

NATION

Fetuses' responses to needles show signs of stress

By Cheryl Wetzstein
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Fetuses that had needles inserted into their abdomens to draw blood showed biochemical reactions that indicated they found the event stressful, a new medical study says.

The study, conducted by British researchers, does not conclude the fetuses perceived pain but does encourage doctors to consider using painkillers when performing invasive procedures on unborn babies.

There also may be implications for abortions, said Nicholas M. Fisk, a professor at the Center for Fetal Care in London, and his colleagues. Their study appears in

this week's edition of the *Lancet*, a medical journal.

The recommended use of painkillers "applies not just to diagnostic and therapeutic procedures on the fetus, but possibly also to termination of pregnancy, especially by surgical techniques involving dismemberment," the researchers said.

"We've always argued that there's every reason to believe that fetuses feel pain," said Wanda Franz, a developmental psychologist and president of the National Right to Life Committee. She called the study "meaningful" and "important."

Others found the study less convincing.

Pain awareness depends on

brain function, said Dr. Edwin C. Myer, vice chairman of neurology at the Medical College of Virginia in Richmond. Fetuses have functioning brain stems, but there is no evidence they can feel pain, he said.

Painkillers are used routinely in operations on fetuses and newborns in the United States, but the debate over whether unborn babies can feel pain continues.

While the Fisk study "doesn't come as a surprise, I'm glad to see [it] in print," said Dr. Thomas Pinckert, a leading fetal therapist at Georgetown University Medical Center. "I think babies do perceive discomfort."

The Fisk group said that because "the mechanisms involved

in pain perception are not fully understood, it is not possible to conclude that the fetus experiences pain."

But they said fetuses mount a "similar hormonal response" to what children and adults have when experiencing pain.

"Further investigation is needed into how these [hormonal] responses may be blunted by anesthesia or analgesia," the Fisk group said.

The Fisk study was conducted in a London hospital and involved 46 fetuses 20 to 34 weeks old. The mothers had been referred for prenatal testing, evaluation of fetal anemia or a blood transfusion.

Blood samples from the fetuses were taken either from the placen-

tal end of the umbilical cords or from the fetuses themselves.

The researchers checked the blood for two hormones associated with stimuli reaction: cortisol and beta-endorphin. Cortisol is released when the body becomes stressed or agitated; beta-endorphin is a naturally occurring painkiller.

When blood was drawn from the umbilical vein, which has no nerves, there was no increase in hormone levels. But when the blood was drawn from the fetuses' abdomens and the needles were left in for at least 10 minutes, the levels of both hormones rose.

The researchers said they could not tell if the reactions resulted from the piercing or having the

needle in place for such a long time.

"This study provides the first direct evidence that the fetus has a hormonal stress response to invasive stimuli," they said.

But does the fetus feel pain?

"If I put [your brain] to sleep, I could cut open your abdomen and operate without your feeling it," said Dr. Myer, who has done extensive studies of beta-endorphins. There would be chemical changes in the body in response to the operation, he said, "but you would not interpret it as pain."

A critique of the Fisk findings in the *Lancet* noted that a "biochemical stress response" can be seen even in a person who has taken adequate painkillers.