

R1 R2 R3 PG0 PG1 Estagiário Tecnólogo
PIBIC Last Name - Moura Brasil First Name - Oswaldo Middle - Ferreira

Service (sector) Retina and Vitreous N° CEP

THE INTEGRITY OF WOUND CLOSURE AFTER 23 VERSUS 25 GAUGE SUTURELESS VITRECTOMY

OF Brasil, RP Singh, H Bando, PK Kaiser

Purpose: To evaluate wound healing characteristics and time course after 23 and 25 gauge sutureless cannula systems with either perpendicular or angled incisions by clinical and histopathological outcomes.

Methods: Three-port pars plana sutureless vitrectomy was performed in live adult rabbits' eyes as follows: 6 eyes with 23 gauge perpendicular trocar, 6 eyes with 23 gauge angled trocar, 6 eyes with 25 gauge perpendicular trocar, and 6 eyes with 25 gauge angled trocar. Wound leakage was evaluated by staining infusion solution with trypan blue at 1 hour, 1 day, 3 days and 7 days after surgery for the presence of leakage. Animals were sacrificed after 7 days for histopathologic evaluation.

Results: Wound leakage was reduced in the angled incision versus perpendicular incision using both systems. Measurements of clinical leakage were similar between 23 and 25 gauge incisions. Histopathological examination displayed distinct advantages in wound apposition between perpendicular and angled incisions.

Conclusions: Both 23 and 25 gauge trocars offer sutureless vitrectomy with clinically negligible wound leak and the use of angled incisions helps to promote wound closure. Future studies may elucidate whether the histopathological differences seen between the two systems have clinical relevance.