

Do abortions heighten breast cancer risk?

Women who have had at least one induced abortion run a greater risk of developing breast cancer than women who have been pregnant but have never had this procedure, according to a study published this week.

While some right-to-life activists have contended that induced abortions pose a breast cancer threat, previous studies on this topic have been inconclusive.

Janet R. Daling of the Fred Hutchinson Cancer Research Center in Seattle and her colleagues decided to take another look at this explosive issue. They describe their findings in the Nov. 2 *JOURNAL OF THE NATIONAL CANCER INSTITUTE*.

The team interviewed 845 women living in western Washington who had been diagnosed with breast cancer. Next, the team randomly recruited 961 women who did not have breast cancer. These women served as a control group. All of the study volunteers had been born after 1944 and thus came of age reproductively after abortion had become legal.

The researchers interviewed the volunteers and took a detailed health history. The team found that women age 45 or younger who had had an induced abortion ran a 50 percent higher risk of developing breast cancer than women in

the same age group who had been pregnant at least once but had not obtained an abortion. Furthermore, the team found that the increased cancer threat did not vary with the number of abortions. In addition, a completed pregnancy did not protect women from this elevated risk.

The chances of developing breast cancer appeared greatest for women who reported an induced abortion at age 18 or younger, particularly if it took place after the eighth week of pregnancy or if the patient had a close relative who had been diagnosed with breast cancer.

The team found no increased risk of breast cancer associated with spontaneous abortion.

This isn't the first study to link abortion and breast cancer. More than 10 years ago, Malcolm C. Pike of the University of Southern California School of Medicine in Los Angeles reported that young women who had had an abortion prior to a full-term pregnancy proved more likely to develop breast cancer than women who had not had this procedure.

Pike and other scientists believe that women who complete the physiological changes of pregnancy obtain some protection against breast cancer later in life

(SN: 10/31/92, p.298).

Yet the new study's findings don't fit with that theory, points out Lynn Rosenberg of the epidemiology unit at the Boston University School of Medicine in Brookline, Mass. In addition, Daling's team found that breast cancer risk isn't influenced by a woman's pregnancy history, Rosenberg notes.

The new findings also remain at odds with animal research. Scientists know that rats that give birth and later undergo an abortion suffer no heightened breast cancer risk. Researchers believe the changes in breast cells that occur late in pregnancy may help fight off carcinogenic damage, she adds. Rosenberg, who wrote an editorial in the same issue of the journal, urges a cautious approach to Daling's findings.

"This study raises more questions than it answers," she says.

The authors note that a completed pregnancy may not, in itself, protect women. Daling says other studies have indicated that lactation provides a breast cancer shield. Indeed, her study offers support for that hypothesis: An induced abortion did not increase the risk of breast cancer in women who nursed a child within the 5 years following the procedure. Still, the number of women in that category was too small to argue strongly for such an interpretation, Daling adds.

— K.A. Fackelmann

New dinosaur embryo rewrites history

In 1923, at the Flaming Cliffs in Mongolia's Gobi desert, scientists from the American Museum of Natural History identified dinosaur eggs for the first time. They classified the eggs as belonging to *Protoceratops*, a small, plant-eating creature abundant in the area. Now, new evidence suggests that those investigators unknowingly mislabeled their find, researchers assert.

A member of the dinosaur family Oviraptoridae laid those eggs, report Mark A. Norell, also of the American Museum of Natural History in New York City, and his colleagues in the Nov. 4 *SCIENCE*. They are the first Western paleontologists allowed to search for fossils in Mongolia since 1930.

Norell and his colleagues compared their find — a 70- to 80-million-year-old shell containing the nearly complete skeleton of an oviraptorid embryo — to the empty eggshells discovered by the earlier scientists. Norell's team found the embryo last year several hundred kilometers from the Flaming Cliffs.

Researchers have uncovered only six or seven dinosaur embryos. This find marks the first discovery of a meat-eating dinosaur embryo, the team asserts.

The discovery "sort of cleared up this mystery of what the dinosaur eggs from

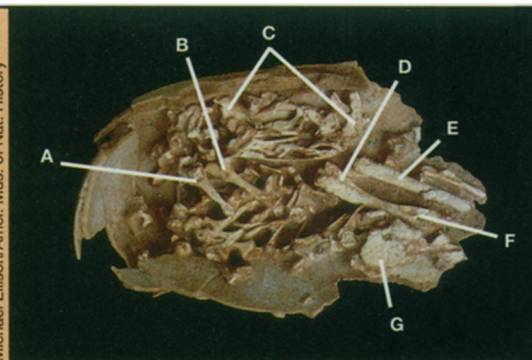
the Flaming Cliffs were, which in paleontological circles has always been a pretty big thing," says Norell.

An oviraptorid dinosaur resembled a small ostrich with a tail, grew to about 6 feet in length, and sported a hornlike bump on the end of its beak. Identifying the embryo proved easy. The animal died right before it would have hatched and "looks like a little adult inside the egg," Norell says. Also, "the skulls of oviraptorids are so unusual that they can't be confused with anything [else]," he explains.

The new embryo clears up another mistake made by the earlier investigators. The scientists in 1923 gave the name *Oviraptor philoceratops*, or egg eater, to a dinosaur they found lying on top of a nest of what they thought were *Protoceratops* eggs, Norell says. However, the *Oviraptor* "was probably the parent of those eggs and was either incubating or guarding that nest," he speculates.

Scientists know little about how dinosaurs handled their eggs, but finding a parent so close to its nest suggests they didn't just leave them to hatch, he asserts. The eggs were arranged in a circular pattern, he adds. "This is the best association [ever found] of any adult dinosaur with a nest," says Paul C.

Michael Ellison/Amer. Mus. of Nat. History



The embryo of an oviraptorid dinosaur in its shell. The bones include (A) scapula, (B) humerus, (C) skull, (D) fibula, (E) tibia, (F) femur, and (G) ilium.

Sereno of the University of Chicago.

In the nest with the oviraptorid embryo lay skulls of juvenile dromaeosaurid dinosaurs, which the oviraptorid parents may have brought to the nest to feed on, the researchers report. Or the dromaeosaurids may have gone to the nest in search of dinner, they suggest. This is the first time scientists have discovered juvenile dromaeosaurid skulls.

The study provides a host of valuable new evidence about dinosaurs, says Sereno. "It was a really great paper."

— T. Adler