**Addison’s Disease**

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Oral pathology 2018

***Overview***

Addison's disease also known as adrenal insufficiency,is a rare, long term endocrine disorder. The adrenal glands are located above both kidneys. Addison's disease results in the adrenal glands not producing enough steroid hormones known as, cortisol and aldosterone, throughout the body. Cortisol is a hormone released to help the body cope with stress, regulates protein, carbohydrates, fats, maintain blood pressure , cardiovascular function, and helps control inflammation. When aldsoterone levels are not regulated due to addison's disease it brings malfunction to keeping salt and water within the body. This will result in low blood pressure.

***Etiology***

The most common cause of Addison's disease is autoimmunity. Normally the body's immune system attacks invading viruses and bacteria to defend the body. In cases of Addison's disease the immune system attacks the adrenal glands as if it was an infection. There are two major classifications of Addison's disease, primary adrenal insufficiency and secondary adrenal insufficencey. Primary adrenal insufficiency occurs when your adrenal gland cortex is damaged and can no longer can produce hormones. Secondary adrenal insufficiency occurs when the pituitary gland (located in the brain) can't produce a hormone adrenocorticotropic (ACTH). Additional causes of Addison's disease may include tuberculosis, adrenal hemorrhage, or genetic disorders.

***Clinical Presentation***

  Addison's disease symptoms usually develop slowly and often over several months. A patient with Addison's disease will present with major clinical presentations such as, extreme fatigue, weight loss, along with decreased appetite, inability to cope with stress, moodiness and irritability, craving of salty food, low sodium, high potassium, darkening of the skin (hyperpigmentation), low blood pressure (syncope), nausea, diarrhea and vomiting (gastrointestinal symptoms).

***Demographic***

Addison's disease is a rare disease which affects  age, gender, or eithnicity equally. It typically presents in adults between 30 and 50 years of age and most often diagnosed with autoimmune diseases. Approximately 1 in 100,000 people in the US have it.

***Biopsy / Histology / Radiographs***

**Discuss what type of biopsy you take (if any)?**

There is no biopsy during the diagnosis of Addison's disease.

**what are the histological features?**

There are no histological features of Addison's disease.

**Radiographs?**

X-ray imaging such as CT scans the abdomen may be taken to check the size of the adrenal glands and to scan for any other signs of disease such as calcification of the adrenal glands. During a CT scan, a computer x-ray is used to show images of an organ’s tissue structure.

Differential Diagnosis

There are many differential conditions and diseases that can come about when talking about hormones irregularities. Some diseases and conditions that can relate to Addison's disease would be Cushing disease, Drug related melanosis, melanoma, and pituitary adenoma. Cushing disease also know as hypercortisolism, is a condition from an exposure of high cortisol levels for a long time. Addison's disease has relation with Cushing disease by the hormone cortisol. Drug related melanosis or melanoma can be mistaken for Addison's disease due to relation of clinical signs of  hyperpigmentation. Pituitary adenoma is associated adrenocorticotropic hormone, as seen with Addison's disease. A differential diagnosis of Addison's disease would be another type of  disease or condition associated with an endocrine disorder or similarities in clinical appearances that can be mistaken for one another.

Treatment

The treatment of Addison’s disease is directed toward the specific symptoms that are apparent in each individual. Medications will provide replacement therapy to correct the levels of steroid hormones your body is not producing.  Hydrocortisone is a medication that can be used to replace cortisol. Fludrocortisone acetate is to replace aldosterone. These hormones are given to the patient on a schedule to mimic the normal daily fluctuation of cortisol levels.  The dosage of these drugs is different for each individual and the dosage may be increased during infection, trauma, surgery and other stressful situations to prevent an acute adrenal crisis. Individuals should be encouraged to increase the salt intake in their diets. Other important recommendations include carrying a medical alert card at all times to let medical professionals alert to your condition. Keeping extra medication handy is also important because missing your medication can be dangerous to your daily health with Addison's disease. Staying in contact with your doctor and annual check ups throughout the year is recommended so they can monitor your disease and keep you in stable health conditions.

**Prognosis**

  There is no cure for Addison's disease, proper treatment and care will prevent the disease from progressing, while maintaing a healthy life. There is no studies that show a decrease in life expectancy. Addison's disease is only life threatening when it is ignored and untreated.

**Professional Relevance**

As a oral health care provider the professional relevance of Addison's disease and dental hygiene treatment is important to the dental hygiene process of care. Patients with uncontrolled Addison's disease have a lower tolerance for stress and infections. We want to be aware of any clinical signs or conditions associated with Addison's disease to monitor and document any changes to the patient.  As a Dental Hygienist we are trained to preform, Intra oral and extra oral examinations on each patient. A main clinical sign of Addison's disease is hyperpigmentation. Hyperpigmentation is when the skin turns dark in regions such as elbows folds, hands, buccal mucosa,gums, palate, tongue, and lips. The oral mucosa can turn black to  blue. which can be noticed during the assessments of each visit. You should be aware on questions to ask if seeing clinical signs of Addison's disease such as have you been craving salts?, have you noticed a change in your appetite?, Have you had low blood pressure lately?. Patients who are seen with controlled Addison's diseases should have a thorough reviewed medical history each appointment they come in. A thorough review of medications if any are being taken, asking questions about last visit to the doctor are extremely important. As a Dental hygienist you should have relationship with their doctor for any questions or concerns during treatment. Also we should be familiar with adrenal crisis. Adrenal crisis is a medical emergency associated with Addison's disease and potentially life threatening. Adrenal crisis requires immediate emergency treatment.  As a dental hygienist i must be able to distinguish proper care for a patient with a systemic condition such as addison's diease. Planning the proper care will allow me to approach a treatment plan that is most beneficial to my patient for promoting proper oral hygiene care.

**Bibliography**

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