

Difference Between Duchenne and Becker Muscle Dystrophy

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Key Difference – Duchenne vs Becker Muscle Dystrophy

Duchenne muscular dystrophy and Becker muscular dystrophy are X linked recessive disorders characterized by the changes in the levels of dystrophin. **In Duchenne muscular dystrophy, dystrophin is absent but in Becker muscle dystrophy, dystrophin is present albeit at low levels.** This is the key difference between Duchenne and Becker muscle dystrophy. The other important difference between these two conditions is their severity level.

What is Duchenne Muscular Dystrophy?

Duchenne muscular dystrophy is an X-linked recessive disorder characterized by the absence of gene product dystrophin, which is essential for the stability of [cell membrane](#). 1 in 3000 male [infants](#) are affected by this condition.

Clinical Features

An infant with Duchenne muscular dystrophy finds it difficult to run and rise to his feet. There is associated proximal muscle weakness and calf pseudohypertrophy. The [myocardium](#) is affected and the patient gets severely disabled by 10 years of age.

Investigations

Clinical suspicion of DMD can be confirmed by the following investigations

- CK is abnormally elevated
- Biopsy shows pathological changes in the muscles such as [necrosis](#), regeneration, and replacement of muscle tissues by fat
- Immune chemical staining shows the absence of dystrophin

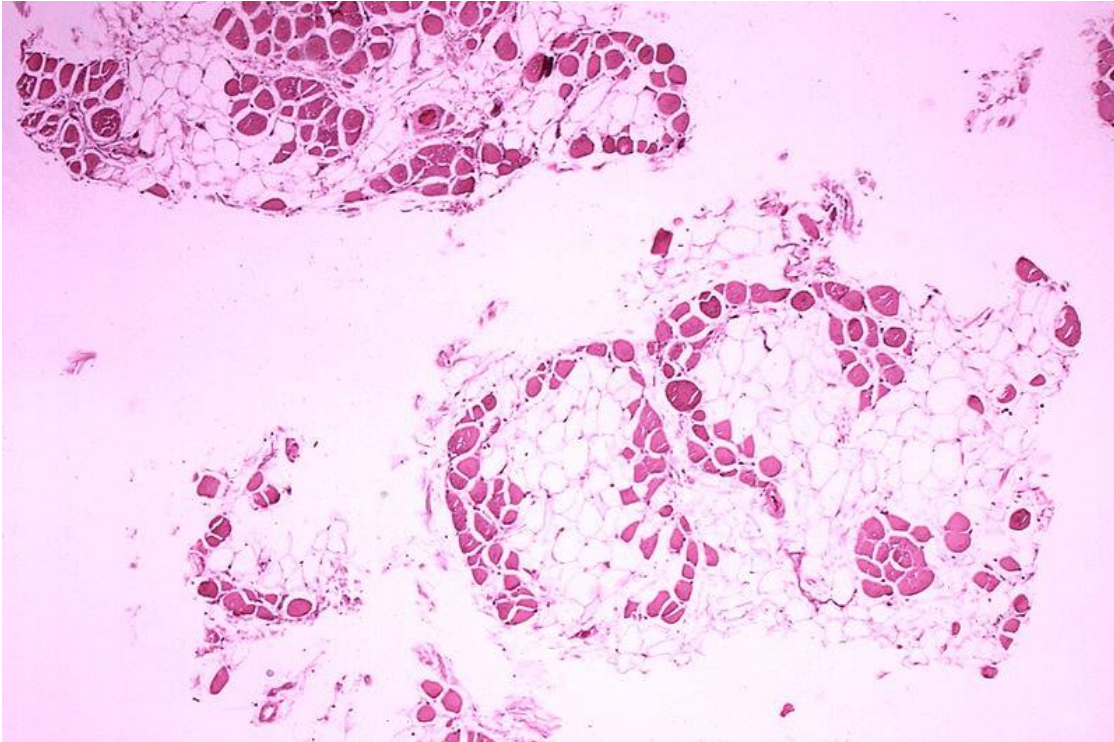


Figure 01: Histological Changes in Duchenne Muscle Dystrophy

Management

There is no cure for DMD. The use of steroids can delay the disease progression. Physiotherapy is important to prevent the occurrence of contractures in the later stages. Respiratory support and multidisciplinary care can improve the patient's quality of life.

What is Becker Muscular Dystrophy?

Becker's dystrophy is also an X- linked recessive disorder characterized by abnormally low levels of dystrophin. It has the same set of symptoms seen in DMD with a lesser severity. Only young adults become symptomatic.

What are the Similarities Between Duchenne and Becker Muscular Dystrophy?

- Both are X-linked muscular dystrophies.
- Clinical features, investigations, and management of both conditions are similar to each other.

What is the Difference Between Duchenne and Becker Muscular Dystrophy?

Duchenne vs Becker Muscular Dystrophy

Duchenne muscular dystrophy is an X-linked recessive disorder characterized by the absence of gene product dystrophin.

Becker's dystrophy is an X-linked recessive disorder characterized by abnormally low levels of dystrophin.

Dystrophin

Dystrophin is absent.

Dystrophin is present in low levels.

Clinical Features

Clinical features are extremely severe.

Clinical features are less severe.

Symptoms

The patients become symptomatic during infancy.

The patients become symptomatic during early adulthood.

Summary – Duchenne vs Becker Muscular Dystrophy

Duchenne muscular dystrophy is an X-linked recessive disorder characterized by the absence of gene product dystrophin, which is essential for the stability of cell membrane. Becker's dystrophy is an X-linked recessive disorder characterized by abnormally low levels of dystrophin. In Duchenne muscular dystrophy, dystrophin is absent whereas in Becker's muscle dystrophy dystrophin is present but in low levels. This is the main difference between Duchenne and Becker muscle dystrophy

Reference:

1.Kumar, Parveen J., and Michael L. Clark. Kumar & Clark clinical medicine. Edinburgh: W.B. Saunders, 2009.

Image Courtesy:

1. “Duchenne-muscular-dystrophy” By Dr. Edwin P. Ewing, Jr. – US Department of Health and Human Services This media comes from the Centers for Disease Control and Prevention’s Public Health Image Library (PHIL) (Public Domain) via [Commons Wikimedia](#)

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