

## Hepatic histopathological modifications in post transplant recurrent chronic hepatitis c virus infection, and its association with oxidative damage and diabetes

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Noted in diverse benign disorders and most marked in dysplasia and malignancy, anisonucleosis is a morphological manifestation of nuclear injury characterized by variation in the size of the cell nuclei. To further address the pathogenesis of anisonucleosis in liver diseases, this study concentrated on hepatocyte anisonucleosis in biopsies of liver transplant recipients who developed recurrent chronic hepatitis C virus (HCV) infection. Our aim was to determine whether there were any notable associations among hepatocyte anisonucleosis and various clinicopathological parameters. Clinical features such as patient age, body mass index, gender, race, donor age, live versus cadaveric donor status, history of diabetes mellitus, history of tacrolimus and cyclosporine therapy, and duration post transplant were evaluated. Histopathological parameters such as hepatitis activity index, fibrosis index, steatosis, and oxidative tissue damage in formalin fixed paraffin embedded (FFPE) liver biopsies were reviewed. Post transplant surveillance liver biopsy specimens were utilized employing light microscopy, digital image analysis, and immunohistochemistry for the study of histopathology, nuclear size, and tissue expression of oxidative marker 8-hydroxy-2'-deoxyguanosine (8-OHdG), an indicator of hydroxyl radical mediated tissue impairment. Our results showed that in liver transplant recipients with recurrent chronic HCV infection, hepatocyte anisonucleosis is more pronounced in individuals with diabetes mellitus ( $p=0.0016$ ), and among those who have heightened hepatic expression of the oxidative damage marker 8-OHdG ( $p=0.0053$ ). Our findings suggest that in the post-transplant patients with recurrent chronic hepatitis C virus infection, hepatic anisonucleosis is a possible marker for oxidative damage and diabetes. **Keywords:** liver transplantation, chronic hepatitis C virus infection, anisonucleosis, oxidative damage, and diabetes.

### Biography

Grace Guzman, MD is an Associate Professor of Pathology at the University of Illinois College of Medicine, Hospital and Health Sciences System where she teaches gastrointestinal and liver pathology and serves as a surgical pathologist. He focuses on the translational study of gastrointestinal and hepatocellular carcinoma by developing human tissue arrays and characterizing biomarkers.

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