

LOW DOSE NALTREXONE IMPROVES THE MUSCULAR CONDITIONS IN MDX MICE

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Duchenne Muscular Dystrophy (DMD) is caused by mutations in the dystrophin gene, which lead to progressive muscular degeneration and early death by respiratory and cardiac failure. Immune system modulation could reduce the inflammatory damage, providing conditions to myofibers regeneration and avoiding fibrosis. Low Dose Naltrexone (LDN) is an opioid antagonist used to treat many degenerative and autoimmune diseases. Opioid receptors are present in immune cells surface and, when blocked, inhibit adenylate cyclase, consequently decreasing immune cells activation. We treated treadmill exercised *mdx* mice with LDN 64µg/kg/day for 6 weeks, and compared this group to the non-treated one. There was no weight difference between the groups. Muscular strength increment was remarkably increased in treated animals (+0.69), while non-treated animals showed strength loss (-1.05). Serum CK level of the non-treated group was 3090.86 UI/L (+/- 1394.04) while treated animals range was 929.71 UI/L (+/- 361.59). Previous qualitative histological analyses corroborate with the data described and showed evident amelioration of the muscular tissue conditions. We are carrying out quantitative analyses in order to better evaluate if LDN could be used as a potential drug for DMD clinical trials, since this drug has no side effects.