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Review Article

Neurological Disorders in Relation to Myopathy

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Abstract

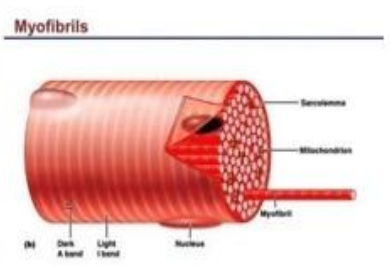
A neurological examination can, to some extent, assess the impact of neurological damage and disease on brain function in terms of behavior, memory or cognition. Behavioral neurology specializes in this area. In addition, clinical neuropsychology uses neuropsychological assessment to precisely identify and track problems in mental functioning, usually after some sort of brain injury or neurological impairment.

Keywords: brain scans; neuroimaging

Summary

A neurological examination can, to some extent, assess the impact of neurological damage and disease on brain function in terms of behavior, memory or cognition. Behavioral neurology specializes in this area. In addition, clinical neuropsychology uses neuropsychological assessment to precisely identify and track problems in mental functioning, usually after some sort of brain injury or neurological impairment. Alternatively, a condition might first be detected through the presence of abnormalities in mental functioning, and further assessment may indicate an underlying neurological disorder. There are sometimes unclear boundaries in the distinction between disorders treated within neurology, and mental disorders treated within the other medical specialty of psychiatry, or other mental health professions such as clinical psychology. In practice, cases may present as one type but be assessed as more appropriate to the other (Butler, 2005). Conditions that are classed as mental disorders, or learning disabilities and forms of intellectual disability, are not themselves usually dealt with as neurological disorders. Biological psychiatry seeks to understand mental disorders in terms of their basis in the nervous system, however. In clinical practice, mental disorders are usually indicated by a mental state examination, or other type of structured interview or questionnaire process. At the present time, neuroimaging (brain scans) alone cannot accurately diagnose a mental disorder or tell the risk of developing one; however, it can be used to rule out other medical conditions such as a brain tumor. In research, neuroimaging and other neurological tests can show correlations between reported and observed mental difficulties and certain aspects of neural function or differences in brain structure. In general, numerous fields intersect to try to understand the basic processes involved in mental functioning, many of which are brought together in cognitive science.

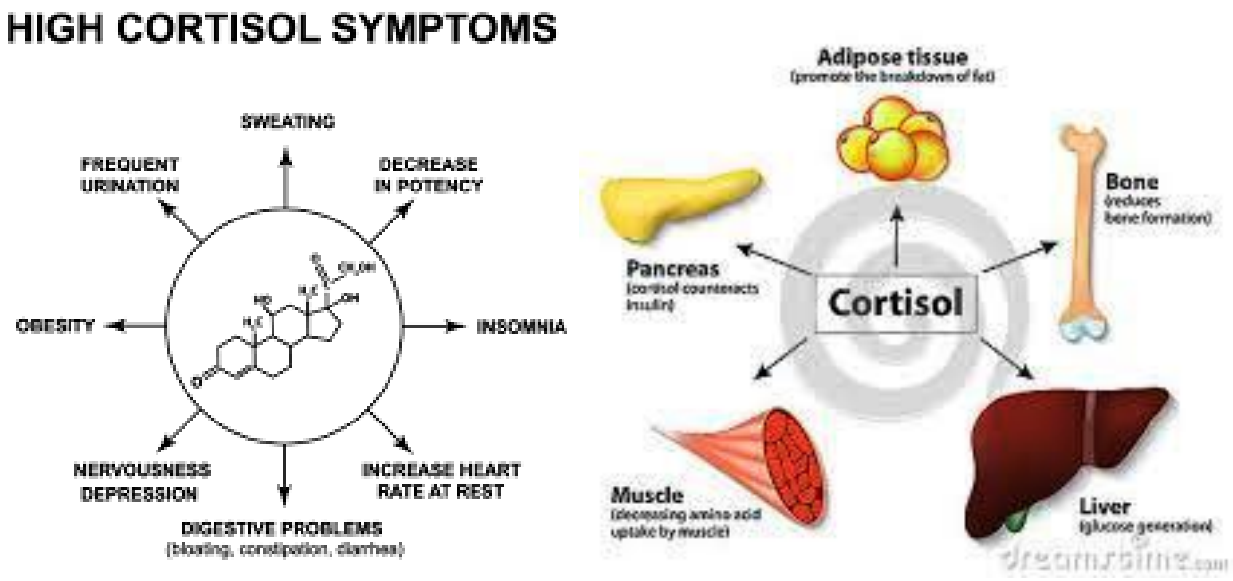
Use of chemicals in food and drinks in outer as well as inside body cause certain dynamics in horrible conditions. Popular use of chemicals and drugs in food etc. in this direction causing multiple disorders in human body, speech and mind. Introduction and inclusion of toxic food items like alcohol and other chemicals destroy human mind in one and other form. In medicine, myopathy is a disease of the muscle in which the muscle fibers do not function properly. This results in muscular weakness. Myopathy means muscle disease (Greek : myo- muscle + patheia -pathy : suffering). This meaning implies that the primary defect is within the muscle, as opposed to the nerves ("neuropathies" or "neurogenic" disorders) or elsewhere (e.g., the brain). Muscle cramps, stiffness, and spasm can also be associated with myopathy (Anonymous).



