Heart Pump and Brain Injury: A Riddle Deepens With Time

By GINA KOLATA

Last year, 39,000 Americans have bypass surgery to improve blood flow to their hearts. Most of the operations succeeded, but a minority of patients leave the hospital confused or forgetful, unable to work, drive or concentrate.

"Percentage," some doctors put their patients, and the informants claim that a third or more may be affected. As the surgeons say, "it depends on the pump, the heart-lung machine, the surgeon during surgery when doctors usually a patient's ventricle from beating so that they can repair or blocked veins.

Doctors believe that something about the pump—likely fat fragments or tiny clots that may be thrown into the blood or maybe pressure losses on the line that are not too high or too low—may be causing damage. Doctors also think that they had a solution to the problem, avoiding the pump altogether with surgical means to fix it, which they actually operate on a slippery blood-coated beating heart.

But now, some of the most fervent believers in the medical field's opinion has yet to be tested. It leaves doctors and patients with no other solution but to follow the advice of modern medicine: the patient needs to be followed up by the surgeon who performed the bypass surgery to see if the patient's heart function remains normal.

In the United States, doctors and patients may find an answer in 18 months. When the Department of Veterans Affairs is to perform a large study to determine whether a heart-lung machine is needed to help the patient. Meanwhile, doctors are developing new treatments, often by

Quake Forecasting Booms, but Results Lag

By KENNETH CHANG

Dr. Leland S. Whitcomb predicts that a moderate earthquake, possibly strong enough to shake trees, will be reported in California in a few days.

"For the first time, we may be able to predict a major earthquake," says Dr. Whitcomb, a seismologist for the California Institute of Technology.

Scientists say it is possible to predict an earthquake by monitoring the buildup of stress in the earth's crust. They have found that earthquakes tend to occur along well-defined geological faults and that the stress buildup can be detected by measuring tiny changes in the ground.

But a small earthquake occurring near the San Andreas Fault in California was not predicted, and the scientists say it is possible that no earthquake will occur in the future.

A quake in 1990 in Mexico, north of Japan, was predicted, and the scientists say it is possible that no earthquake will occur in the future.

Dr. Whitcomb said he was sure that the scientist was right.
The Challenges of Doing Science at the Top of the World

In the South Pole, where researchers run experiments on the effects of cosmic rays from outer space, a large number of scientists are gathered to study the universe.

The South Pole is a unique location for scientific research, as it offers a nearly unpolluted atmosphere and a stable environment.

One of the challenges faced by scientists working at the South Pole is the extreme cold, which can make it difficult to conduct experiments.

Other challenges include the isolation of the research stations, which are often located hundreds of miles away from the nearest civilization.

Despite these challenges, scientists continue to make important discoveries at the South Pole, contributing to our understanding of the universe.

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Better Than Guessing? Earthquake Forecasting Booms, but the Results Lag

When forecasting earthquakes, scientists use various methods to predict when and where they might occur. Some rely on historical data and patterns, while others use more advanced techniques such as geophysical monitoring.

However, despite the advances in technology and science, predicting earthquakes remains a difficult task. The accuracy of earthquake forecasts is often difficult to measure, as the events are rare and their causes are complex.

Scientists are working to improve forecasting techniques, but more research is needed to understand the underlying causes of earthquakes and how they can be predicted more accurately.

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Let's Struggle for Health Care

In the letter "Let's Struggle for Health Care," the writer emphasizes the need for universal health care for everyone. They argue that the current system is flawed and fails to provide care for many people.

The writer calls for a system that ensures that everyone has access to necessary medical care, regardless of their income or other factors.

They emphasize the importance of addressing the health care needs of all people and working towards a more equitable and just system.

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The Ethics of Dying Care

In the letter "The Ethics of Dying Care," the writer discusses the ethical considerations involved in end-of-life care. They argue that decisions about dying care should be made with the patient's best interests in mind.

The writer highlights the importance of patient autonomy and the need for compassion and support for patients and their families.

They emphasize the importance of communication and the need for clear guidelines to ensure that decisions about dying care are made in a respectful and ethical manner.

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Who Has the Wisdom?

In the letter "Who Has the Wisdom?" the writer raises questions about the wisdom and expertise of those involved in scientific research.

They ask who has the wisdom to determine what is needed at the top of the world, and who has the wisdom to decide what is best for the scientific community.

The writer suggests that it is important to consider the perspectives and experiences of those involved in scientific research, and to make decisions based on careful consideration of the evidence.

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Command From First Science Page

Mammoth Lake quake would occur. Indeed, it may have already occurred. Under the crust of the Mammoth Lake area are two large, nearly parallel, nearly circular, and fairly deep faults that have been studied for some time. The 1983 earthquake was centered in the area where the two faults converge. The earthquake was caused by the movement of the two faults, which are part of a large system of faults that extends for hundreds of miles.

The magnitude of the earthquake was estimated to be around 5.0 on the Richter scale. This is a relatively large earthquake for a region that is not known for frequent seismic activity.

The earthquake caused damage to some buildings in Mammoth Lake, but there were no reported injuries. The earthquake was felt across a large area, including parts of California and Nevada.

Scientists continue to monitor the region for further seismic activity. They are studying the earthquake to learn more about the faults and the underlying geological processes.

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Forecasting Quakes

A California company has developed a new technology that can predict earthquakes with extraordinary accuracy. The company's technology is based on a unique algorithm that analyzes data from seismographs and other sensors to identify patterns that may indicate an earthquake.

The technology has been tested in a series of experiments and has shown promising results. In one experiment, the algorithm correctly predicted an earthquake with a magnitude 7.1 and a depth of 30 kilometers. The earthquake occurred in the region where the algorithm had predicted it, and the time difference between the prediction and the actual earthquake was only a few minutes.

The technology is currently being tested in several locations around the world, and it is hoped that it will eventually be used to provide real-time earthquake forecasts.

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Far Beneath the Ice

As the researchers venture farther into the depths of Antarctica, they are uncovering new secrets about the planet's interior. The ice sheet covering Antarctica is one of the largest and oldest in the world, and it contains a vast wealth of information about the history of the Earth.

Scientists are using advanced technology to study the ice, including radar and seismic equipment. They are also using drones and other unmanned vehicles to explore the remote and harsh environment.

The research is providing valuable insights into the geological processes that have shaped Antarctica and the planet as a whole. It is also helping to improve our understanding of climate change and the impacts of global warming.

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On the Way to the North Pole

As the researchers prepare to embark on their journey to the North Pole, they are excited about the opportunities for scientific discovery.

The North Pole is a remote and challenging location, but it offers a unique opportunity to study the effects of climate change on the Arctic region.

The team will be using a variety of instruments and technologies to collect data, including satellites, drones, and ground-based sensors.

The research is expected to provide valuable insights into the impacts of climate change on the Arctic and the rest of the world. It is also expected to help inform policy decisions and guide future conservation efforts.