CANCER RISK

Nudge From Congress Prompts NCI Review

After receiving a complaint from Congress, the National Cancer Institute (NCI) has removed a fact sheet from its Web site discussing abortion and cancer risk, pending a scientific review of the information it contained.

On 7 June, Representative Chris Smith (R–NJ) and 27 other abortion opponents wrote to Tommy Thompson, secretary of the Department of Health and Human Services (HHS), deploring revisions NCI made to its fact sheet in March. The institute reported that recent studies indicate that having an abortion does not appear to increase a woman's risk of developing breast cancer. NCI director Andrew von Eschenbach ordered it removed on 19 June and asked several NCI divisions to prepare reviews of the science. An HHS spokesperson says that Thompson "never discussed" the letter with von Eschenbach, even though the two had one of their regular meetings a few days after it was received.

The controversy concerns a murky issue in epidemiology. Several studies before the mid-1990s found an association between induced abortion and breast cancer, says Robert Hoover, director of NCI's epidemiology and biostatistics program. But, he adds, "there was a lot of concern about the methods." The chief problem was that the studies relied on interviews, and researchers suspected that women with breast cancer might be more likely than healthy women to report having had an abortion. Then in 1997, a large study based on Danish health records of abortions—not self-reports—found no increased cancer risk. In its 1999 fact sheet, NCI concluded that the overall evidence was "inconsistent."

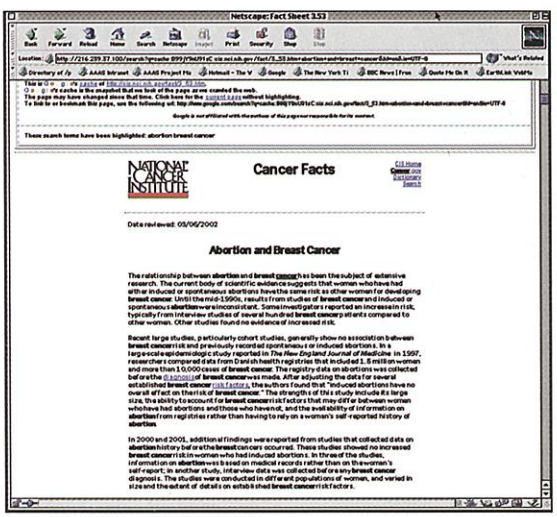
The institute came to a firmer conclusion in March, however. Citing the Danish study and four newer ones, NCI stated in a revised fact sheet that "the current body of scientific evidence suggests that women who have had either induced or spontaneous abortions have the same [breast cancer] risk as other women." The lawmakers called this a "glossing over" of the evidence and said that the fact sheet is "scientifically inaccurate and misleading to the public." Epidemiologist Karin Michels of Harvard Medical School in Boston disagrees: Although the lawmakers' letter raised one valid point about the Danish study—that it might have missed abortion records for some women—she says, an attached analysis contained "many incorrect statements." She thinks the March fact sheet "was fine."

Some antiabortion activists, maintaining that the self-report studies are valid, have mounted a campaign in some states to get legislation passed requiring clinics to inform women about them. "This is a key weapon in the antiabortion arsenal," says Elizabeth Cavendish, legislative director of the National Abortion and Reproductive Rights Action League in Washington, D.C.

Hoover acknowledges that "there have been differences of opinion" about how much weight to give the self-report studies. NCI officials note that several studies under way should help resolve the debate.

Complaints about fact sheets aren't unusual, Hoover says; "once or twice a year," Congress or consumer groups complain about NCI's positions on thorny topics such as how often women should get mammograms. He adds, "I hope we can get past this [latest request] and move on." Meanwhile, HHS spokesperson Bill Hall says, "if it's determined that there are no inaccuracies in the [NCI fact sheet], it will go back up the way it is."

–JOCELYN KAISER



Withdrawn. An NCI fact sheet minimizing abortion-related breast cancer risk has been pulled for review.

