Glucoferrin® – the ultimate Chelation proteins factor in MS, Alzheimer's, Parkinson's, SPS.

Iron overload, hemochromatosis, and ferroptosis are increasingly recognized as central drivers in the development of neurodegenerative and metabolic abnormalities.

The common outcome is **Ferroptosis**—a form of iron-induced, accelerated cell death. **Ferroptosis** is marked by excessive oxidative stress, lipid peroxidation, and inflammation, leading to damage in nerve tissue, including demyelination and lesions. Iron accumulation in the myelin sheath and deeper brain structures further amplifies neuroinflammation and contributes to progressive neurodegeneration.

Many studies have found that iron overload is directly proportional to cognitive decline in Alzheimer's condition. Increased **Ferritin** level (iron storage protein cell) was strongly associated with elevated brain iron adversely impacts on Alzheimer's progression. Ferroptosis, a programmed cell death process associated with iron dysregulation, has been supposed to be linked to neurological abnormalities, especially neurogenerative conditions. Iron **chelator** and antioxidants were found useful in managing Alzheimer's, which represents an important direction for future studies.

Iron overload in pancreas triggers **Insulin** resistance (loss of insulin sensitivity). Iron overload in the liver disrupts production of **Hepcidin** protein, responsible for regulation the entry of iron into the circulation in mammals from the GUT. Iron overload in the liver, also suppresses production of **Glutathione**, the master antioxidant and detoxifier of human body, (simplifying).

Liver suppression and a severe deficiency of amino acids impair the body's ability to produce and secrete iron-binding glycoproteins—natural chelators essential for regulating iron balance. These proteins are critical for the synthesis of hemoglobin, the main oxygen- and glycogen-carrying molecule in red blood cells.

Without sufficient hemoglobin, the body cannot deliver oxygen and nutrients effectively to every cell. At the same time, in the absence of proper chelation, unused iron accumulates in the bloodstream, leading to oxidative damage and iron overload in multiple organs.

When hemoglobin production is compromised in both strength and volume, the body's cellular energy supply chain breaks down—ultimately causing premature cell death and systemic dysfunction.

Hemoglobin is made of **574** amino acids, **Insulin - 51** amino acids, **Glutathione - 3** amino acids, **Bile - 19** amino acids, **Hepcidin - 84** amino acids, **Ferritin** (iron storing protein) - **349** amino acids, **Transferrin** (protein transporting iron) - **678** amino acids (transferrin residues).

Glucoferrin® pharmaceutical-grade complex, is the unrivaled, ultimate **iron chelator,** based on proprietary blend formulation using form of Lactoferrin, with the unmatched **iron binding** glycoprotein properties, comprises 708 amino acids in special sequences, to combat **iron dysregulation** and to sustain stable, uninterrupted **hemoglobin** production in the human body.

Piotr S. & Kristy Henderson, PharmD, PCN

A chelator is an organic compound that combines with metal ions to form chelates. These chelates involve the formation of two or more separate coordinate bonds of any various metal compounds, that include some used medically in the treatment of metal poisoning such as iron overload, mercury, and lead poisoning.