

Angioplasty Deemed Unnecessary for Many

Balloon angioplasty, an expensive and invasive blood-vessel-opening procedure often performed within the first two days after a heart attack, appears in many cases to provide no clinical benefits over a more conservative strategy of "watchful waiting," according to a large, 24-center study released this week. The surprise findings, which suggest U.S. heart attack victims unnecessarily spend \$200 million annually on the procedure, have major implications for the rapidly evolving field of cardiac care.

Most heart attacks result when a blood clot becomes lodged in a coronary artery already narrowed by fatty deposits, cutting off blood flow to oxygen-hungry heart muscle. Prompt treatment with clot-busting drugs has proved extremely effective in saving oxygen-deprived heart muscle from irreversible damage. Cardiologists often follow clot-dissolving treatment with angiography—a means of visualizing the affected vessel. When angiography shows a vessel substantially narrowed and accessible by catheter, the physician may opt to perform angioplasty in the hope of preventing or delaying reocclusion.

The procedure, which involves snaking a catheter into the partially blocked vessel and briefly inflating a tiny balloon

to compress deposits, has also become popular as a preventive therapy. Since angioplasty's introduction in 1977, however, a number of studies have suggested the procedure has limited value. Now new research, reported in the March 9 *NEW ENGLAND JOURNAL OF MEDICINE*, suggests that among heart attack patients already treated with clot-dissolving drugs, angiography and angioplasty may be necessary only for those who experience recurrent heart pains (angina) either spontaneously or in response to a stress test given before hospital discharge. For patients not experiencing such symptoms, the somewhat risky procedures can probably be skipped.

"This doesn't say that angioplasty is unequivocally bad. This is a refinement that allows patients to be selected for invasive therapy," says Eugene R. Passamani of the National Heart, Lung and Blood Institute in Bethesda, Md. "The study shows that you can trust the symptoms—the development of spontaneous or exercise-induced angina—to select patients for angioplasty."

Sponsored by the National Institutes of Health, the study followed 3,262 heart attack patients. Approximately half uniformly received angiography—and, when appropriate, angioplasty—18 to 48 hours

after their attack. Physicians treated the others with angiography and angioplasty only if the patients experienced chest pains indicating recurring cardiac oxygen deficiency. The study showed no significant differences in mortality or heart attack recurrence between the two groups after 42 days. The two groups showed no significant difference in ejection fraction, a measure of heart function, six weeks after initial hospitalization.

The findings suggest that as many as 40 percent of angioplasty procedures performed on heart attack survivors—and 60 percent of angiographies—may not be necessary. It also means that typical community hospitals can care for most heart attack victims without installing costly cardiac catheterization facilities.

"There is a wonderful aphorism from Hippocrates: 'Serious diseases require serious remedies,'" says Passamani. "What this [study] says is that the serious remedy of angioplasty can be reasonably reserved for folks who develop recurrent symptoms. It means reserving serious therapy for serious diseases." — R. Weiss

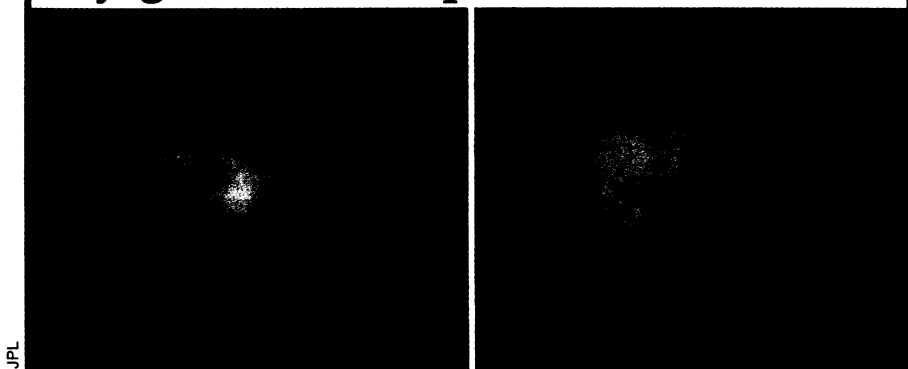
Europe to ban CFCs by 2000

Moved by alarming scientific reports about threats to the Earth's protective ozone, 12 European nations agreed last week to halt all production and use of certain ozone-destroying chemicals by the end of the century. This agreement goes far beyond the provisions of the Montreal Protocol, an international treaty that will cut in half the use of these chemicals, called chlorofluorocarbons or CFCs (SN: 9/26/87, p.196).

A day after the European announcement, President Bush said he would support a total phaseout of CFCs by 2000, but he pledged to do this by strengthening the provisions of the existing protocol, so far ratified by more than 30 nations. Later this year, negotiators will meet to discuss revising the protocol in light of recent work linking CFCs to the Antarctic ozone hole and showing these chemicals threaten Arctic ozone as well (SN: 2/25/89, p.116). Scientists say the new findings mean the present protocol is too weak to prevent significant ozone loss.

This week, British Prime Minister Margaret Thatcher convened representatives of 124 nations in London in hopes of winning support for greater ozone protection, especially among developing countries with increasing demands for CFCs—chemicals used in aerosol cans, refrigeration, foam blowing and cleaning circuit boards. □

Voyager looks at Neptune — and can see



When Voyager 2 photographed Uranus three years ago, that planet appeared so bland and haze-wrapped that it revealed almost no details even in closeups (SN: 2/1/86, p.72). Last November, however, scientists in charge of Voyager 2's camera applauded when photos taken through a telescope on Earth showed at least fuzzy features in the atmosphere of Neptune (SN: 11/12/88, p.310), which Voyager will pass on Aug. 24. Now the spacecraft has taken a look for itself.

Voyager 2's first color pictures of Neptune were made from images obtained Jan. 23. The camera does not take pictures in "true color" but combines images made through a sequence of filters, in this case orange, violet and clear. Neptune's "natural" color is more like a pale blue-green. The pictures were taken about two hours apart, during which time the hurtling spacecraft got about 75,000 miles closer to Neptune. The smallest details visible in these photos are about 3,600 miles across, with their change in position consistent with a day on Neptune lasting 17 to 18 hours.

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