

Adult pig stem cells repair heart damage

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U.S. scientists have successfully grown large numbers of stem cells from adult pigs' heart tissue and used the cells to repair heart attack damage.

The Johns Hopkins cardiologists extracted samples of heart tissue no bigger than a grain of rice within hours of the animals' lab-induced heart attacks. They then grew large numbers of cardiac stem cells in the lab from tissue obtained through biopsy, and, within a month, implanted the cells into the pigs' hearts.

Within two months the cells had developed into mature heart cells and vessel-forming endothelial cells.

Dr. Eduardo Marban, senior study author and chief of cardiology at The Johns Hopkins University School of Medicine, cautions no overall improvements in heart function have yet been shown.

"But we have proof of principle," he said, "and we are planning to use larger numbers of cells implanted in different sites of the heart to test whether we can restore function as well. If the answer is yes, we could see the first phase of studies in people in late 2007."

The findings were presented Monday, during the American Heart Association's annual Scientific Sessions in Chicago.

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