Laser-cured fibrinogen glue to repair bleb leaks in rabbits.

Authors: Wright MM, Brown EA, Maxwell K, Cameron JD, Walsh AW

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Abstract:

OBJECTIVE: To determine whether laser-cured fibrinogen glue can close bleb leaks in rabbits.

METHODS: Full-thickness filtration surgery with intraoperative mitomycin and a sutured limbus-based conjunctival flap was performed in 1 eye each of 19 New Zealand albino rabbits. On the second postoperative day, a 2- to 3-mm hole was made in the bleb. In 9 rabbits, the hole was glued using fibrinogen glue with indocyanine green dye added. The glue was "cured" with a diode laser. Eyes that had been glued and developed a subsequent leak had the glue reapplied on the day the leak was detected.

RESULTS: The glue remained on the conjunctiva for an average (mean+/-SD) of 1.9+/-1.8 days (range, 0-5 days). The last day of bleb leak for the rabbits with glued eyes was 1.6+/-2.4 days; for the control rabbits, it was 8.0+/-4.4 days (P=.001, Mann-Whitney U test).

CONCLUSION: Laser-cured fibrinogen glue is effective in closing bleb leaks in rabbits.