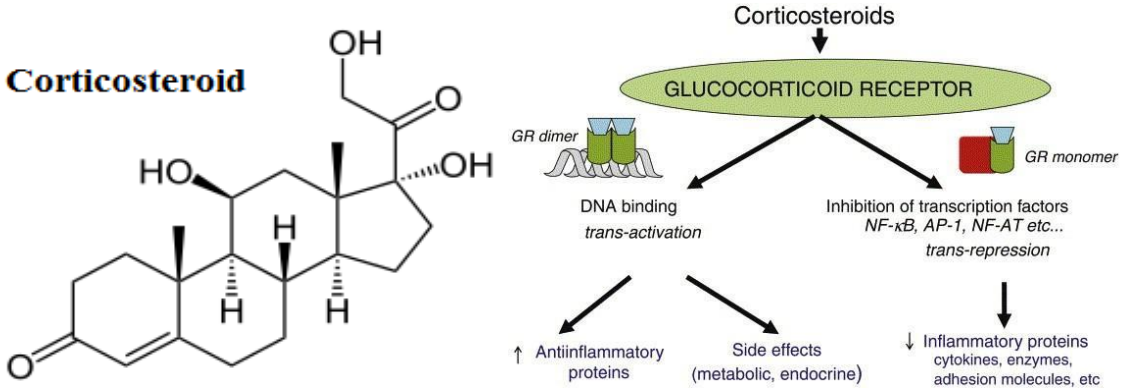
Myopathies in systemic disease results from several different disease processes including endocrine, inflammatory, paraneoplastic, infectious, drug- and toxin-induced, critical illness myopathy, metabolic, collagen related, Voermans, et al 2009 and myopathies with other systemic disorders. Patients with systemic myopathies often present acutely or sub acutely. On the other hand, familial myopathies or dystrophies generally present in a chronic fashion with exceptions of metabolic myopathies where symptoms on occasion can be precipitated acutely. Most of the inflammatory myopathies can have a chance association with malignant lesion; the incidence appears to be specifically increased only in patients with dermatomyositis (Chawl, 2011). Glucocorticoid myopathy is caused by this class of steroids increasing the breakdown of the muscle proteins leading to muscle atrophy (Seen, 1994). While Myopathy due to other toxic agents - including atypical myopathy in horses caused by toxins in sycamore seeds and seedlings (Anonymous, 2017, Anonymous, 2017a). Dermatomyositis produces muscle weakness and skin changes. The skin rash is reddish and most commonly occurs on the face, especially around the eyes, and over the knuckles and elbows. Ragged nail folds with visible capillaries can be present. It can often be treated by drugs like corticosteroids or immunosuppressants. (M33.2) Polymyositis produces muscle weakness. It can often be treated by drugs like corticosteroids or immune suppressants. Inclusion body myositis is a slowly progressive disease that produces weakness of hand grip and straightening of the knees. No effective treatment is known. Because different types of myopathies are caused by many different pathways, there is no single treatment for myopathy. Treatments range from treatment of the symptoms to very specific cause-targeting treatments. Drug therapy, physical therapy, bracing for support, surgery, and massage are all current treatments for a variety of myopathies.

