

HEALTH BUSINESS - BRIEFING

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Blood vessels made from stem cells

BUFFALO, N.Y., July 6 (UPI) -- Blood vessels grown from mesenchymal stem cells in adult bone marrow may soon be used to replace damaged vessels in the heart, say U.S. scientists.

In a study done at the University of Buffalo in New York, researchers isolated mesenchymal stem cells that would have grown into smooth muscle tissue and transferred the cells to a lattice where they grew into blood vessels. The engineered blood vessels were implanted into sheep, where they functioned normally for five weeks.

The team cautioned that the new vessels aren't strong enough to be used in the heart yet but have the same structure as normal blood vessels, express several smooth muscle cell proteins, grow normally and contract in response to vasoconstrictors, which is a critical function.

They also are the first engineered blood vessels to produce both collagen and elastin, which are necessary for vessel strength and elasticity.

Because mesenchymal stem cells may not trigger an immune reaction when transplanted into another individual, the researchers said they hope to develop a universal source for smooth muscle cells and make new blood vessels a product available to any patient.

The study appears in the latest issue of the journal Cardiovascular Research.

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