

The Use of Fluorescein Angiography in Pregnancy

The frequency of adverse reactions to fluorescein angiography during pregnancy has not been well documented. To date, there is no scientific evidence of damage to the fetus. In spite of animal studies revealing no teratogenicity and human experience indicating no fetal or maternal morbidity,¹⁵ intravenous fluorescein is not customarily administered to pregnant patients.

Fluorescein angiography is useful in the study of diseases associated with altered vascular permeability such as hypertension, subretinal neovascular membrane formation, toxemia during pregnancy, just to name a few. Some ophthalmologists have indicated that the procedure should be performed on the pregnant patient only if there is an immediate threat to vision, and preferably only during the late second or third trimester of the pregnancy.⁸

In 1984, a study was conducted to document complications of intravenous fluorescein angiography. The "Fluorescein Angiography Complication Study"⁸ surveyed 14,864 practicing ophthalmologists in the United States and Puerto Rico, including all 110 members of the Macula Society.*

Among the information solicited, questions regarding contraindications

of angiography during pregnancy were raised. The survey yielded an overall response rate of 16%; however, of the 110 members of the Macula Society, 98 (89%) responded. The majority of ophthalmologists (79% of the Macula Society members and 83% of non-Macula Society members) indicated that they would not perform a fluorescein angiogram on a pregnant patient.

Another study, conducted by B. Donkers and D. Jansonius,¹⁶ was aimed at evaluating the benefits and the risks of performing fluorescein angiography on pregnant patients. Seven women suffering from toxemic pregnancies were chosen for this study based upon their previous history of hypertensive disorders in pregnancy. Three of the patients were in the first half of their pregnancy, three in the second half, and one was postpartum.

An intravenous injection of 5 ml of 15% sodium fluorescein was given. Patient discomfort during angiography was within the acceptable norms for these procedures. One procedure had to be discontinued because of nausea and vomiting following intravenous injection. Other disturbances in maternal or fetal function, such as liver function such as

liver function, kidney function, hematologic systems, maternal plasma estriol level and estriol excretion and antepartum cardiotocography were not seen.

The fluorescein angiograms of these patients with toxemia showed hypertensive retinal disorders. After birth, the children of these patients showed no signs of congenital malformations. The authors concluded that retinal fluorescein angiography was extremely useful in the follow-up studies of peripheral capillary function in patients with hypertensive disorders in pregnancy. Risks to the fetus or patient appeared to be nonexistent.

More recently, a survey conducted in 1987 by D. Bartlett¹⁷ revealed that of 15 ophthalmologists surveyed,¹⁷ the majority were unwilling to perform fluorescein angiography on pregnant patients except under very rare circumstances.

In the absence of clinical substantiation, it appears that the prevailing caution concerning use of fluorescein angiography on pregnant patients is fundamentally based upon medicolegal concerns since 2% of all live births carry congenital defects which could be blamed on the use of intravenous sodium fluorescein. ■

* The Macula Society is an elected-membership association, comprised of distinguished clinical ophthalmologists who, by virtue of their interest in the macula, have considerable expertise in fluorescein angiography.