

QUICK REFERENCE FOR HEALTHCARE PROVIDERS

MANAGEMENT OF GLAUCOMA

(Second Edition)



Ministry of Health
Malaysia



MALAYSIAN SOCIETY OF
OPHTHALMOLOGY



Academy of
Medicine Malaysia

KEY MESSAGES

1. Glaucoma is a chronic eye disease that damages the optic nerve, & can result in serious vision loss and irreversible blindness.
2. Glaucoma diagnosis should be made based on combination of history, ocular examination & investigation.
3. Risk factors should be identified in the management of glaucoma.
4. Medical treatment in glaucoma should be individualised based on patient's characteristics & drug factors, & adjusted according to target intraocular pressure (IOP).
5. Prostaglandin analogues should be used as first-line treatment in glaucoma.
6. Patient education should be given to patients with glaucoma. This includes benefits & side effects of treatment, proper instillation technique of eye drop & compliance to treatment.
7. Laser iridotomy should be performed in primary angle closure disease when indicated.
8. Peripheral iridoplasty may be considered for initial treatment in acute angle closure.
9. Intraoperative Mitomycin C during trabeculectomy should be used in glaucoma patients at risk of surgical failure.
10. Glaucoma patients with blindness or low vision should be referred for vision rehabilitation which includes vocational, occupational & independent living.

This Quick Reference provides key messages & a summary of the main recommendations in the Clinical Practice Guidelines (CPG) Management of Glaucoma (Second Edition).

Details of the evidence supporting these recommendations can be found in the above CPG, available on the following websites:

Ministry of Health Malaysia : www.moh.gov.my

Academy of Medicine Malaysia : www.acadmed.org.my

Malaysian Society of Ophthalmology : www.mso.org.my

CLINICAL PRACTICE GUIDELINES SECRETARIAT

Malaysian Health Technology Assessment Section (MaHTAS)

Medical Development Division, Ministry of Health Malaysia

Level 4, Block E1, Precint 1,

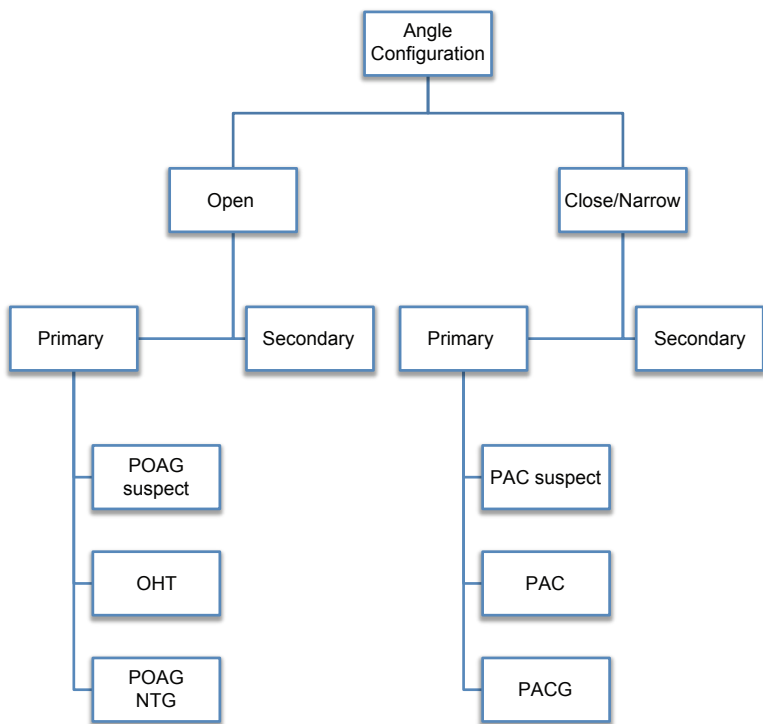
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CLASSIFICATION OF GLAUCOMA BASED ON ANGLE CONFIGURATION

