Transcript

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Congenital Adrenal Hyperplasia, or CAH, refers to a group of genetic conditions that affect the adrenal glands. Classic CAH, is a rare, more severe form of the disorder identified at birth.

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It causes complex symptoms that affect multiple organs, making it challenging to manage daily over a person's lifespan.

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CAH alters functioning of the HPA axis,

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which is comprised of the hypothalamus,

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pituitary gland,

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and adrenal glands.

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The HPA axis regulates a complex set of hormone interactions that play a key role in the body's ability to maintain homeostasis or balance and respond to stress.

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The hypothalamus produces CRF, which acts on receptors in the pituitary,

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signaling the release of ACTH. This causes the adrenal glands to release androgen,

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aldosterone, and cortisol, which maintain homeostasis and normal body functioning.

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95% of patients with CAH have a mutation that causes a deficiency of 21-hydroxylase,

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leading to reduced production of cortisol and aldosterone. The absence of cortisol results in elevated androgen levels, fueled by increased CRF and ACTH,

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due to a loss of negative feedback.

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Classic CAH presents differently at birth depending on the severity of the enzyme deficiency, including salt wasting, where the body can't hold on to sodium, and atypical genitalia in females due to androgen excess in utero.

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Guidelines recommend a 17-OHP screening test for CAH in newborns to prevent serious complications, such as adrenal crisis in the first few weeks of life.

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Standard of Care

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For more than 60 years, physicians have used corticosteroids, such as glucocorticoids and mineralocorticoids, to replace the missing cortisol and aldosterone, and to try and control androgen excess.

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While this treats the symptoms, it does not address the underlying disease. Normal doses of glucocorticoids are necessary to replace the missing cortisol.

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However, higher than normal glucocorticoid doses are required to suppress the overactive HPA axis in order to decrease high androgen levels.

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The result is an ongoing effort to balance the negative effects of too much glucocorticoid and the symptoms from too much androgen.

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Chronic exposure to greater than normal doses of glucocorticoids as well as high androgen levels, can impact growth and development in children.

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In adolescents and adults, too much glucocorticoid can cause cardiac and metabolic issues, while high androgen levels can impact reproductive and bone health and reduce quality of life. This daily balancing act is difficult to maintain.

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Neurocrine Biosciences is dedicated to discovering, developing, and delivering life-changing treatments for people with serious, challenging, and under addressed disorders, such as classic CAH.