

Kolaviron ameliorates histomorphological changes associated with Cuprizone-induced Cerebellar Damage

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ABSTRACT

Cuprizone is a copper chelator and a drug of choice in studying demyelination/remyelination in the central nervous system. This study assessed the effect of *Kolaviron*, on cuprizone-induced damage to the cerebellum of Wistar rat. Twenty-four adult male Wistar rats were grouped into 5: Group A received 0.5 ml of normal saline for 6 weeks; Group B received 0.5 ml of corn oil for 6 weeks; Group C was treated with 0.2% of cuprizone for 3 weeks followed by treatment with 200 mg/kg of *Kolaviron* for another 3 weeks; Group D received 200 mg/kg *Kolaviron* for 3 weeks followed by 0.2% cuprizone from another 3 weeks; while Group E received 0.2% cuprizone for 6 weeks. Meanwhile, 0.5 ml of corn oil was used as a vehicle for *Kolaviron*. The body and brain weight of the rats showed significant decrease in all treated groups when compared to the control groups. Histological demonstration showed varying degrees of architectural distortions, including depletion of Nissl bodies, disruption of cortical cell layers and depletion of myelin, which were more pronounced in the cerebellar cortex of cuprizone-treated rats.

Kolaviron offered mild cytoprotection to the cerebellar histomorphology of cuprizone-treated rats. Further studies would ascertain the effectiveness of *Kolaviron* in mitigating cerebellar lesions in well-established demyelination.

Keywords: *Kolaviron*; cuprizone; cerebellum; demyelination; histomorphology