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Addison’s Disease

 Addison’s Disease, also known as hypocortisolism, primary or secondary adrenal insufficiency; is an uncommon, but fatal disease that may lead to death if left untreated. According to the E-journal, “Plasma ACTH in Addison’s Disease: Therapeutic Implications” it states; “It is known as a rare disorder defined by the failure of the adrenal cortex to produce a sufficient amount of cortisol and aldosterone.” Cortisol is a hormone that regulates metabolism and the immune response. It plays an important role in the management of stress in the body. Aldosterone is a hormone that causes water to be reabsorbed with sodium. The blood volume and blood pressure will be increased by the mechanism of action of aldosterone. Due to the insufficient amounts of these two hormones, certain precautions must be considered to ease the stress and compliance of the patient for a successful dental treatment.

 Addison’s Disease may occur at any age, but the predominate age is usually at the range of 30-50 years old. The disease is more prevalent in females and children than in men, and there is no race predilection. According to the E-Journal, “An update on Addison’s Disease” it is written; “The etiology of Addison’s Disease are autoimmune adrenalitis (adrenal cortex is destroyed), tuberculosis, infectious diseases (HIV/AIDS, candidiasis, syphilis), and malignant diseases (lung and breast cancer). All of these factors are known to cause primary adrenal insufficiency. Secondary adrenal insufficiency may occur by the pituitary gland impeding the adrenal gland to produce sufficient amount of hormones, or when the corticosteroid medication is not being consumed.

 The clinical presentations of a person with Addison’s Disease are orthostatic hypotension, muscle weakness, fatigue, nausea, hypoglycemia, weight loss, dehydration, hyperpigmentation on the skin, and increased cravings for salt. Hypernatremia, (low level of sodium in the blood), hyperkalemia (high potassium level in the blood), and hypoglycemia (low blood sugar in the blood) are important laboratory findings in primary adrenal insufficiency. The Short Synacthen Test (SST) is used for diagnoses of adrenal insufficiency. A chemical named tetracosactide is used to examine if the adrenal glands produce or not the hormone cortisol. The fine-needle aspiration is a biopsy technique used in patients that have Addison’s Disease to rule out any cancer or other malignancies.

The radiographic features on a CT Scan are presented differently depending on the stage of hypocortosolism. The acute stage present bilateral adrenal hematomas. The subacute stage (adrenalitis) is enlargement of both adrenal glands, with necrotic centers and peripheral enhancing rims. The chronic stage is where both adrenal glands appear small and atrophic, associated with adrenal calcifications in granulomatous adrenalitis. Clinical intraoral examinations are diffuse pigmentation on the buccal mucosa, but can also be seen on the floor of the mouth and the ventral tongue. The dental radiographs, may possibly present the crown as normal, but the root(s) may show hypercementosis and large pulps.

The treatment Hydrocortisone is mainly used as a replacement for glucocorticoids. In adults, the dose is 15–25 mg/d given orally in 2 or 3 doses with the highest dose in the morning to mimic circadian rhythm. Another medication that may be used is Prednisolone of 3–5 mg/d as a single dose or in 2 divided oral doses. For children and pregnant women, Hydrocortisone is the only medication preferred. The prognosis is good as long as the patient is compliant with taking their medication as recommended by the physician. If left untreated, the prognosis is poor leading to death.

Addison’s disease may be confused with anorexia nervosa. An article named “A Case of Addison’s Disease Nearly Mistaken for Anorexia Nervosa” was based upon a 22-year old female who had similar symptoms such as weight loss, postural hypotension, and hyperpigmented skin. Due to the SST, they confirmed it was Addison’s disease. Another clinical presentation that should be considered for differential diagnosis is that there is evidence of body distortion with fear of weight gain in a person who suffers from anorexia nervosa.

The relevance of this disease to the dental hygienist is the management of the patients stress level. It is important to document if the patient is under medication, and one should assure that the patient is currently taking their medication before starting any dental hygiene treatment to prevent an adrenal crisis. If the patient has to undergo any major dental procedures(s), the clinician should contact the patient’s endocrinologist to assure that the patient will be able to do the dental procedure. An extra dose of oral Hydrocortisone medication might be required for all procedures involving dental anesthetics. The role of the dental hygienist is to manage the patient’s stress level to accomplish a controlled and comfortable dental treatment.

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