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Dr. David Albertini talks to students about the merits of embryonic stem cell research.

Scientist explores history, politics of stem cell research

Lew Olowski

Posted: 2/27/06

Yet another controversial subject hit campus last week.

Last Wednesday, Dr. David F. Albertini addressed the UMKC chapter of the Student Society for Stem Cell Research (SSSCR) on the history, science, and politics of stem cell research.

"A true stem cell is a cell that by definition can renew itself," he said.

Stem cells can be found virtually anywhere in the body (adult stem cells) and in human embryos (embryonic stem cells).

"The most potent stem cell we know is the embryonic stem cell," he said. "It can turn into any kind of tissue. That is, after all, what an embryo does."

However, since one way to obtain embryonic stem cells is through human cloning (a process called "Somatic Cell Nuclear Transfer" or SCNT), many people are in favor of restricting stem cell research to adult stem cells only, which Dr. Albertini considers to be less versatile than embryonic stem cells.

"I would challenge you to show me one piece of evidence that you can differentiate an adult stem cell into other types of cells ... " Albertini said. "Obviously, as we're going to entertain the use of these embryonic stem cells, it will raise major ethical issues ... we're here not just to look at stem cell research, but to examine reproductive rights in the U.S. as well," said Albertini.

"There are many questions-political, ethical, and religious-that can tangle the issue, [and] it's sort of prototypical for the U.S. to kind of mix things together, rather than tease them apart," he said.

Though there is no federal ban on embryonic stem cell research, it is illegal in some states and government-sponsored in others. Albertini said Kansas has a bill planned that would make it a seventh-level felony to conduct SCNT.

"I'd be in jail right now if this passed," he said.

In order to avoid ethical problems, "scientists are of course considering alternatives."

"Alternative Nuclear Transfer can derive embryonic stem cells without destroying an embryo, [so] you bypass the ethical argument by making embryonic stem cells that can never become a fetus," Albertini said.

Even though this is still an "infant science," much progress has already been achieved. Albertini noted that "there's a whole field called 'tissue engineering' that studies how to induce stem cells to differentiate into specific tissues."

"In fact, there are some interesting studies going on out in Columbia, Mo.," he said. "They're developing lines of pigs that are using specific genes that can develop organs suitable for use in humans."

According to Albertini, because of the vast potential for stem cells in treating many incurable conditions, such as heart disease, spinal damage and brain damage, "it's important for scientists to be provocative and to educate the general public, media, and government," he said.

He lauded the UMKC chapter of SSSCR for its effort in advocating the stem cell research through educational events and community service projects.

"[SSSCR] is a very important activity for universities in general, as well as for those in medicine," he said. "You have to be able to articulate to people what this will mean for society."

"You're the energy, you're the brains, you're the future of all this," he said. "We need for youth to get involved in educational community outreach, [because] knowledge is a good thing only if we all use it."

lolowski@unews.com

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