Glaucoma Research Society

NEW MECHANISMS OF ANGLE-CLOSURE GLAUCOMA

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Background: While the mechanism of angle-closure glaucoma has been thought to consist chiefly of pupillary block, several lines of evidence suggest that there are other, important risk factors that determine who suffers from primary angle-closure.

Design: Human tissue study

Testing: Aqueous flow through the iris-lens channel

Main Outcome Measure: Pressure differential across the iris.

Results: The difference in pressure behind the iris, compared to that in the anterior chamber, can be substantial. The continued presence of positive pressure, leading to iris prolapse at the time of intraocular surgery, suggests that events posterior to the iris—lens diaphragm contribute to angle-closure phenomena. The most likely such additional risk factor is expansion of the choroidal volume. Additionally, limited movement of water through the vitreous body may contribute to events in some angle- closure eyes.

Conclusion: A unified hypothesis including the above factors will be presented, with initial evidence supporting its features.

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