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Never walk without your gonioscope

The Science behind the Tip

Gonioscopy is the irreplaceable piece of the puzzle that constitutes each initial eye examination. Failure to examine the filtration iridocorneal angle is one of the most common causes of missed diagnosis and inappropriate treatment[1-5]. Gonioscopy is essential in the evaluation of patients at risk of glaucoma and the assessment of glaucoma patients to identify diagnostic signs that will directly influence treatment. Congenital, juvenile, primary open-angle, primary angle-closure, and secondary glaucoma, have all specific signs that are only visible by gonioscopy[1-3]. Presence of blood in Schlemm's canal, blood vessels and increased pigmentation are always precious clues for diagnosis. Laser trabeculoplasty, goniotomy and miniature shunt devices implantation also involve mastery of the technique during procedures[2, 4-6].

Access to Goldmann-type gonioscope (with either one, two or three mirrors) and four-mirror-type goniolens that has a radius curvature less than that of the cornea (Zeiss, Possner, and Sussman model) is an ideal standard in a daily practice[1,3,7]. Importantly gonioscopy is crucial to identify and quantify risk of angle closure[3,7]. Estimation of peripheral anterior chamber depth with Van Herick method does not replace gonioscopy to determine if iridotrabecular contact (ITC) (absence of visible angle structures on 270° or more of the angle circumference) is present or absent. Dynamic indentation by 4-mirror gonioscopy is indispensable to assess whether ITC is reversible or not (goniosynechiae) and treat patients rationally[1-5,7].

Findings of gonioscopy (angle width, level of iris insertion, shape of peripheral iris profile, degree of trabecular pigmentation, iridotrabecular contact) and gradation of the angle should be recorded in the patient's file and reassessed periodically.

Last but not least, gonioscopy offers the opportunity to examine and measure the optic disc without correcting factor[1,8].

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