Dermatomyositis (**DM**) is a long-term inflammatory disorder which affects the skin and the muscles. Its symptoms are generally a skin rash and worsening muscle weakness over time. These may occur suddenly or develop over months [1]. Other symptoms may include weight loss, fever, lung inflammation, or light sensitivity. Complications may include calcium deposits in muscles or skin.

The cause is unknown (Dermatomyositis, 2017). Theories include that it is an autoimmune disease or a result of a viral infection. Dermatomyositis may develop as a paraneoplastic syndrome associated with several forms of malignancy (*Tudorancea, et al,2021)*. It is a type of inflammatory myopathy. Diagnosis is typically based on some combination of symptoms, blood tests, electromyography, and muscle biopsies (Dermatomyositis, 2015). While no cure for the condition is known, treatments generally improve symptoms. Treatments may include medication, physical therapy, exercise, heat therapy, orthotics, and assistive devices, and rest. Medications in the corticosteroids family are typically used with other agents such as methotrexate or azathioprine recommended if steroids are not working well. Intravenous immunoglobulin may also improve outcomes. Most people improve with treatment and in some, the condition resolves completely. About one per 100,000 people per year are newly affected. The condition usually occurs in those in their 40s and 50s with women being affected more often than men [3]. People of any age, however, may be affected. The condition was first described in the 1800s (*Dourmishev, et al, 2009*).



Cortisol is one of the steroid hormones and it is made in the adrenal glands. Secretion of the hormone is controlled by the hypothalamus, the pituitary gland and the adrenal gland. In a nutshell, Cortisol it's notably known to be the "the stress hormone" that's for a good reason indeed. The cortisol, once released, can be received by most of the bodily cells, so it can affect many different functions in the body. Cortisol can do really a lot of positive things to our body, such as: -helping control blood sugar levels, -regulating metabolism, -reducing inflammation, -and much more… In women, cortisol also supports the developing fetus during pregnancy. If so, why cortisol is commonly considered as "bad" and often included among the stress response biomarkers? Some common naturally occurring steroid hormones are cortisol ($C_{21}H_{30}O_5$), corticosterone ($C_{21}H_{30}O_4$), cortisone ($C_{21}H_{28}O_5$) and aldosterone ($C_{21}H_{28}O_5$). (Note that cortisone and aldosterone are isomers.) The main corticosteroids produced by the adrenal cortex are cortisol and aldosterone (Nussey, et al 2001a). Corticosteroids are a class of steroid hormones that are produced in the adrenal cortex of vertebrates, as well as the synthetic analogues of these hormones. Two main classes of corticosteroids, glucocorticoids and mineralocorticoids, are involved in a wide range of physiological processes, including stress response, immune response, and regulation of inflammation, carbohydrate metabolism, protein catabolism, blood electrolyte levels, and behavior (Nussey, and Whitehead, 2001). Corticosteroids have several different effects on the body, which means that they can treat a range of medical conditions. They can reduce inflammation, suppress overactive immune system responses, and help with hormonal imbalances. Corticosteroids are fast-acting in the body, which makes them useful for treating sudden, severe symptoms. For example, they can effectively manage allergic responses. These drugs can also suppress the immune system, which makes them helpful for treating autoimmune diseases.



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