



**Pathological Chamber Angle in Congenital
Glaucoma and Its
implications in Indications for Surgery.**

By,

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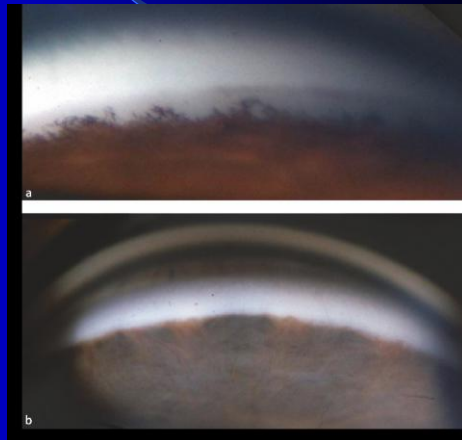
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Pathological Chamber Angle in Congenital Glaucoma

- The two types of pathological chamber angle in children are type I and type II.
 - **Type I** has thin pathological mesodermal remnants that cover the ciliary band of the chamber angles and sometimes slender extensions reach the Schwalbe line.
 - **Type II** chamber angles are identified by the presence of thick pathological mesodermal remnants with apparent high iris insertion with black triangles and pillars.
 - In both types, it is impossible to distinguish the ciliary body band.
- *R. Sampandesi, J. Zarate, J. R. Sampandesi ed: The Glaucomas Volume 1 Pediatric Glaucomas, 2009 Springer-Verlag Berlin Heidelberg, Chapter 13, Page 107-117.*

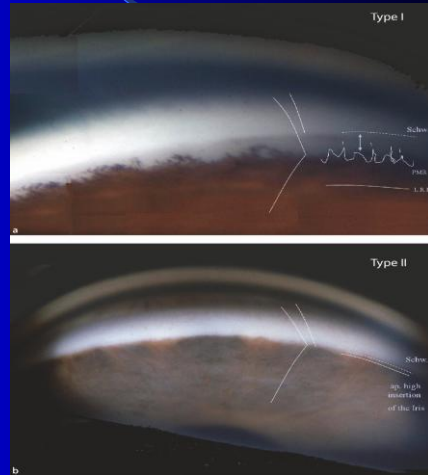
Pathological chamber angle in congenital glaucoma. a Type I. b Type II

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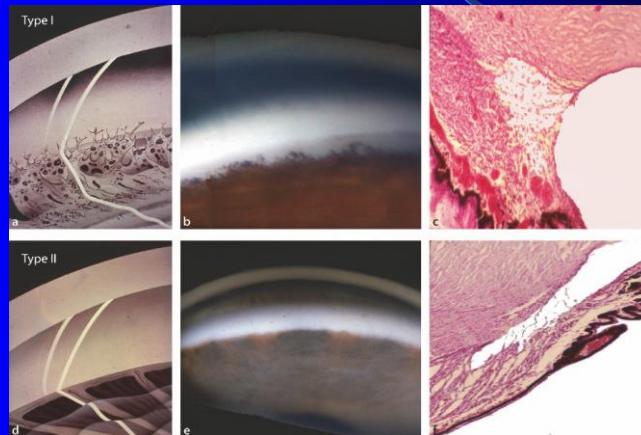


Type I and type II pathological changes of the angle in congenital glaucoma with white lines delineating the various elements.

- **a Schw** Schwalbe line,
- **PMR** pathological mesodermal remnants,
- **LRI** last roll of the iris.
- **b Schw** Schwalbe line,
- **ap** apparent high insertion of the iris



Left, drawing, chamber angle type I and type II; middle, goniophotographic image; right, anatomic pathology specimen



- This gonioscopic differentiation in congenital glaucoma is necessary and knowledge of this will make for success or failure in surgery since in type I trabeculotomy is indicated and in type II a combined operation (trabeculotomy + trabeculectomy) in the same session of surgery is indicated.

- In 1988 Sampaolesi R proposed this for the first time as in his early experience, when he did only trabeculotomy, 30% of the children returned for consultation between 1 and 3 years later, the operation having failed, with an increase in IOP and greater axial length of the eye .
- Looking at the angle, he realized that all of them belonged to type II (apparently high insertion of the iris).
- **Sampaolesi R (1988) Congenital glaucoma. Long-term results after surgery. Fortschr Ophthalmol 85:626–631**

- Ten years later the same conclusion was proposed in 1996 by Mandal (1) and in 2000 and 2001 by Meyer et al (2). and Kiefer et al (3).

1. **Mandal AK (1996) Surgical results of combined trabeculotomy-trabeculectomy for developmental glaucoma. Primary combined trabeculotomy and trabeculectomy in a single session. Ophthalmology 105:974–983**
2. **Meyer G, Schwann O, Grehn F (2000) Trabekulotomie beim Kongenitalem Glaukom. Ein Vergleich zur Goniotomie. Ophthalmologie 97:623–628.**
3. **Kiefer G, Schwann O, Grehn F (2001) Correlation of postoperative axial length growth and intraocular pressure in congenital glaucoma. A retrospective study in trabeculotomy and goniotomy. Graefes Arch Clin Exp Ophthalmol 239:893–899**

Take Home Message

- It is crucial for the surgical indication to diagnose type I and type II based on the angle, since in type I trabeculotomy is indicated and in type II a combined operation (trabeculotomy + trabeculectomy) in the same session of surgery is indicated
- This gonioscopic differentiation in congenital glaucoma is necessary and knowledge of this will make for success or failure in surgery.

