

临床前房角图谱

CLINICAL ATLAS OF
GONIOPHOTOGRAPHY

主编 黄秀贞

 人民卫生出版社

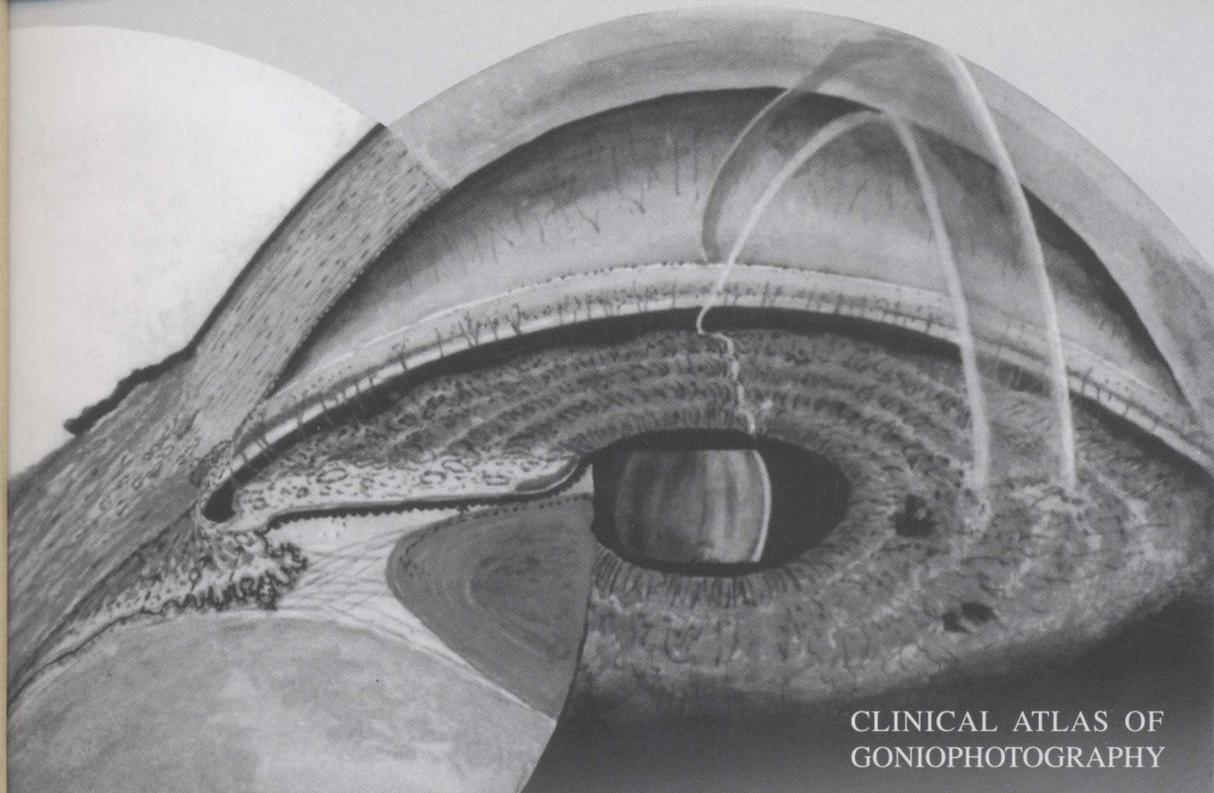


精床 原理 应用 图谱

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作者简介

黄秀贞,1920年4月生。1948年毕业于白求恩医科大学(原第一军医大学)。历任眼科住院军医、主治医师、讲师、副主任医师、主任医师。曾在北京医科大学眼科、北京同仁医院眼科及上海第二军医大学眼科病理进修班学习。

四十多年来,从事眼科医疗、教学、科研工作,有丰富的临床经验和满意的效果。1969年创造了用恒磁吸取眼内磁性异物获得成功;1978年改进用瓶型房角镜检查前房角,患者无痛苦,达到清晰、方便、快捷、价廉的检查效果,前房角摄影成功。

