

Factors Causing Atrophy of Border Tissue in Chronic Glaucoma

High Tension Glaucoma

High IOP would cause ischemia and atrophy of the border tissue by affecting the ciliary circulation of the short posterior ciliary arteries (SPCAs). This category would also include chronic angle closure and chronic secondary glaucomas.

Normal Tension Glaucoma

Local Factors affecting Border Tissue

- Inherent structural weakness(e.g. myopia)
- Vasculitis of SPCAs of the optic disc.
- Vasospastic diseases(e.g. Raynaud's, Migraines).
- Constriction of blood vessels due to smoking
- Orbital factors interfering with optic disc circulation (e.g. orbital congestion, tumor, Thyroid orbitopathy)
- Conditions causing raised episcleral venous pressure
- Weakness of the border tissue due to age.

**Atrophy of
Border Tissue
results in
sinking of
the disc.**

Normal Tension Glaucoma

Systemic Factors affecting the Border Tissue

Poor systemic circulation resulting in vascular insufficiency of the SPCAs of the optic disc leading to atrophy of the border tissue.

Some of the systemic diseases include:

- chronic low blood pressure, excessive use of hypertension medications
- atherosclerosis, ischemic heart disease, poor pumping of the heart
- diabetes, high cholesterol
- chronic anoxic condition in the body(e.g. smoking, COPD, emphysema)
- chronic anemia, hyperviscosity
- carotid artery disease. or any other condition causing vascular insufficiency at the disc.

Mixed Factors

Combination of various risk factors can be present in glaucoma patients. The greater the number of risk factors, the greater likelihood and severity of development of chronic glaucoma.

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