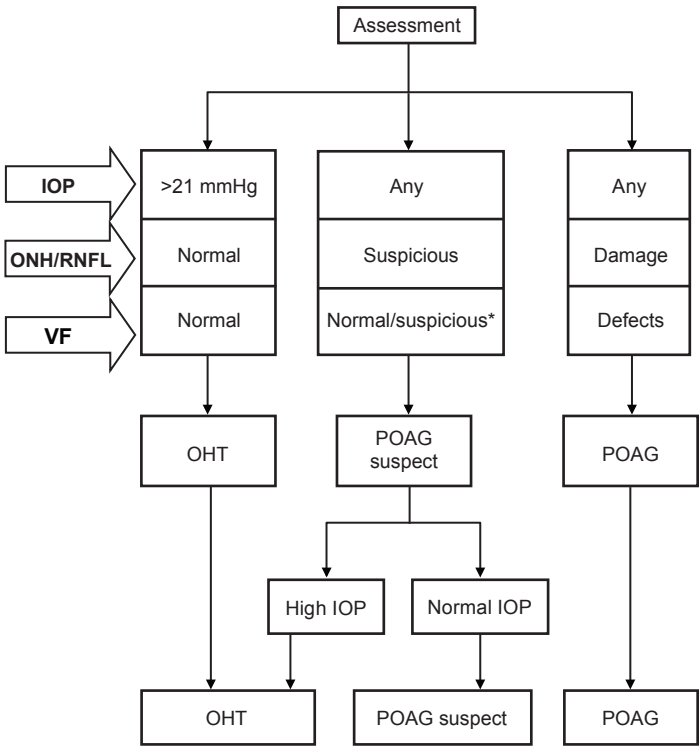


- POAG = primary open angle glaucoma
- OHT = ocular hypertension
- NTG = normal tension glaucoma
- PAC = primary angle closure
- PACG = primary angle closure glaucoma

Important risk factors in glaucoma are:

- age >40 years
- family history of glaucoma
- increased IOP
- refractive error – myopia in POAG & hyperopia in Primary Angle Closure Disease
- diabetes mellitus

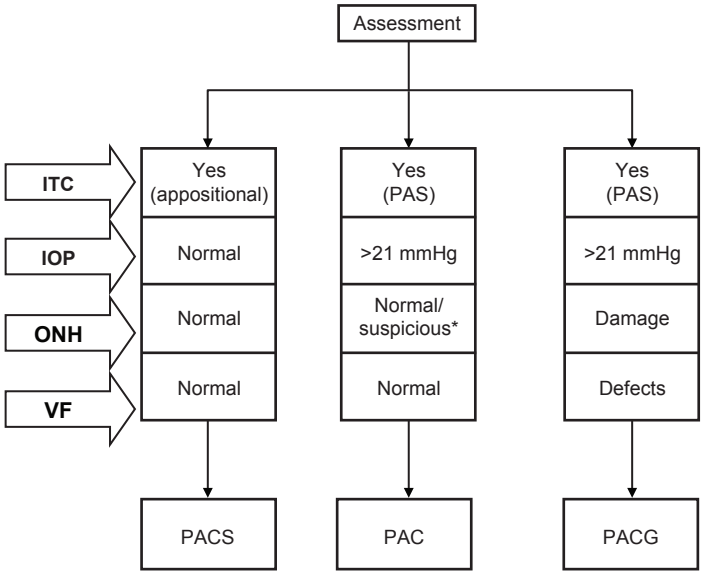
CLASSIFICATION OF PRIMARY OPEN ANGLE GLAUCOMA/ OCULAR HYPERTENSION/ PRIMARY OPEN ANGLE GLAUCOMA SUSPECT



*ONH and/or peripapillary RNFL appearance and VF changes are suggestive of, but not definitive for glaucoma

ONH = optic nerve head RNFL = retinal nerve fiber layer VF = visual field

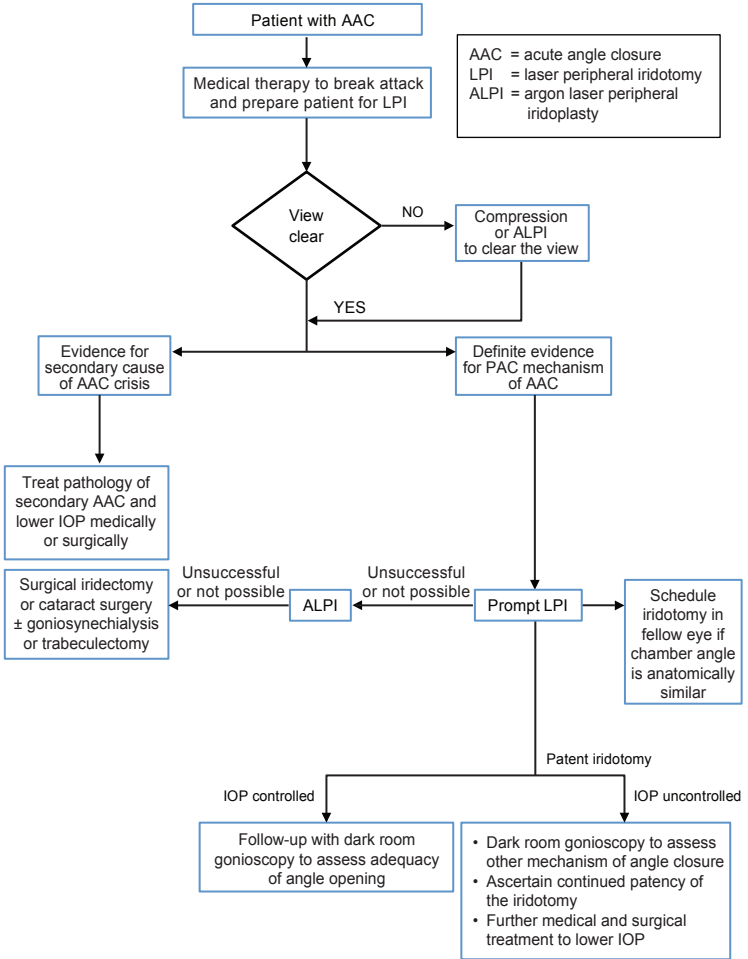
CLASSIFICATION OF PRIMARY ANGLE CLOSURE SUSPECT/ PRIMARY ANGLE CLOSURE/ PRIMARY ANGLE CLOSURE GLAUCOMA