1992年由吉林省长白山学术著作出版基金会资助出版了《前房角图谱》,填补了国内空白,被学术著作出版基金会评为一等奖。2003年整理出版了《眼科病理基础图谱》,由人民卫生出版社出版。

在前房角检查诊疗及病例研究方面,致力于推广使用简易的瓶型房角镜常规检查前房角。以简捷的办法进行前房角常规检查;可以据此作为用裂隙灯做专项医学检查的有效辅助方法,或在条件不具备的医疗单位中依此实现所需相关的前房角检查;便于以多手段和多视点发现问题、完善诊疗;有助于医学科学的发展和医疗质量的提高。更适合于广大基层眼科应用。如需瓶型房角镜,我会尽力协助。联系方式:022-26357701,13342029662, WSH1226@Eyov.com。

A BRIEF INTRODUCTION OF AUTHOR

Mrs. Huang Xiuzhen was born in April 1920, she graduated from Norman Bethune medical university (former the first military medical university) in 1948, she once undertook ophthalmic resident, attending physician, instructor, associate chief physician and chief physician. She once attended in advanced studies in ophthalmology of Peking medical university, Peking Union Medical College Hospital and the second military medical university in Shanghai.

Professor Huang has devoted herself to the clinical medicine of ophthalmology, pedagogy and scientific research for more than forty years, and she owns rich experiences and satisfactory medical effects. In 1964, she succeeded in the creation of extracting magnetic intraocular foreign body by permanent magnetic pole; in 1978, she improved the bottle-style gonioscope to check the anterior chamber angle, which was painless to patients, and the effect of examination was clear, convenient, quick and cheap, the goniophotography was successful.

In 1992, the book 'Atlas of goniophotography' was published by the sustentation of Changbai Mountain academic publishing fund of Jilin province, which filled up the national blank and was awarded the first award by the academic publishing fund. In 2003, the book 'An atlas of pathologic basis of ophthalmology' was published by Beijing people sanitation press.

She has applied herself to generalize the application of gonioscopy with bottle-style gonioscope as the routine examination of anterior chamber angle in medical treatment and cases researches, to use easy method to check the anterior chamber angle routinely. This method would be an effective adjuvant method when we use slit-lamp in medical examination, or be applied in the medical organization without good conditions to realize the examination of anterior chamber angle. That will be helpful to finding problems and completing the diagnosis and treatment with multi-means and multi-view; that also will be helpful to the development of medical science and enhancement of medical quality. That is especially adapted to the application in extended ophthalmology of local hospital.

If anyone has need of the bottle-style gonioscope, I can provide the assistance. 022-26357701, 13342029662, WSH1226@Eyov.com.

序

1992年,作者曾出版了我国第一册用摄影方法汇集的《前房角图谱》,颇受读者欢迎。但因当时的条件所限,只能从多年积累的丰富资料中编选一小部分,《前房角图谱》一书的出版数量与读者的要求也有一定的差距。

如今,作者虽年近九旬,但仍不懈地系统整理了几十年来汇集起来的珍贵临床案例,以使这些或具普遍意义、或具特殊个案的前房角图谱,在相关临床诊疗及教学应用中发挥医疗参考、研究借鉴作用。根据多年诊断、治疗所见,作者提出了对业内读者颇具裨益的独到见解。如:对家族遗传性疾病的政策制订;对睫状-虹膜突青光眼又一发病原因的提示和检查的注意;联系到有的急性青光眼患者用缩瞳剂反而增加眼压、用散瞳剂治疗则有效的解释;有些散瞳验光的青年患者,其瞳孔常不能散大的原因;针对先天性青光眼患儿,以事实说明手术减压越早越好等经验和见解;建议用简捷的办法进行前房角常规检查,完善诊疗,有助于医学的发展和医疗质量的提高;还对肝豆状核变性患者以前房角所见,提出其角膜周围铜绿色环(K-F环)不是从房水中沉积的依据。

