

Necroptosis an alternate cell death pathway to ferroptosis in COVID-19 patients, reveals IIT Indore study

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Research by the Indian Institute of Technology (IIT) Indore has uncovered that necroptosis is also one of the reasons for the deaths in the cases of COVID-19 patients. Whilst increase in Serum Ferritin, causing ferroptosis, was the primary reason for the deaths in COVID-19 patients, some of the deaths occurred even when Serum Ferritin was not increasing. This led to the study to find out the cause of deaths.

Dr Hem Chandra Jha, Associate Professor in the Dept of Biosciences and Biomedical Engineering and lead researcher of this study, said, 'Serum

Ferritin is an important marker of COVID-19 severity and is also associated with cell death by ferroptosis. This study may provide a mechanistic understanding of cell deaths associated with low Serum Ferritin patients as well.'

The study has revealed the functions of the SARS-CoV-2 E protein beyond its role in viral assembly. The findings, published in reputed Apoptosis Journal, have unveiled Envelope protein mediated cell death mechanisms, particularly necroptosis. This protein increases lysosomal pH and triggers inflammation in gastro-intestinal-lung axis, thus dysregulating the lysosome activity and increasing cell death mechanism in gut-lung axis.