

Immediate Treatment Best for DVT, Specialist Says

BY MITCHEL L. ZOLER
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HOLLYWOOD, FLA. — The time to take care of deep vein thrombosis is when it happens, even if it's during pregnancy, Dr. Anthony J. Comerota said.

Women who develop DVT during pregnancy can be safely and effectively treated with thrombolysis while pregnant, thereby avoiding both the acute danger of pulmonary embolism and the risk of long-term complications of postthrombotic syndrome that can make their legs painful and swollen and can eventually disrupt their lives.

"Most physicians shy away from aggressive treatments during pregnancy and avoid using thrombolytic drugs that could increase the risk of bleeding," Dr. Comerota said at ISET 2008, an international symposium on endovascular therapy.

"These are valid concerns, but it can leave women with an extensive clot burden that interventionalists would ordinarily treat. ... If [DVT] progresses to chronic venous disease, it will completely change the patient's life," he said in an interview.

Dr. Comerota reported his experience using catheter-delivered thrombolytic drugs, with or without additional procedures, to safely treat seven pregnant women with DVT. None of the women had a bleeding complication.

Five women subsequently gave birth to healthy infants by routine vaginal delivery, and one infant was delivered by a cesarean section. The seventh woman lost her fetus during the



Surgery exposed a large thrombus embedded in a pregnant patient's iliofemoral vein.

second trimester because of a very aggressive case of the prothrombotic condition known as antiphospholipid antibody syndrome, which boosted her risk for developing DVT during pregnancy, said Dr. Comerota, director of a vascular treatment and research center in Toledo, Ohio.

Pregnant women are four- to sixfold more likely to develop DVT than are nonpregnant women, and if the DVT persists they are also more likely to have a poor pregnancy outcome. DVT during pregnancy is more likely to occur in ilial veins and to be extensive and cause more sequelae. In nonpregnant women, DVT is usually less extensive and tends to form in the femoral-popliteal veins.

About two-thirds of women who develop DVT during pregnancy go on to have chronic venous insufficiency if their initial treatment during pregnancy is by anticoagulation alone.

Although many physicians are reluctant to use thrombolytic therapy during pregnancy, there is no indication of an elevated risk for major hemorrhage from lytic therapy in pregnant women, Dr. Comerota said. It is known that the placental penetration rates of urokinase (pregnancy category B), streptokinase (category C), and recombinant tissue-type plasminogen activator (category C) are too low to have any fibrinolytic effect in the fetus.

"Thrombolytic therapy appears to be low risk and compatible with pregnancy, but the human pregnancy experience is limited. No cases of fetal hemorrhage or loss secondary to thrombolytics have been reported," said Gerald Briggs, a clinical pharmacist specializing in obstetrics at Long Beach (Calif.) Memorial Medical Center. He agreed that recombinant tissue-type plasminogen activator (rt-PA), urokinase, and streptokinase are not believed to cross to an embryo or



The size of the thrombus was better appreciated once it was removed and displayed by itself.

fetus in amounts sufficient to cause hemorrhage.

Of the seven women treated by Dr. Comerota, one received intracatheter urokinase and six were treated with rt-PA. Five women were treated with endovascular devices only. In some cases, the endovascular treatments included Bacchus Vascular Inc.'s Trellis catheter (which uses a pair of balloons to isolate an artery segment, followed by the infusion of a lytic drug, agitation of the drug within the clot, and aspiration of the clot fragments and drug), EKOS Corp.'s EndoWave catheter (which combines lytic infusion with ultrasound), Possis Medical Inc.'s AngioJet system (a clot removal device), and stenting. One patient was treated with both endovascular devices and open surgery, and the seventh patient underwent open surgery only.

Five women were treated only during the antepartum period, and two women were treated

both antepartum and postpartum. Five of the women were in the third trimester during their treatment. Two women were in the second trimester, and shielding was used to protect the uterus and fetus during radiologic procedures.

Five women did not have any postthrombotic symptoms. Two patients had mild leg swelling following pregnancy. After pregnancy, all women were placed on chronic warfarin therapy.

Three women later became pregnant again, and during pregnancy they were placed on prophylactic treatment with a low-molecular-weight heparin. None of these three women developed DVT during their subsequent pregnancies, Dr. Comerota said.

Dr. Comerota is a consultant to, on the speakers bureau for, and has received research grants from, Sanofi Aventis, and is also a consultant to and has received research grants from Bacchus Vascular. ■

Mediterranean Diet in Pregnancy May Avert Atopy in Offspring

BY JONATHAN GARDNER
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Women who follow a Mediterranean diet during pregnancy may avert asthmalike symptoms and atopy in their children, results of a population study in the journal *Thorax* suggest.

Researchers studying a birth cohort of 412 children in Menorca, Spain, found that offspring of mothers who closely followed a Mediterranean diet in pregnancy were less likely to experience persistent wheeze (adjusted odds ratio 0.22), atopic wheeze (OR 0.30), or atopy (OR 0.55) at a 6.5-year follow-up, compared with children of mothers who were less adherent to the diet.

Micronutrients such as antioxidants or polyphenols contained in the fruits, vegetables, legumes, and oils that are key ingredients of the Mediterranean diet may have protective effects against asthma, may protect the airways against oxidative damage, or may have anti-inflammatory effects, wrote Dr. Leda Chatzi of the University of Crete, Heraklion, Greece, and associates (*Thorax* 2008 Jan. 15 [Epub doi:10.1136/thx.2007.081745]).

Over a 12-month period beginning in mid-1997, the re-

searchers enrolled 507 women seeking antenatal care at general practices in Menorca.

A total of 412 children of the women who were enrolled underwent skin-prick tests for allergies at a 6.5-year follow-up.

In addition, 468 parents completed questionnaires on children's respiratory and allergic symptoms, and supplied information on the mother's diet during pregnancy and the children's diet at 6.5 years using a food frequency questionnaire.

The questionnaires were then scored according to how much of the food intake matched a traditional Mediterranean diet.

A total of 36% of mothers had a low-quality Mediterranean diet in pregnancy; the remainder had a high-quality diet.

Approximately 13% of the children at follow-up had persistent wheeze, 6% had atopic wheeze, and 17% had atopy.

Maternal intake of vegetables more than eight times a

week in pregnancy was significantly associated with a reduced risk of persistent wheeze (odds ratio 0.36) and atopy (OR 0.4) in their children, compared with children of mothers who ate fewer servings.

Eating fish two to three times a week and legumes at least once a week during pregnancy each was also significantly associated with a reduced risk of persistent wheeze (OR 0.34 and OR 0.36, respectively).

Although there was a trend toward a high-quality Mediterranean diet in pregnancy having a protective effect against atopic wheeze, the association was not significant, possibly because of the small number of

children affected ($n = 20$), the investigators wrote.

At 6.5 years, 9% of the children had a diet that scored low, 54% scored intermediate and 37% scored high on Mediterranean diet measures.

A high score was protective against persistent wheeze, but the effect was only marginally significant, the researchers said. ■

Maternal intake of vegetables more than eight times a week in pregnancy was associated with a reduced risk of persistent wheeze and atopy.