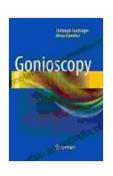
Gonioscopy: A Comprehensive Guide to the Diagnostics and Treatment of Angle Closure Glaucoma

Gonioscopy is a specialized ophthalmic procedure that allows visualization of the anterior chamber angle, the anatomical structure responsible for regulating aqueous humor outflow and maintaining intraocular pressure (IOP). Understanding the angle's anatomy is paramount in ophthalmic practice, especially in the diagnosis and management of angle closure glaucoma (ACG), a major cause of preventable blindness worldwide.



Gonioscopy by Christoph Faschinger

↑ ↑ ↑ ↑ 4 out of 5

Language : English

File size : 3696 KB

Text-to-Speech : Enabled

Screen Reader : Supported

Enhanced typesetting : Enabled

Print length : 84 pages



Gonioscopy Techniques

Various gonioscopy techniques have been developed to provide different views and levels of detail of the angle.

1. Indirect Gonioscopy

Indirect gonioscopy uses a handheld goniolens placed on the cornea. It offers a wide-angle view, making it useful for screening and detecting gross

angle abnormalities.

2. Direct Gonioscopy

Direct gonioscopy involves inserting a contact lens-like device called a goniolens into the eye. It provides a magnified, detailed view of the angle, allowing for precise assessment of angle structures.

3. Anterior Segment Optical Coherence Tomography (AS-OCT)

AS-OCT is a non-contact imaging technique that provides cross-sectional images of the anterior chamber, including the angle. It offers high-resolution images without the need for corneal indentation.

Indications for Gonioscopy

Gonioscopy is indicated in various clinical situations:

1. Diagnosis of Angle Closure Glaucoma

ACG occurs when the iris blocks the angle, impairing aqueous humor outflow. Gonioscopy is essential in diagnosing ACG by visualizing the angle closure and identifying risk factors.

2. Preoperative Assessment for Cataract Surgery

Gonioscopy helps assess the angle before cataract surgery, especially in patients with narrow angles or a history of ACG. This information guides surgical decision-making and reduces the risk of postoperative angle closure.

3. Glaucoma Management

Gonioscopy aids in monitoring patients with glaucoma, assessing the effectiveness of treatment, and detecting angle-related complications.

Interpretation of Gonioscopy Findings

Gonioscopy findings are categorized according to the Shaffer grading system, which describes the angle configuration and the visibility of specific anatomical structures.

1. Open Angle

Open angles allow unimpeded aqueous outflow. The iris is well-separated from the trabecular meshwork, which is visible.

2. Narrow Angle

Narrow angles have limited space between the iris and the trabecular meshwork, increasing the risk of angle closure.

3. Closed Angle

Closed angles have complete contact between the iris and the trabecular meshwork, leading to angle closure glaucoma.

Treatment Based on Gonioscopy Findings

Gonioscopy findings guide treatment decisions in ACG:

1. Laser Peripheral Iridotomy (LPI)

LPI is a laser procedure that creates an opening in the iris to alleviate angle closure. It is indicated in patients with narrow or closed angles.

2. Surgical Iridectomy

Surgical iridectomy involves surgically removing a portion of the iris to widen the angle. It is performed in cases of severe angle closure or when LPI is not feasible.

3. Glaucoma Medications

Medications such as pilocarpine and brimonidine can be used to constrict the pupil and reduce the risk of angle closure in patients with narrow angles.

Gonioscopy is a crucial diagnostic and therapeutic procedure in ophthalmology. Its ability to visualize the anterior chamber angle provides valuable information for diagnosing and managing angle closure glaucoma. By understanding gonioscopy techniques, indications, and interpretation, ophthalmologists can effectively detect, prevent, and treat this sight-threatening condition, improving patient outcomes and preserving vision.

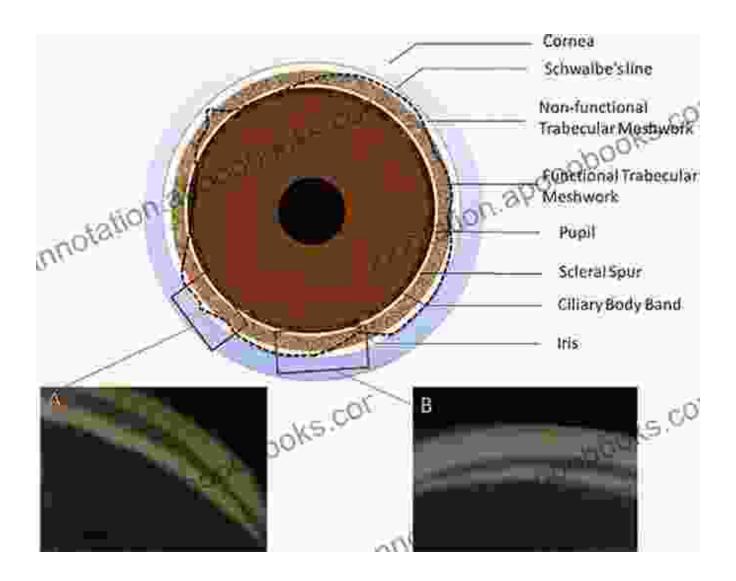


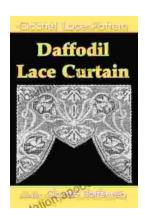
Figure 1: Gonioscopy diagram showing the anterior chamber angle and its structures





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