总之,我对作者的“老有所为”——年近九旬仍不懈奉献于眼科医疗和教学事业、“老有所想”——促进科学发展为患者负责精神,很是钦佩。此书对前房角的普遍检查提供了多方面的病例,对从事眼科临床医生均有参考价值,对基层眼科医疗事业尤为实用。

祝贺本集图谱问世。

吴振中

中南大学湘雅二医院

PREFACE

In 1992, the author published the first 'atlas of goniophotography' by photography in our country, which was approved by readers extraordinarily. Because of the limited conditions at that time, the atlas was only a small part of abundant data, and the circulation of the atlas was also not enough for the requests of readers.

Now, although the author is nearly ninety years old, she has been working on valuable clinical cases systemically and unremittingly, which have been accumulated for several decades, in order to make these atlases with general significance or special cases become references to clinical diagnosis, treatment and teaching. According to the clinical experiences of years, the author put forward some particular opinions which are helpful to readers, such as: strategy design to family hereditary diseases; the cue for ciliary-iris process, another cause of glaucoma and for examination notice; the explanation to the phenomenon that miotic can elevate intraocular pressure for some acute glaucoma patients, but mydriatic can treat effectively; the reason of pupils can't be dilated when some young patients undergo cycloplegic refraction; the experiences and opinions to congenital glaucoma such as using true cases to prove the benefits of early operation to reduce the pressure; the suggestion of using easy routine methods to check the anterior chamber angle, which would complete the diagnosis, promote the development of medical science and improve the medical quality; giving the proof that the aeruginous ring in peripheral cornea (K-F ring) is not from the sedimentation in aqueous humour according to the appearances of anterior chamber angle of patients who suffer from hepatolenticular degeneration.

To sum up, I have a great admiration for the author's behavior of devoting herself to ophthalmologic medical treatment and pedagogy when she is going in ninety; I also admire the author's spirit of promoting scientific development and the responsibility for patients. This book provides various cases to the general examination of the anterior chamber angle, which would have referential value to clinical oculist, especially to basic medicine of ophthalmology.

Congratulations to the publication of the atlas.

Wu Zhenzhong
The Second Xiangya Hospital of Central South University

前 言

继1992年由吉林科学技术出版社出版的《前房角图谱》和2003年由人民卫生出版社出版的《眼科病理基础图谱》之后,这里把作者在四十多年的眼科工作中精心积累的宝贵医学财富之一隅、三百多幅前房角有关图片编辑出版《临床前房角图谱》,可作为《前房角图谱》的再版。同时提出作者的一些观点、建议,供同道们参考、借鉴、修正。

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眼科离休主任医师

黄秀贞
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目 录

前 言	1
图例1 绘制前房角图谱图	111
图例2 前房角普查资料	116

PREFACE

After publishing 'Atlas of goniophotography' by Jilin science and technology press in 1992 and 'An atlas of pathologic basis of ophthalmology' by people sanitation press in 2003, the author writes this book with the accumulation of precious medical treasures in her over forty-year's work. The book 'clinical atlas of goniophotography' includes more than 300 photos associating with anterior chamber, which can be seen as the republication of 'Atlas of goniophotography', meanwhile, there are some opinions and suggestions of author in the book. The author hopes that will be referenced to the oculist, any correction would be appreciated.

