

Breaking News on Cosmetics Formulation & Packaging - North America

Stem cell procedures - the next Botox?

2/21/2005- Research at the University of Illinois at Chicago indicates that stem cell technology could be used to improve a number of cosmetic procedures, particularly treatments for wrinkles - currently one of the fastest growth areas for the cosmetic industry.

The research programme, which is led by Jeremy Mao, first showed that stem cell technology could be used to grow back cartilage and bone back in 2002. Funded by the Whitaker Foundation, the research programme has gone on to show that this technology could soon be used to improve cosmetic surgery procedures such as anti wrinkle injections and breast tissue implants.

Studies have shown that conventional soft tissue implants lose 40 to 60 per cent of their volume over time, often making further procedures a necessity if aesthetics are to be maintained.

Mao and his team have found that implants grown from stem cells are far more effective at maintaining their original shape and volume.

Another advantage of stem cells is that they do not have to be transplanted from another part of the body. The stem cells reduce the need for this often painful procedure because it is initiated through a far less invasive procedure that only requires a small sample of tissue taken from the body using a needle. From this sample it is then possible to grow the required amount of tissue in laboratory conditions.

Mao's team started its research using the bone marrow of a healthy volunteer. The resulting mesenchymal stem cells can then be transformed into a host of different cells - in this case one that produces body fat cells similar to those found under the skin.

After growing the required stem cells, the researchers then implanted the fatty cells into rats. After four weeks they were then removed and, according to the results, shown to have maintained their original shape and volume.

Mao claims that the results show the potential for this in medical and cosmetics procedures, but he also claims that it will need further research work before it can be fully developed and brought to market.

"Nonetheless, the present approach presents another step towards an alternative tissue engineering approach for soft tissue augmentation and reconstruction," a research programme spokesperson said.

Such technology could provide a more permanent solution to cosmetic procedures such as Botox, which have grown enormously in popularity as individuals search for less invasive cosmetic procedures to fight off signs of ageing.

Currently clinics in Europe are reporting that the number of Botox treatments being carried out are currently doubling each year. In the US, where the treatment is a lot more advanced, it was estimated that nearly three million botox treatments were carried out in 2003 alone.