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DUCHENNE MUSCULAR DYSTROPHY, BECKER MUSCULAR DYSTROPHY, MYOTONIC DYSTROPHY, LIMB-GIRDLE MUSCULAR DYSTROPHY, CLINICAL PRESENTATION OF MUSCULAR DYSTROPHY, DIAGNOSIS AND TREATMENT OF MUSCULAR DYSTROPHY

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ABSTRACT:-

DUChene muscular dystrophy (DMD) primarily impacts young boys. It is an X-linked recessive disorder occurred by muttions in the dystrophin gene. Becker muscular dystrophy (BMD) is happened by mutations in the dystrophic gene. BMB is seen in adolescence or early adulthood. Myotonic dystrophy is manifested by muscle weakness, myotonia (prolonged musclr contraction) and a range of other symptoms along with cardiac and respiratory issues. Limb-Girdle muscular dystrophy (LGMD) influences the muscles around the hips and shoulders. Symptoms of muscular dystrophy include muscle weakness, contractures, respiratory complications and cardiac involvement. Diagnosis is based on clinical evaluation, genetic testing as well as muscle biopsy. Treatment is related to corticosteroids that decreases the progression of muscle degeneration and manage symptoms. It is finally concluded that dystrophia encompasses a group of debilitating muscle disorders that influence individuals of all ages.

KEY WORDS: Duchenne muscular dystrophy, Becker muscular dystrophy, myotonic dystrophy. Limb-girdle muscular dystrophy, muscle weakness, contractures, respiratory as well as cardiac complications, gene testing, muscle biopsy, physical therapy, medications, mobility aids, orthopedic braces, adaptive equipment, gene editing and gene replacement.

INTRODUCTION:-

Dystrophia, a term derived from the Greek “dys” (meaning abnormal) and “trophe” (meaning nourishment), encompasses a group of medical conditions characterized by the progressive degeneration of muscle tissue. This article delves into the clinical aspects of dystrophia, shedding light on its various forms, symptoms, diagnosis, and treatment options.

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TYPES OF DYSTROPHIA:-

Duchenne Muscular Dystrophy (DMD)

DMD is the most common form of dystrophia, primarily affecting young boys. It is an X-linked recessive disorder caused by mutations in the dystrophin gene. Muscle weakness typically begins in early childhood, leading to mobility challenges and severe complications.

Becker Muscular Dystrophy (BMD)

Similar to DMD, BMD is caused by mutations in the dystrophin gene, but it is milder and has a later onset. Symptoms often appear in adolescence or early adulthood, and individuals with BMD usually have a longer life expectancy compared to those with DMD.

Myotonic Dystrophy

Myotonic dystrophy is a multisystem disorder characterized by muscle weakness, myotonia (prolonged muscle contraction), and a range of other symptoms, including cardiac and respiratory issues. It has two subtypes, DM1 and DM2, each with distinct genetic causes and clinical presentations.

Limb-Girdle Muscular Dystrophy (LGMD)

LGMD is a heterogeneous group of disorders that primarily affect the muscles around the hips and shoulders. There are multiple subtypes of LGMD, each with its own genetic basis and clinical features.

CLINICAL PRESENTATION:-

Muscle Weakness

Progressive muscle weakness is the hallmark of dystrophia. It often begins in specific muscle groups and gradually spreads to affect more areas of the body, leading to difficulty with mobility and daily activities.

Contractures

Contractures, or joint stiffness, can develop as dystrophia progresses. This can limit the range of motion in affected limbs.

Respiratory Complications

In advanced stages of dystrophia, respiratory muscles may weaken, leading to breathing difficulties. Some individuals may require ventilatory support.

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Cardiac Involvement

Certain forms of dystrophia, such as DMD and BMD, can lead to cardiac complications, including cardiomyopathy, arrhythmias, and heart failure.

DIAGNOSIS:-

Clinical Evaluation

Diagnosis typically begins with a thorough clinical evaluation, including a physical examination and a review of the patient's medical history.

Genetic Testing

Genetic testing is crucial for identifying the specific type of dystrophia and the underlying genetic mutations responsible.

Muscle Biopsy

A muscle biopsy may be performed to examine muscle tissue under a microscope, helping to confirm the diagnosis.

TREATMENT OPTIONS:-

Physical Therapy

Physical therapy plays a central role in managing dystrophia by improving muscle strength and mobility and preventing contractures.

Medications

Certain medications, such as corticosteroids, may be prescribed to slow the progression of muscle degeneration and manage symptoms.

Assistive Devices

Mobility aids, orthopedic braces, and adaptive equipment can enhance the quality of life for individuals with dystrophia.

Gene Therapy

Emerging therapies, like gene editing and gene replacement, hold promise for treating the genetic causes of dystrophia.

CONCLUSION:-

Dystrophia encompasses a group of debilitating muscle disorders that affect individuals of all ages. Understanding the clinical aspects of dystrophia, from its various types and symptoms to diagnosis and treatment options, is essential for healthcare professionals, patients, and their families. Ongoing research and

advancements in treatment offer hope for improving the lives of those affected by these challenging conditions.

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