Huang Xiuzhen, retired chief physician, Eye Hospital, The Second Bethune Hospital of Jilin University

Sept. 2009

目 录

一、前房角检查的意义	1
二、前房角检查方法	3
三、瓶型前房角镜使用说明	6
四、前房角检查禁忌证	8
五、正常前房角检查所见及变化	10
六、前房角分级	12
七、前房角色素分级	17
八、各种形状的梳状韧带(虹膜根部突起)	20
九、Schlemm 管	22
十、房角周边前粘连及其名称	27
十一、检查记录表	31
十二、眼外伤与房角	33
(一) 角膜后弹力层损伤	41
(二) 外伤性无虹膜	46
(三) 植入性虹膜囊肿	47
(四) 铁锈症	51
(五) 前房及房角异物	56
十三、先天性异常与遗传性房角改变	62
(一) 先天性无虹膜及虹膜缺损房角异常	63
(二) 先天性青光眼及术后	70
(三) 睫状-虹膜突	80
十四、原发性青光眼及术后房角	85
十五、房角肿瘤	91
十六、特发性进行性虹膜萎缩	95
十七、白内障术后房角改变	98
十八、肝豆状核变性房角改变	103
十九、炎症的房角改变	105
二十、角膜移植与激光术房角改变	107
附 录	
附录1 绘制前房角病历图	110
附录2 前房角普查资料	116

CONTENTS

1. The significance of examination of anterior chamber angle	1
2. The method of examination of anterior chamber angle	3
3. Instruction of bottle-style gonioscope.....	6
4. Contraindication of examination of anterior chamber angle	8
5. Findings and diversity of normal anterior chamber angle	10
6. Gradation of anterior chamber angle	13
7. Gradation of pigmentation of anterior chamber angle	17
8. Variform pectinate ligament (process of iris root)	20
9. Schlemm's canal	22
10. Peripheral anterior synechia of chamber angle and denomination	27
11. Records of examination	32
12. Ocular trauma and chamber angle	33
(1) Injury of Descemet's membrane of cornea	42
(2) Traumatic aniridia	46
(3) Implantation cyst of iris	48
(4) Siderosis	51
(5) Foreign body in the anterior chamber and chamber angle	56
13. Congenital abnormalities and hereditary changes in chamber angle	62
(1) The abnormal chamber angle of congenital aniridia and coloboma of the iris	63
(2) Congenital glaucoma and postoperative appearance	71
(3) Ciliary-iris process	81
14. Chamber angle of primary glaucoma and postoperative appearance	85
15. Tumors in chamber angle	91
16. Idiopathic progressive atrophy of iris	95
17. Postoperative changes of chamber angle of cataract.....	98
18. Changes of chamber angle of hepatolenticular degeneration	103
19. Changes of chamber angle of inflammation	105
20. Changes of chamber angle after corneal transplantation and laser treatment	107
Appendix	
Appendix 1: Drawing graphs of anterior chamber angle of cases	110
Appendix 2: Date of mass screening of anterior chamber angle	116

一、前房角检查的意义

正常前房角在角膜周围的内面仅1mm宽,但其构造微细而精密,对维持眼内压正常,保持眼球的生命力起着重要的作用。此部位发育异常或发生病变,往往导致眼睛的失明。故前房角的检查,已是眼科医生必须掌握的常规检查之一。它可以帮助诊断和正确的治疗、跟踪观察、总结经验、不断改进工作。例如青光眼开角或闭角分型,要依赖前房角检查决定,并观察术后好坏之原因。先天性青光眼多因房水排泄系统未发育或发育不全,如果盲目做房角切开术,往往难以达到预期的效果,反而会造成更坚固的组织粘连,加重病情,故应先查房角情况,然后决定术式才妥。又如眼球挫伤后,大多有房

角的各种损伤改变,如房角后退、虹膜根部离断、虹膜根部不同程度的前粘连、睫状体剥离、色素堆积等。开始眼压低,继而眼压高,只有进行房角检查,才会发现并补充临床遗漏的诊断,从而针对房角损伤后发生的高眼压采取适当治疗。更有些裂隙灯下不易发现的铁锈症,使用“瓶型房角镜”(黄树春称“水前房角镜”)检查,能清楚地看到角膜光学切面的黄色反射——铁锈症。这是早在1974年黄树春首先发现的。从而提供临床对眼球内存在铁质异物的诊断依据,可重新观察放射线报告“未见异物”的X光片,必要时需重新拍片。

