

Bioavailability of tetrahydrocannabinol drug - Its pharmaceutical efficacy and antioxidant enzymes relation to oxidative stress in biological system using mice as animal model system

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There are many methods for Bioavailability of tetrahydrocannabinol (THC) as one of pharmaceutical drug in various neurogenerative diseases. These important effects as chemotherapeutic approach is described because of having its effect on inducing oxidative stress in reproductive dysfunction in testis of male mice. As an environmental xenobiotic toxic chemicals, it induces free radical damage and oxidative stress in testicular tissues. The insult of additive drug treatment in albino mice testes at low dose causes free radical injury to testicular lipids and oxidative stress and increased levels of lipid peroxidation (malondialdehyde value). Similarly, levels of endogenous antioxidants at high dose and at withdrawal of the drug is increased. Similarly, at low dose, significant shrinkage of tubular diameter and detrimental changes in seminiferous epitheliums leading to atrophy of testes with resulting lowered testosterone and pituitary gonadotrophins levels are seen. But at high dose and at withdrawal of the drug (recovery dose), regression of seminiferous tubules, gradual recovery of various germ cell layers and normal testicular function through the revival of testosterone hormone and pituitary gonatrophins are noticed indicating that recovery effects on testes becomes to be operative possibly through the corrective measure of endogenous antioxidant enzymes profiles and pituitary hormones feedback mechanisms. Use of various synthetic analogue of cannabinoids for medical treatments are the cannabinoid (CBD), Cannabigerol and is found in Cannabis, particularly its medical marijuana and hemp varieties, the precursor form of other cannabinoids like THC and CBD. THC which may be functional in several neurogenerative diseases in which cytotoxicity is thought to play a role, such as amyotrophic lateral sclerosis, Huntington's and Parkinson's diseases and also in acute neuronal damage as found in stroke and traumatic brain injury.

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