Nonalcoholic fatty liver disease is worsened by dasatinib and quercetin

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Video Byte

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Abstract

Nonalcoholic fatty liver disease (NAFLD) is the most common chronic liver disorder, affecting over 25% of adults worldwide. It causes inflammation and other health conditions, including hepatocellular carcinoma (HCC), a leading cause of cancer-related death. Recently, researchers have looked toward the use of senolytic drugs as a promising treatment. Senolytic drugs selectively target aging cells that no longer divide, which are associated with NAFLD-induced HCC. In a recent study, mice were given low-dose diethylnitrosamine (DEN) and a high-fat diet (HFD) to induce NAFLD-induced HCC. These and normal (CTL) mice were treated with a mixture of two senolytic drugs, dasatinib and quercetin (D+Q). Unexpectedly, the D+Q cocktail had no effect or even worsened liver disease progression in the mice and slightly increased liver damage and tumor generation. The drug cocktail also did not reduce the number of aging cells in the mouse liver, as indicated by the genetic marker p16. These results suggest that D+Q is ineffective against NAFLD-induced HCC, possibly even causing further damage, and indicate that further studies on senolytic drugs are needed to evaluate their effects on liver disease and overall health.