Fibrin sealant for retinoblastoma: Where are we?.

Authors: Martin N.E., Kim J.W., Abramson D.H.

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Abstract:

Chemoreduction is currently the most popular treatment strategy for intraocular retinoblastoma worldwide. Despite the dramatic clinical responses obtained with multiagent systemic chemotherapy regimens, enthusiasm for this treatment approach has been tempered by the potential toxicities of these drugs in the pediatric population. As a response to these concerns, novel approaches for the local delivery of chemotherapeutic agents to ocular structures have been investigated by both clinicians and scientists. Ocular oncologists have developed the periocular injection of carboplatin as a method for controlling intraocular tumor growth of retinoblastoma while minimizing systemic drug exposure. In parallel, the pharmaceutical industry has introduced drug-delivery systems to the posterior segment of the globe for a variety of ocular diseases. One example of the collaborative work by ophthalmologists and biopharmaceutical scientists is the use of fibrin sealants as a targeted drug-administration device, formulated to deliver sustained concentrations of chemotherapy at the site of application. This review integrates the recent ophthalmology and pharmaceutics literature on the potential role of fibrin sealants for periocular chemotherapy administration in the treatment of retinoblastoma.