

SOUTHWESTERN NEWS

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TATTOOING A MAJOR ROUTE OF HEPATITIS C INFECTION, UT SOUTHWESTERN RESEARCHER FINDS

DALLAS – April 4, 2001 – Getting a tattoo could be a key infection route for hepatitis C, the most common chronic viral infection affecting almost 2 percent of the United States population, according to a study by a UT Southwestern Medical Center at Dallas researcher.

Dr. Robert Haley, chief of epidemiology, writes in the March issue of the journal *Medicine* that tattooing has been previously overlooked as a widespread source of hepatitis C, a potentially fatal disease that attacks the liver, leading to cirrhosis and liver cancer. It affects 2 percent of the U.S. population.

The study found that people who had received a tattoo in a commercial tattoo parlor were nine times more likely to be infected with hepatitis C than people who did not have a tattoo.

Participants in the study were patients of an orthopaedic spinal clinic, a setting that provided a large volume of patients seeing a physician for reasons unrelated to blood-borne infection. Participants unaware of their hepatitis status were examined, interviewed for risk factors and tested for hepatitis C by the study's co-author Dr. Paul Fischer.

Of 626 patients studied, 113, or 18 percent, had a tattoo. Of those with a tattoo, 22 percent were infected with hepatitis C. Of the 52 patients who had acquired their tattoos in commercial tattoo parlors, 33 percent had hepatitis C. In contrast, only 3.5 percent of patients with no tattoos had hepatitis C. Few of the tattoo-associated infections could be traced to injection-drug use, transfusions or other known routes of exposure.

"Prior studies were unable to account for a substantial proportion of infections, perhaps 40 percent or more, by the accepted risk factors like injection-drug use and transfusions," Haley said. "That suggested that important risk factors were yet to be identified. Tattooing appears to be one of those. It has proven to be an important route of infection in other countries, but its role in the United States has received too little study until now."

Patients in the study were asked questions about the number of tattoos they had, the

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surface area covered by tattoos, the colors in the tattoos and where they had received the tattoos. Study participants also were asked about other possible hepatitis C risk factors, including injection-drug use, prior blood transfusions, sexual promiscuity, acupuncture, electrolysis, occupation, ethnic factors, obesity and others.

The study found that people who had several tattoos, or complex or large tattoos had an increased risk of having hepatitis C and that people with white, yellow, orange or red pigments in their tattoos also were more likely to have hepatitis C than those with only black. These characteristics reflect tattoos acquired in commercial tattoo parlors.

The risk of hepatitis C infection was also higher among patients with a history of injection-drug use, hospital custodial workers, and people who drank beer heavily, but the risk was not increased for those who drank only wine or liquor. Although hepatitis C can be transmitted by an infected blood transfusion, this route of infection was too rare to show a discernable contribution to the overall infection rate in the population at large.

“Most importantly, we found that commercially acquired tattoos accounted for more than twice as many hepatitis C infections as injection-drug use,” Haley said. “This means that it may have been the largest single contributor to the nationwide epidemic of this form of hepatitis.”

Hepatitis C can be passed through tattooing by reuse of tattooing needles or dye, inadequate sterilization of tattooing needles between customers, or breaks in sterile technique such as the artist pricking the back of his or her hand to test the needle’s sharpness. Few states have hygienic regulations to ensure safe tattooing practices in commercial tattoo parlors, and even fewer monitor and enforce standards.

Patients for the study were interviewed and tested in 1991 and 1992.

“The results of the study were not published then because other epidemiological studies at the time were expected to address the issue, but they did not,” said Fischer. “This was the last study done before widespread hepatitis C testing began, when a largely unbiased study could still be done.”

Hepatitis C presently causes as many as 10,000 deaths each year from cirrhosis and liver

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cancer, and this number is expected to rise. Nearly 4 million Americans are chronically infected with hepatitis C, and about 36,000 more become infected each year.

Hepatitis C is a quiet killer. The vast majority of people with new hepatitis C infection experience no symptoms until many years later when they develop liver cirrhosis or liver cancer. Only a small number initially develop the classic symptoms of hepatitis, including jaundice, fatigue, abdominal pain, loss of appetite and vomiting.

Doctors say people with any of the risk factors for hepatitis C should consider having a blood test, because treatments are now available to eradicate the virus in many before it causes permanent liver damage or cancer.

Tattooing has been shown to transmit other infectious diseases, including hepatitis B, syphilis, leprosy and tuberculosis. Small outbreaks of hepatitis have been identified in customers visiting certain commercial tattoo parlors on the same day.

Fine-art tattooing has become a common practice, particularly among teen-agers and young adults. Sociological studies of tattoo recipients, however, have shown that few recipients compare tattoo parlors or watch a tattooing procedure before getting one, and few consider tattooing a future health risk.

Haley is the study's lead author. Fischer is an internal medicine specialist, formerly at the Dallas Spine Group and presently at Presbyterian Hospital of Dallas.

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