Suncon medical adhesive is a suitable alternative to fibrin glue in the 23G minimally invasive vitrectomy.

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Publication Date: 2017

Abstract:

Fibrin glue is frequently used to close the incision of the sclera and conjunctiva. However, its use is limited due to its blood-borne origins. The study evaluated the suitability of Suncon medical adhesive as a replacement for fibrin glue in 23G minimally invasive vitrectomy as an animal study. One eye of Japanese white rabbits (total, 18 rabbits) received an intravitreal injection of 0.05 ml of Suncon medical adhesive, while the other eye was injected with 0.05 ml of saline and served as the control eye. Slit lamp, indirect ophthalmoscope and electroretinogram (ERG) examinations were carried out before and 28 days after the interventions. At the end of the observation period (28 days), ophthalmectomy was performed for the light microscopy examination. ERG measurements included the b-wave amplitude of rod cell response (Rod-R), maximum mixing response (Max-R) and cone cell response (Cone-R), P<inf>2</inf>-wave amplitude of oscillatory potentials (Ops) and mean amplitude of 30 Hz scintillation response. The slit lamp examination showed no abnormal inflammatory reactions in the control or treatment eyes. The difference in ERG measurements was not statistically significant between the control or treatment eyes. Furthermore, the cells in each layer of retinas exposed to Suncon medical adhesive or saline were morphologically normal under light microscopy. In conclusion, Suncon medical adhesive injected at doses of 0.05 ml is well-tolerated by the retina. Therefore, the Suncon medical adhesive is a suitable alternative to fibrin glue.