CREDIT: (TOP) M. BRUNET

PALEOANTHROPOLOGY

First Member of Human Family Uncovered

Paleontologist Michel Brunet has excavated thousands of fossils—elephants, crocodiles, apes, and hominids—from rich beds in Afghanistan, Pakistan, and Chad. But last summer his good luck turned pure gold: A sharp-eyed undergraduate member of the French-Chadian team spotted the skull of a primate on the sandblasted floor of Chad's Djurab Desert. And when Brunet looked at its ancient face, he recognized the find of a lifetime.

Surprising skull. The first hominid was found in Chad.

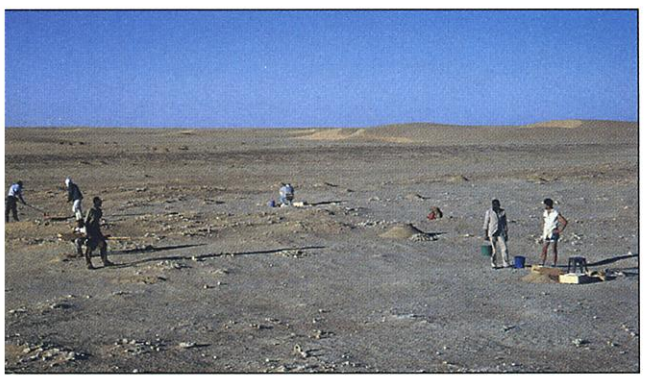
Featured on the cover of this week's issue of *Nature*, the partial skull is now described as that of the oldest known hominid, the lineage that includes humans but not other apes. It is dated to 6 million to 7 million years ago and so fills in a crucial gap at the dawn of human evolution, when next to nothing is known. The next oldest published hominid skull is almost 3 million years younger.

Paleoanthropologists are stunned by the new skull's antiquity and surprising mix of apelike traits and hominid features. "It is a monumental discovery," says paleoanthropologist Daniel Lieberman of Harvard University. "It is unquestionably one of the great paleontological discoveries of the past 100 years."

Not only are the skull's features surprising, but it was discovered in an unexpected place: the ancient shore of Lake Chad in western Africa. Most other early hominid fossils have been uncovered in eastern Africa, notes Brunet of the University of Poitiers, France. The new skull "is a major opening window for understanding the origins of hominids," says Tim White, a paleoanthropologist at the University of California, Berkeley, who has seen casts.

The six Chad fossils, which include a nearly complete cranium, two lower jaw fragments, and three isolated teeth, show a unique combination of features, prompting

Brunet and his international team to assign them to a new genus and species, *Sahelanthropus tchadensis*. Nicknamed Toumaï, which means "hope of life" in the Goran language of Chad, it was found in beds where shifting sand dunes have exposed thousands of fossils of crocodiles, elephants, and other creatures. Brunet's team compared the mix of extinct species from the site to fauna at other reliably dated sites in Africa and concluded that the cranium is 6 million to 7 million years old, a date that is "apparently on solid ground," says White. That age pushes the limits of many molecular studies dating the split between the hominid and chimpanzee lineages to 5 million to 7 million years ago (*Science*, 15 February, p. 1217).



Desert treasure. Chadian and French researchers sift through rich fossil beds in the Djurab Desert.

In keeping with its age, the skull looks most like that of an ancient ape, with a brain the size of a chimpanzee's, large incisors, and widely spaced eyes like a gorilla's. But the shape and size of its canines and lower face resemble those of human ancestors that came later. When Lieberman first saw a cast of the skull, for example, he was stunned by the face. Chimpanzees and other apes have protruding lower faces. But this cranium shows "a short, vertical face" with less of a snout, says Lieberman. "These cranial features astonish me, because they are not present in many early australopithecines. It is in some respects more hominidlike than *Australopithecus afarensis*"—the species of the famed "Lucy" skeleton, dated to 3.4 million years ago and long considered an early human ancestor.