*ONH and/or peripapillary RNFL appearance is suggestive of, but not definitive for glaucoma

ITC = iridotrabecular contact PAS = peripheral anterior synechiae PACS = primary angle closure suspect PAC = primary angle closure

MANAGEMENT ACUTE ANGLE CLOSURE



TREATMENT

- Medical treatment is the initial treatment of choice in glaucoma. It includes the use of topical and systemic anti-glaucoma medications that lowers the IOP.
- Choose medication(s) that:
 - provides greatest IOP lowering effects to achieve target IOP
 - has the best safety profiles e.g. least side effects, good tolerability, etc.
 - enhances compliance e.g. simple dosing regimen, minimal disruption to quality of life, etc.
 - is available and affordable
- Laser treatment is indicated when medical therapy fails, as an adjunct or as a primary treatment where appropriate.
- Surgery is indicated in glaucoma when the target IOP cannot be reached despite maximal medical therapy or when there is intolerance or non-compliance to medical therapy.
- Treatment is considered effective when the individual target IOP is achieved and there is no evidence of progression.

SAFETY PROFILES OF TOPICAL ANTI-GLAUCOMA MEDICATIONS

Safety Profiles	Prostaglandin Analogues/ Prostamides	β -blockers	α_2 Adrenergic agonists	Topical CAls	Cholinergic agents (direct-acting)
Contra-indications	Relative contra-indications: <ul style="list-style-type: none"> • Uveitis • Herpes Simplex Viral keratitis • Cystoid macular oedema Caution: <ul style="list-style-type: none"> • Complicated intraocular surgery (e.g. posterior capsule rupture) 	<ul style="list-style-type: none"> • Bronchial asthma, chronic obstructive pulmonary disease • Bradycardia, heart block, cardiac failure Relative contra-indication for β_1 selective	<ul style="list-style-type: none"> • On monoamine oxidase inhibitor therapy • Children <2 years old due to possibility central nervous system suppression 	<ul style="list-style-type: none"> • Compromised corneal endothelium • Sulfonamide allergy • Severe renal impairment • Hepatic impairment (caution) 	<ul style="list-style-type: none"> • Uveitic, neo-vascular and lens induced glaucoma • Aqueous misdirection syndrome
Adverse effects	<ul style="list-style-type: none"> • Conjunctival hyperaemia (usually transient and noninfectious) • Hypertrichosis • Eyelid skin darkening 	<ul style="list-style-type: none"> • Bradyarrhythmias • Hypotension • Bronchospasm 	<ul style="list-style-type: none"> • Allergy (conjunctivitis, eyelid erythema) • Conjunctival hyperaemia • Drowsiness 	<ul style="list-style-type: none"> • Ocular discomfort (stinging, burning, foreign body sensation) • Allergy (conjunctivitis, eyelid erythema) • Blurred vision 	<ul style="list-style-type: none"> • Brow ache • Dimness of vision • Headache

FOLLOW-UP

Follow-up schedule for patients with glaucoma based on the target IOP and disease progression (refer to table below). However, it should be individualised according to the severity of disease and risk factors.

Diagnosis	Follow-up schedule
Ocular Hypertension	Refer to Subchapter 10.1 in CPG
POAG suspect	Refer to Subchapter 10.2 in CPG
POAG and PACG	<p>Target IOP achieved: No : 1 - 2 months Yes : 6 - 12 months</p> <p>Disease progression (structural and functional): Yes : 3 - 6 months No : 6 - 12 months</p>

MONITORING

- Patients with glaucoma require life-long treatment and monitoring.
- Adjustment of treatment and target IOP depends on the evaluation of glaucoma progression.
- It is important to assess both optic nerve structure and function in detecting progression.

REFERRAL

- Indications for referral are as follows:
 - acute angle closure (immediate referral)
 - confirmation of diagnosis
 - progression of disease
 - issues related to medical treatment:
 - side effects
 - requirement of ≥ 2 medications
 - poor compliance or adherence
 - uncontrolled IOP despite maximum medical treatment requiring laser or surgical intervention

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