

Acid Attack Survivors : Role of Stem Cell Growth

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Abstract :

Acid attack is a form of vicious assault involving the act of throwing acid or corrosive substance onto the body of another “with the intention to disfigure, torture or kill”. The consequences of acid on the eyes are destructive and life threatening. Present day treatment for the damaged eye is to get an artificial cornea which can make its way for infection. Scientists have found a way to save people from blindness and infection, here comes the saviour “Stem cell growth”. Stem cells have always been a saviour when it comes to treatment for degenerative eye disease or generating growth of new connections via therapy. Similar to skin, cornea is also covered with collective layers of epithelium acting as a guard for barrier. At the time of injury to the cornea, the stem cells start to divide into great numbers and migrate to the damaged portion to heal.

Stem cell growth has brought back the joy of vision to many people. During an injury like burn with a chemical or acid attack, the blank cells tend to lose their ability to heal. The evolving method known as stem cell growth uses an enzyme ‘collagenase’ which prevents stem cells from losing their healing ability. Collagenase being a tissue softening enzyme smoothen the stiffened area due to injury hence stimulate healing. Applying collagenase is a safe and constructive method preventing the loss of adult stem cells.

During an acid attack, corneal cells stiffens to form a scar. The scar is surgically removed and the lab-grown sheet is then attached. After the transplant gets successful the patient regains their vision within weeks, chances of a successful transplant is 68% only when the stem cells are taken from a healthy eye.

Acid attacks have a long-lasting impact on victims’ social, physical, and emotional life, they can leave a permanent damage behind. Acid attacks have been rapidly increasing in India, 78% cases are due to marriage proposals, rejections and personal grudges. stem cell growth has given a confidence to doctors, that now such eye conditions are also treatable as well as to the patients that they can live a good life with a new vision.