

# Congenital Heart Disease Survival to Age 18 at 89%

BY MITCHEL L. ZOLER

ORLANDO — Infants born with a congenital heart disease during 1990-1999 who then underwent care at a tertiary center had an 89% actuarial survival rate to age 18 or older, based on data collected on more than 3,800 patients treated at one Belgium center.

This rate was a significant improvement compared with an 85% survival to adulthood rate for infants with congenital heart disease born during 1980-1989 and managed at the same center, and the 82% survival to age 18 or older in infants born

during 1970-1979, Philip Moons, Ph.D., said at the annual scientific sessions of the American Heart Association.

The most recent 89% rate of survival to adulthood also improved over an often-cited 85% rate from the 32nd Bethesda (Md.) Conference in a 2001 publication based on the outcomes of congenital heart disease patients born during the 1980s, Dr. Moons said (*J. Am. Coll. Cardiol.* 2001;37:1170-5).

The survival data analyzed by Dr. Moons and his associates came from the clinical database of the congenital heart disease program

at Catholic University in Leuven, Belgium. The database included 17,044 patients born with gross structural abnormalities of the heart or intrathoracic great vessels with actual or potential functional significance.

The subset of these patients born during 1990-1999 was 23%; 24% were born before 1970, 10% during 1970-1979, 21% during 1980-1989, and 17% born in 2000 or more recently.

The most common congenital diseases for the entire group of 17,000 was ventricular septal defect, in 22%, followed by atrial septal defect in 15%, and pulmonary valve abnormality in 10%. The defects were mild in 48%, moderate in 42%, and complex in 10%.

Among infants born in 1990-1999, mortality from congenital heart disease occurred because of cardiac failure in 56%, postoperative complications in 22%, and perioperative complications in 9%.

In the 1990-1999 subgroup, mortality during follow-up was 99% in patients with mild congenital heart disease, 90% in those with moderate disease, and 59% in patients with a complex abnormality, said Dr. Moons of Catholic University. ■

## VITALS

**Major Findings:** Survival to adulthood has significantly improved for persons born with congenital heart disease, from 82% in those born in the 1970s to 89% in those born in the 1990s.

**Source of Data:** Clinical database of 17,044 patients in the congenital heart disease program at Catholic University, Leuven, Belgium.

**Disclosures:** Dr. Moons had no financial conflicts of interest to report.

# Drug Tx Now First Choice for Asymptomatic Carotid Stenosis

BY MARY ANN MOON

Intensive medical therapy for asymptomatic carotid stenosis has decreased the risk of stroke to such a degree that it has marginalized the benefits of revascularization in most patients, according to a new study.

Intensive medical therapy, widely adopted after 2003, has cut the rate of microemboli to less than 4% and markedly reduced cardiovascular events, particularly stroke, in patients with asymptomatic carotid stenosis. It therefore should be considered the treatment of choice for this patient population, said Dr. J. David Spence of the Stroke Prevention and Atherosclerosis Research Centre, London, Ont., and his associates.

Their conclusion was based on the results of their study that assessed the relative benefits of carotid revascularization using data from a clinical trial documenting microemboli on transcranial Doppler imaging.

"We think that revascularization should be considered only for the rare patients with microemboli." These patients are at higher risk for cardiovascular events, so the benefit of carotid revascularization may outweigh the risks of the procedure in these cases, they noted.

The investigators assessed 468 patients with asymptomatic carotid stenosis. Subjects who were assessed between Jan. 1, 2000, and Dec.

31, 2002 (199 patients), were taking the less intensive medical therapy recommended at that time, whereas those assessed between Jan. 1, 2003, and July 30, 2007 (269 patients), were taking the more aggressive medical therapy that is prevalent now. Patients in each group had a mean age of about 70 years. Since 2003, 34% of patients were female, compared with 42% before 2003.

The rate of microemboli was 12.6% before 2003, significantly higher than the 3.7% rate after 2003. Concomitantly, plasma lipid profiles steadily improved and the rate of carotid artery plaque progression markedly declined. More importantly, the rate of cardiovascular events dropped from 17.6% before 2003 to 5.2% afterward, Dr. Spence and his associates reported (*Arch. Neurol.* 2010;67[doi:10.1001/archneurol.2009.289]).

