatment. During these visits, physician will examine blood and urine tests, and physically examine the child. They will assess if child is returning to normal height and weight patterns, and if pubertal development is back on track. Once child has finished growing, examination can be spaced out to every 6 months. If child had surgery, he will need to follow-up with the surgeon 1 to 2 weeks after surgery, and then on as needed basis. Depending on child's condition, long-term care may be needed.

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