

Diabetic Neuropathy – The Clinical Syndromes Unravelling

Chair: *Lorenzo Gordon*

Cannabidiol and Its Effects on Pancreatic Islet Cells

Jeff Lombardo

Cannabidiol (CBD) is one of at least 113 active cannabinoids identified in cannabis. Cannabidiol is a major phytocannabinoid that accounts for over 30 per cent of each plant's extract. Cannabidiol is considered to have a wide scope of potential medical applications with no psychoactive properties.

The pancreatic islets are regions in the pancreas which contain clusters of various cells that produce different types of hormones. Approximately three million islet cells exist within the pancreas. Beta cells, a subset of the islet cells, produce insulin and amylin, which account for 60 to 80% of the pancreas' function. The lack of endocrine production by the beta cells plays a significant role in diabetes. It is thought that the destruction of the beta cells is due to immune-mediated events.

Cannabidiol seems to have significant effects on decreasing the incidence and severity of diabetes. This is related to its protective effects on the pancreatic beta cell. In experimental animal models, cannabidiol has been linked to the prevention of beta cell destruction from oxidative and immunological mechanisms.

Cannabis Usage in the Context of Neurological Disease: Clinical Cases and a Review of the Literature

Amza Ali

Cannabis has a long history of usage in Jamaica for recreational as well as religious and medicinal purposes. For several decades, researchers in Jamaica have sought to utilize its derivatives to treat specific medical conditions including glaucoma, haemorrhoids and asthma. Over the past 20 years, much anecdotal evidence has accumulated on its potential utility in a wide variety of neurological conditions including various pain syndromes, spasticity, painful diabetic neuropathies and epilepsy.

Research has been limited by small cohort sizes but clear evidence is mounting for significant potential in the symptomatic treatment of a number of neurological conditions. This paper will highlight clinical experience here in Jamaica with patient usage of this substance in the context of several neurological conditions and will review the literature to ascertain the current status of this promising agent in various formulations and its principal derivatives, cannabidiol (CBD) and tetrahydrocannabinol (THC), in the treatment of neurological disease, in particular as an added agent in the treatment of intractable epilepsy, pain syndromes and spasticity. Finally, a philosophical position will be taken on the use of this agent in Jamaica where, for decades, there has been a long history of social acceptance despite its previously controlled status.

Neurological Complications of Diabetes Mellitus – Pathways and Postulates

Marie Williams

Diabetes mellitus affects all levels of the neuraxis from brain to muscle. The pathogenesis of neurological disease involves direct and indirect effects of insulin deficiency and resistance mediated through biochemical and vascular mechanisms that promote neuronal injury and reduce neuronal repair. Oxidative stress may be a common pathway for explaining many of these effects. Cannabis should be explored for its potential neuromodulatory effect to mitigate neurological end-organ damage in addition to early and effective glucose management strategies.