
HYALURONIC ACID CONJUGATED WITH ANTIOXIDANTS FOR TREATMENT OF CMV-INDUCED HEARING LOSS

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Cytomegalovirus (CMV) is the leading nongenetic cause of sensorineural hearing loss (SNHL) in children in the United States. Current antiviral treatments exist, however with only modest short-term improvements and uncertain long-term outcome as well as reports of complications. Because CMV causes SNHL through inflammation and oxidation of the inner ear, an anti-inflammatory compound such as hyaluronic acid (HA) can be modified and combined with an antioxidant compound like D-methionine as a potential treatment. Preliminary results indicate successful synthesis of the compound CMHA+Dmethionine as well as demonstrated cytocompatibility. Upcoming procedures will include testing the combined anti-inflammatory and antioxidant effects of the novel compound CMHA+D-methionine and investigating its potential to act as an effective treatment for CMV SNHL.