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**INCIDENT DIABETES AND GLUCOSE CONTROL AFTER HCV TREATMENT WITH DAAs IN ERCHIVES**

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**Background:**

HCV is associated with an increased risk of diabetes. How treatment with newer directly acting antiviral agents (DAA) affects this risk is unknown. Our objective was to determine the effect of DAA treatment upon the risk and incidence of diabetes.

**Methods:**

We identified chronic HCV-infected persons treated with pegylated interferon/ribavirin (PEG/RBV) or DAA regimens and propensity-score matched untreated controls. We excluded persons with prevalent diabetes, HIV or HBV coinfection, those treated with both PEG/RBV and DAA regimens. Diabetes was defined using a combination of blood glucose values, prescription of hypoglycemics and ICD-9/10 codes.

**Results:**

We identified 4,764 PEG/RBV treated, 21,279 DAA treated, and same number of untreated controls. Diabetes incidence rate [95% CI]/1,000 person-years of follow up were 19.8[18.3,21.4] among PEG/RBV and 9.89[8.7,11.1] among DAA treated persons ( $P<0.001$ ). Among the treated, rates were 13.3[12.2,14.5] for those with SVR and 19.2[17.4,21.1] for those without SVR ( $P<0.0001$ ). Treatment was associated with a larger reduction in incident diabetes rate in persons with more advanced fibrosis/cirrhosis (absolute difference 2.9 for FIB-4<1.25; 5.7 for FIB-4 1.26-3.25; 9.8 for FIB-4>3.25). DAA treatment (HR 0.48, 95%CI 0.42,0.56) and SVR (HR 0.81, 95%CI 0.70,0.93) were associated with a significantly reduced risk of diabetes. DAA treated persons had longer diabetes free survival compared to untreated and PEG/RBV treated persons. There was no significant difference in diabetes free survival between untreated and PEG/RBV treated persons.

**Conclusion:**

HCV treatment significantly reduces the incidence and risk of subsequent diabetes, driven largely by DAA regimens. Treatment benefit is more pronounced in persons with more advanced liver fibrosis.