Effect of Curcumin on Diminishing Pathogenicity of Viruses

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Curcumin, a natural compound derived from turmeric, has antioxidant, anti-tumor and anti-inflammatory activities. Accumulated evidence indicated curcumin plays an inhibitory role against infection of numerous viruses. Curcumin exerts its antiviral activity on various viruses through different mechanisms. These mechanisms involve either a direct interference of viral replication machinery or suppression of cellular signaling pathways essential for viral replication. Many studies have shown a direct interaction of curcumin with intracellular proteins to prevent viral replication. In addition, curcumin, due to its chemical properties can inhibit the viral infection of the host cell by interfering the viral membrane of enveloped viruses due to its hydrophobic properties and interaction with surface glycoproteins. In fact, curcumin reduces viral replication by inhibiting viral binding at the cell surface. This potential property of curcumin can be make it a candidate for an anti-viral drug design by increasing its bioavailability. In this article, it is suggested that the effect of curcumin on the coronavirus-19 be studied experimentally because this virus belongs to enveloped viruses and curcumin may be able to prevent the virus from entering the host cell by altering membrane fluidity due to its hydrophobic properties.

Keywords: Curcumin, Enveloped Viruses, Cell Signaling Pathways, Viral Replication, Bioavailability, Suggestion For COVID-19 Virus

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