Rural Areas See Growing Incidence of Liver Cancer

From 1995 to 2016, hepatocellular carcinoma incidence in rural populations climbed by 218%.

October 1, 2021 By Sukanya Charuchandra

Despite accounting for only 15% of new cases of hepatocellular carcinoma (HCC), the most common type of liver cancer, HCC rates are rising faster among rural populations compared with those in urban areas. Indeed, the rate of new cases is falling off in urban communities. These results, previously presented at The Liver Meeting in 2020, were recently published in Clinical Gastroenterology and Hepatology.

Over time, chronic hepatitis B or hepatitis C, heavy alcohol use, fatty liver disease and other causes of liver injury can lead to the development of liver cancer. In the past, rates of HCC have been higher in urban areas compared with rural areas. With one in five Americans living in rural regions, it is important to understand the spread of liver cancer across both urban and rural areas.

Kali Zhou, MD, of Keck Medicine at the University of Southern California, and colleagues studied trends in liver cancer over the past 20 years across rural and urban communities in the United States. They used data from the North American Association of Central Cancer Registries, with coverage of 93% of the country. They included data on individuals over age 20 who were diagnosed with HCC between 1995 and 2016.

Of the 310,636 new liver cancer cases reported, 85% were in urban areas and 15% were in rural areas. Over the study period, the average age-adjusted incidence rate of HCC was lower in rural communities compared with urban areas.

While rural areas had a lower HCC incidence, it increased at a higher rate than in urban areas. The average annual increase in liver cancer incidence in rural areas was 5.7%, compared with 3.9% in urban areas. In comparison, lung, colorectal and breast cancer rates in rural populations have fallen over the same period.

Among rural populations, men between ages 60 and 69, African Americans, American Indians and Alaskan Natives and those living in the South or areas with high poverty had higher rates of liver cancer.

Beginning in 2013 and 2014, urban subgroups that saw a notable fall in HCC incidence included

men and women between ages 40 and 59, Asians and Pacific Islanders, and people living in the Western United States.

Between 1995 and 2016, the gap in HCC incidence rates between rural and urban areas has widened. The incidence in urban communities began dropping off in 2009, except for a spike in 2014, resulting in a 118% increase from 1995 to 2016. On the other hand, the proportion of new cases rose by 218% in rural areas during the same period.

Since this study did not take into account the causes and risks linked to liver cancer, further studies are needed to understand the driving factors underlying these trends. One reason could be poorer access to preventive care in rural areas. (People with hepatitis B orC who have progressed to cirrhosis should be screened regularly for HCC.) Researchers also suggest that higher rates of obesity and alcohol use in rural populations could be contributing to the trend.

More research and investment into rural health care will aid in addressing the growing disparity in liver cancer incidence between urban and rural areas.

“HCC is a critical under-recognized public health issue affecting rural Americans,” Zhou said in a press release. “With the widening rural-urban disparity in HCC incidence, such interventions are key to better understanding and tackling this growing inequality.”

Click here to read the study abstract in Clinical Gastroenterology and Hepatology.

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