Patients who were assessed in 2003 or later were significantly more likely to be taking statins, angiotensin-converting enzyme inhibitors, and clopidogrel at the time of their baseline transcranial Doppler embolus detection than were those who were assessed before 2003.

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# CHD Ups Risk for Cardiac Event After Pregnancy

## VITALS

**Major Findings:** Women with congenital heart disease had a 12% rate of late cardiac events after pregnancy. The strongest independent risk factor for such an event was a cardiac event before or during pregnancy.

**Source of Data:** Analysis of 318 women, with a total of 405 deliveries, at one center in Toronto.

**Disclosures:** Dr. Balint and her associates had no financial disclosures to report.

BY MITCHEL L. ZOLER

ORLANDO — During long-term follow-up after pregnancy, women with congenital heart disease had a 12% rate of late cardiac events in a series of 318 patients followed at one center for a median of 2.6 years.

The analysis also identified four clinical factors that flagged women with congenital heart disease who faced the highest risk for a late event (starting more than 6 months after delivery). Women with one of these risk factors had a 27% rate of long-term cardiac events, women with more than one had a 47% rate, whereas women with none of them had an 8% rate, Dr. Olga H. Balint said at the annual scientific sessions of the American Heart Association.

"We can use this data to discuss with patients" the risk they face from pregnancy, said Dr. Balint, a physician in the pregnancy and heart disease research program at the University of Toronto. The findings highlight the significance of cardiac events that occur before or during pregnancy, a factor that raised the risk for a late event by 2.5-fold independent of any other risk. "It's important to take into account a pregnancy event. These patients are most likely to need intervention after pregnancy."

The other three significant independent risk factors for late cardiac events were as follows:

► Subpulmonary ventricular dysfunction, pulmonary regurgitation, or both, which conferred a 3.4-fold independent increased risk for a late event.

► Subaortic ventricular dysfunction (a left ventricular ejection fraction of less than 40%), which produced an independent three-fold increased risk.

► Left heart obstruction, which linked with a 2.5-fold-higher risk.

The late events, which occurred following 50 of the total 405 deliveries, were most frequently arrhythmia, with pulmonary edema as the next most common event. Three late events were cardiac arrest or death, and one was a stroke. This 12% rate of late cardiac events matched the 12% rate of cardiac events

that preceded pregnancy and the 11% rate during pregnancy.

The analysis did not address how the late event rate in these women following pregnancy compared with the event rate that similar women with congenital heart disease would have had if they did not become pregnant, Dr. Balint noted. The women in the Toronto series had an average age of 28, and 66% were nulliparous prior to the index pregnancy. Dr. Balint stressed that parity was not a significant univariate risk factor for late cardiac events nor was it a significant risk factor in the multivariate analysis.

The most common congenital disease in the series was a shunt lesion, in 87 women, followed by tetralogy of Fallot in 70, aortic coarctation in 52, and congenital aortic stenosis in 45. The pregnancies in the series occurred during 1995-2007.

These findings have increasing relevance to U.S. practice because the number of American women with congenital heart disease who became pregnant steadily rose during 1998-2006, according to data reported in a poster at the meeting.

Using data from nearly 38 million pregnant U.S. women hospitalized during that period and collected by the Nationwide Inpatient Sample, Dr. Omar K. Siddiqi and his associates found that during those 9 years the number of deliveries from women with congenital heart disease rose steadily by an overall 26%, reaching roughly 3,500 deliveries in both 2005 and 2006. The rate of increase was disproportionate to the rise in number of U.S. adults with congenital heart disease, which increased by about 11% during the same period.

During the 9 years studied, pregnant women with congenital heart disease had a 22-fold increased risk for heart failure, an 11-fold increased risk for arrhythmia, a 31-fold increased risk for stroke, and a 12-fold increased risk for death, compared with pregnant women without congenital heart disease, said Dr. Siddiqi, a physician at the University of Pennsylvania in Philadelphia, and his associates. ■