

'Artificial' menopause and heart disease

Unlike natural menopause, removal of both ovaries may increase a woman's possibility of developing coronary heart disease—but that increased risk can be eliminated by estrogen replacement therapy, according to a study that is a reminder of the uncertainty surrounding the relationship between estrogen and heart disease.

In the April 30 *NEW ENGLAND JOURNAL OF MEDICINE*, a group from Harvard Medical School in Boston reports that women who have had their ovaries removed—because of cysts, cancer or other reasons—are about twice as likely to suffer from heart disease later. However, if a woman uses estrogen after ovary removal, or has only one ovary or only the uterus removed, no increased risk of heart disease is seen. Similarly, no increased risk is seen among women who undergo menopause naturally, say the scientists, who base their comparison of natural versus surgical menopause on a study of 121,700 women followed from 1976 to 1982. An earlier report from the same scientists in 1985 had concluded that estrogens protect against heart disease, in direct contrast to an accompanying article from another group of researchers, who reported that the incidence of coronary heart disease among women who used the hormone was nearly twice that among nonusers (SN: 11/2/85, p.279).

'Two birds, one stone' birth control?

In the world of contraception, just preventing pregnancy isn't enough these days. Using birth control methods that also prevent serious infections is considered a wise move, one that could avert both disease and future infertility. A study of fertile and infertile women by researchers in several U.S. states and Canada, reported in the May 8 *JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION (JAMA)*, supports what public health officials have been saying: that barrier methods of birth control, such as diaphragms and condoms, used with anti-sperm chemicals, can help prevent infections that can lead to tubal infertility, whereas intrauterine devices are often associated with pelvic inflammatory disease, which can cause infertility. Though the study did not find *overall* increased risk associated with the oral contraceptives, the scientists did find a possible association with high-estrogen pills.

Another report, in the May 1 *JAMA*, says that women who use the nonoxynol-9-impregnated contraceptive sponge are protected against chlamydial infection and gonorrhea, both associated with tubal infertility. But the same women are more than twice as likely to develop a vaginal infection caused by the yeast *Candida* than are those who do not use the sponge. All women in the study were from a high-risk population of prostitutes using nonvaginal contraception: hormones, intrauterine devices or sterilization.

Closing in on the cystic fibrosis gene

A likely candidate for the gene causing cystic fibrosis has been isolated by a group of researchers at St. Mary's Hospital Medical School in London. Cystic fibrosis, a relatively common genetic disease that affects about 30,000 people in the United States, is characterized by a buildup of thick mucus in the body that usually is fatal by the mid-20s. For years, scientists have been searching for the gene, which is carried by an estimated one in every 20 Caucasians.

By using hybrids made up of mouse and human cells that carry bits of DNA apparently associated with the disease, the researchers identified a region of genetic material they believe contains the cystic fibrosis gene. Families with a high incidence of cystic fibrosis also were evaluated as part of the study. In addition, the DNA segment is found in areas of the body in a pattern expected in cystic fibrosis pathology, report the scientists in the April 30 *NATURE*.

A closetful of bones

For spring cleaning this year at the University of Oklahoma in Norman, paleontologists did more than just dust off Late Jurassic jawbones. A search through the storage areas of the university's Stovall Museum revealed some surprises, including the tiny arm bones of a brontosaurus hatchling. This is only the second set of hatchling bones known to exist.

Unearthed during a Works Progress Administration project in the 1930s, these and other bones were stored at the university but had never been closely examined due to lack of sufficient funds and staff.

The two arm bones, which appear to be from the same animal, indicate that the hatchling would have been 8 to 10 feet long, says Oklahoma's Kenneth Carpenter. He dates the bones to 140 million years ago.

Carpenter hopes that more bones from this animal are stored somewhere in the "literally hundreds of boxes full of bones" that have yet to be examined. The hatchling remains will aid in determining the growth rates and appearance of the baby brontosaurus, which reached an adult length of 70 feet, says Carpenter.

Have land bridge, will travel

A fossil of a giant anteater, found in the Sonoran Desert, 175 miles southeast of San Diego, has prompted scientists to add a new family to the list of animals that crossed from South America to Central America approximately 1 million years ago. South America had been isolated from its neighbors to the north until tectonic forces created the Panamanian land bridge 3 million years ago, enabling the anteaters to range as far as this desert in northern Mexico.

This is the first record of the giant anteater in North America, says paleontologist H. Gregory McDonald of the Cincinnati Museum of Natural History. Currently, giant anteaters do not live farther north than Guatemala.

The anteater cannot survive in the subtropical conditions of the modern Sonoran Desert, with its cool nights and scarcity of ants and termites. Therefore, the fossil find helps establish that this area has only recently—in geologic terms—acquired a desert climate, says McDonald, who reported the find with Christopher Shaw of Los Angeles's George C. Page Museum in the April 10 *SCIENCE*.

In the Great American Faunal Interchange, terrestrial species from both sides of the Panamanian land bridge slowly migrated across into areas that were ecologically favorable. Before the present find, paleontologists had identified only nine other families of northbound "invaders."

And a land bridge to the south?

Though geology textbooks show South America and Antarctica to have been separated by a series of islands or open ocean since the Early Cretaceous period (approximately 140 million years ago), a group of paleontologists has recently concluded that a land bridge probably connected the two continents at one time since then.

A joint U.S.-New Zealand expedition to Antarctica discovered in 40-million-year-old Eocene sediments the fossil remains of a crocodile and a 6-foot-tall, flightless bird. Because researchers believe that these creatures could not have crossed the ocean channels between the islands, the fossils support the theory that a land bridge existed sometime between 140 million and 40 million years ago, says William Zinsmeister of Purdue University in Lafayette, Ind., who co-directed the field work.

The expedition, which returned in January, also found the fossil of a 30-foot whale from the Eocene period. This is the most complete whale fossil collected from the Southern Hemisphere, says Zinsmeister.