

SOUTHWESTERN NEWS

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HEMOPHILIACS RUN HIGH RISK OF BLOOD CLOTS FROM IMPLANTED CATHETERS, UT SOUTHWESTERN STUDY REVEALS

DALLAS – Sept. 7, 2001 – Despite hemophilia's persistent threat of prolonged bleeding, children with the disease run a high risk of developing dangerous internal blood clots from long-term central venous catheter implants, according to research at UT Southwestern Medical Center at Dallas.

A clinical study of 15 boys, aged 4 to 14, with severe hemophilia found they had at least a 50 percent chance of developing a blood clot, known as deep venous thrombosis, linked to a catheter implanted under the skin for 12 months or longer. Eight of the boys had developed deep blood clots in the veins near their hearts, according to the study. The findings will appear in the Sept. 15 issue of *Blood*, the journal of the American Society of Hematology.

Adults with similar implants are also at risk, the scientists said.

This first-of-a-kind study raises serious doubts about the long-term safety of catheters implanted for routine injection of the absent blood-clotting factors in hemophilia patients – a therapy commonly prescribed for more than a decade, said Dr. George Buchanan, professor of pediatrics, director of the pediatric oncology/hematology program within the Harold C. Simmons Comprehensive Cancer Center at UT Southwestern and senior author of the study.

“At best, it says that we have to seriously consider the risks and the benefits of using a catheter long term,” said Dr. Janna M. Journeycake, a fellow in pediatric hematology/oncology and principal investigator on the project.

Buchanan said the results also raise serious questions about the safety of long-term implanted catheter use for intravenous injection of any medication or for nutrition support.

The devices are known to cause major risks of infection in hemophiliacs and other patients and to cause internal blood clots in cancer patients receiving chemotherapy.

Buchanan said studies of catheter-induced blood clots in hemophiliacs are lacking, most

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likely because of the paradox that individuals with such bleeding disorders might develop clots. In 1998, he studied 13 hemophilia patients for the same possible hazards, but with shorter-term catheter implants. In that study, none of the 13 boys with catheters in place for 10 months to five years showed evidence of deep venous thrombosis.

Buchanan and Journeycake said they extended the inquiry because they had recently detected blood clots in several of their hemophilia patients. Although not focused on catheters, other case studies also had indicated that blood clots can form in hemophilia patients, said Buchanan, also director of the Center for Cancer and Blood Disorders at Children's Medical Center of Dallas.

In the latest study, each of the 15 boys was examined with contrast venography, a form of radiography. A venogram was developed by inserting an IV line into an arm vein. A contrast medium, a dye-like liquid, was injected through the IV hookup.

Journeycake said a radiologist used real-time X-ray technology, known as fluoroscopy, to film the path of the colored medium through the veins. The film was read immediately to view the vein's "vessel architecture" for possible clots forming.

The results, she said, included finding three patients with more than one deep blood clot.

Buchanan said it will be tough for patients, patients' families and doctors alike to forgo the convenience of catheters and find safer alternatives for long-term therapy.

In the United States, hemophilia sufferers number between 17,000 and 20,000, and incidence-rate estimates put the disease occurring in one out of every 5,000 to 7,500 boys born, according to medical handbooks.

Dr. Charles T. Quinn, assistant professor of pediatrics at UT Southwestern, and Kim L. Miller and Joy L. Zajac, clinical pediatric nurse practitioners and hemophilia nursing coordinators at Children's, were also on the research team.

The study was funded by the National Institutes of Health, the Maternal and Child Health Bureau, the Centers for Disease Control and Prevention, and Children's Cancer Fund of Dallas.

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