

A Review on Achalasia Cardia And Plausible Aetiology

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Key Points

- Achalasia cardia is a neurodegenerative disorder
- Factors leading to achalasia are diversified and multifactorial
- HSV-1 has been proposed as the most likely candidate for the treatment of oesophageal achalasia

Achalasia Cardia is a neurodegenerative disorder of the oesophagus that results in morbid oesophageal peristalsis & loss of the lower oesophageal sphincter function. Concerning pathogenesis, achalasia cardia occurs due to degeneration of the myenteric nerve plexus of the oesophageal wall.¹

There is a significant loss of inhibitory ganglion in the myenteric plexus of the oesophagus. Initially, degeneration of the inhibitory nerves prompts the unopposed action of excitatory neurotransmitters such as acetylcholine, which brings about high amplitude, non-peristaltic contractions. With the progressive loss of cholinergic neurons, dilation & low amplitude contractions occur in the oesophageal body.²

Currently, factors of idiopathic achalasia are diversified & multifactorial. These factors may be involved in elaborate interactions of autoimmune responses, degenerative neuronal processes, viral infections & genetic susceptibility of individuals.

HSV-1 is a member of the Herpesviridae family and has been previously proposed as the most likely candidate for treatment or management of esophageal primary achalasia due to its neural cell tropism & predisposition for squamous epithelium.

Certain viral miRNAs can downregulate specific targets or promote viral genome stability, translation and RNA accumulation. A previous study showed increased levels of an HSV-1 miRNA, in the lower oesophageal

sphincter of achalasia patients. This sphincter may act as a storehouse for HSV-1 & serve as an area for the expression of viral miRNA in patients with achalasia.

Another study hypothesized that HSV-1 miRNA directly targeted genes that are involved in the ubiquitin-proteasome system, as the downregulation of this system results in the accumulation of β -amyloid which is a neurodegenerative-associated protein fragment & is advantageous for the survival of the virus. However, additional studies with more categorization are required.³

References:

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