The teeth, too, are hominidlike. Although the team thinks Toumaï was probably a male because of its thick brow ridge, the canines are relatively small and unsharpened, unlike those of other great apes; many consider this trait one of the first to define hominids (along with bipedalism). This change might reflect a shift in social structure toward less competition for females, because big, sharp canines are found in males who compete furiously for mates, says Carol Ward of the University of Missouri, Columbia. Also like hominids, Toumaï has no space between its canines and incisors. "It is a dental hominid," says White.

The skull's unique mosaic of characters invites speculation about its relationships to the two other contenders for first hominid: *Ardipithecus ramidus*, which lived in Ethiopia 4.4 million to as early as 5.8 million years ago, and *Orrorin tugenensis*, which lived in Kenya about 6 million years ago. Brunet raises the possibility that Toumaï and *A. ramidus* might be "sister groups." White goes even further: "An argument could be made that [Toumaï] is an earlier species of the same genus." Comparisons are more difficult with *Orrorin*, which is so far known chiefly from teeth and limb bones rather than a skull, but *Orrorin*'s V-shaped canines are more chimplike than those of Toumaï and *Ardipithecus*.

Outside researchers do offer a caveat. If the new skull is from a female rather than a male, the canines are "less striking" and more in line with those of living and extinct apes, says Ward. Brigitte Senut of the National Museum of Natural History in Paris, co-discoverer of *Orrorin*, says, "When we saw the specimen, we thought, 'This is a female.' " She suggests that Toumaï might be an early gorilla rather than a hominid. This debate could be settled if Brunet's team finds skeletal bones that show that Toumaï was bipedal—and hence a hominid.

In the meantime, some researchers say, the skull is so different from that of other known apes that it might represent a sliver of great diversity of ancient hominids—most of which have not been found. "This fossil is a huge wake-up call," says Lieberman. "It reminds us that we're missing large portions of the fossil record."–ANN GIBBONS

CREDITS: (TOP TO BOTTOM) M. BRUNET; RON EDMONDS/AP

PUBLIC HEALTH

AIDS Researcher Named CDC Chief

Julie Gerberding, an infectious-disease researcher who rose to public prominence last fall as a spokesperson for the U.S. government's response to the anthrax crisis, has been named director of the Centers for Disease Control and Prevention (CDC) in Atlanta. Gerberding, 46, is a CDC insider. She was recruited to CDC in 1998 from the University of California, San Francisco (UCSF), to run a national program aimed at controlling hospital infections and medical errors and was promoted to her new job from acting deputy director for science.

Making the announcement on 3 July, Sec-

ScienceScope

Blood Saga The 14-year French court battle over the contamination of an estimated 4000 hemophiliacs and blood transfusion recipients with HIV took two new twists last week. But there's still no end in sight.

On 4 July, an appeals court dismissed all charges—including accusations of "poisoning"—against 30 doctors, researchers, and public health officials who allegedly had failed to protect the victims from infection with the AIDS virus during the early days of the epidemic in France. But 5 days later, prosecutors announced that they would take the case to the final appellate level.

The list of those still awaiting their fate include respected scientists such as cell biologist François Gros and epidemiologist Jean-Baptiste Brunet (*Science*, 16 June 1995, p. 1563). Colleagues complain that the government has little basis for an appeal but is merely trying to prolong their legal torment. "This was a politically correct" decision, says immunologist Jean-Claude Gluckman of the St. Louis Hospital in Paris.

No Litmus Test National Institutes of Health (NIH) director Elias Zerhouni says that White House officials vetting his appointment never asked him about his views on human embryonic stem (ES) cells. Meeting last week with reporters for the first time since he took office 6 weeks ago, the former Johns Hopkins radiologist says that he is ready to argue for loosening Bush Administration rules that limit ES cell studies to 70-some lines if the science supports that position. But "the science is barely out of the gate," he adds. As for congressional proposals to ban therapeutic cloning, "that's a political question, not a scientific question," he said.

On other topics, Zerhouni says that NIH "needs to look into" a recent National Academy of Sciences suggestion that it find a way to fund worthy research on combating bioterrorism more quickly. He also plans to "review the effectiveness" of NIH, with input from a forthcoming academy study examining the agency's structure. His short-term priorities include filling five vacant NIH directorships.