据了解,有些眼科还没有具备前房角

1. The significance of examination of anterior chamber angle

The anterior chamber angle is formed in the inner part of peripheral cornea, which is only 1 millimeter wide. The structure is accurate and complex, that is important to maintain normal intraocular pressure and eye function. The dysplasia and dysfunction of this part may cause blindness. So the examination of anterior chamber angle is an essential routine for clinical oculist. That can be helpful to diagnosis and correct treatment, following up and observation, summarizing experiences and improvement of work. For example, the classification of glaucoma is mainly based on the findings of examination of anterior

chamber angle, which also can be used to observe the postoperative effect. In the cases of congenital glaucoma, whose aqueous excretory system is aplasia or hypoplasia, to perform a goniotomy in such cases can not easily to reach the anticipated effect, on the contrary, the operation may lead to more firmer adherence of tissue and deterioration of conditions, so any appropriate operation should be decided after the examination of the anterior chamber angle. After ocular contusion, there are many kinds of damages in chamber angle, such as recession of chamber angle, rupture of iris root, anterior synechia of iris root, separation of ciliary body

检查的设备,诊断青光眼也不管房角的开闭,一律手术解决。临床工作中,对各种前房角变化也不能深入了解研究。一些具备规模的医院,虽配置有价格不菲的前房角镜,但往往只能由有限的人员掌握,加之在裂隙灯前患者眼部痛苦,不能配合初学者观察。对儿童患者不易取得合作,检查较费时间。产生的倒像(镜像)对医务人员理解成像和操作都有一个认知和熟悉的过

程,且检查时又必须变换房角镜的观察角度、需助手配合等,操作相对较为复杂。这也是使用受限的原因之一,也影响普遍开展前房角检查,如行前房角普查工作更是不易实行。改进的瓶型前房角镜则可满足消除病人痛苦、普遍开展应用,不但方便、价廉,而且检查结果可以一目了然,具有推广应用的诸多优点。

and pigmentation, etc. Intraocular pressure in these cases is descended in the beginning, and then is rised. Only by examination of anterior chamber angle, can the omitted clinical diagnosis be found and supplemented. Some appropriate treatments can be given to the intraocular hypertension caused by damages of chamber angle. Furthermore, some cases of siderosis are very difficult to be determined under slit-lamp, but the yellow reflex of cornea can be seen clearly by bottle-style gonioscope ('water gonioscope' called by Huang Shuchun), which was found firstly by Huang Shuchun in 1974, it is an evidence for the diagnosis of metallic foreign body in the eye. That can indicate doctors to re-observe the x-ray photos, and a repeated x-ray examination may be given.

There are no gonioscopes in ophthalmology department in some hospital, where the operation always can be performed without consideration opening or closure of chamber angle after diagnosis of glaucoma. They

can't understand and research deeply to the various changes of anterior chamber angle in clinic. Even in some large hospital, although the expensive gonioscopes are equipped, they are usually charged by limited oculist and are not fit for observation to beginners, and they are uncomfortable, difficult to be received by children patients and need long time to check. Furthermore, the reversed images (mirror image) in the gonioscopes are difficult to understand and more practice is need. The viewing angle of observation should be changed in examination, and the examination needs assistant. So the complicated manipulation is also partial causes for the limited application of gonioscopes. That may affect the application of gonioscopes in general examination and mass screening. Improved bottle-style gonioscope can make up the shortages of normal gonioscope, and it has many characteristics such as painless examination, convenience, low price, easy observation of results, and fitting to be generalized.

二、前房角检查方法

仪器: 房角镜 (Goniolens)

裂隙灯显微镜 (基层眼科不太普及)

手持裂隙灯 (较易准备)

手电筒 (简便)

扩大镜 (简便)

方法:

1. **坐式** 此法主要以 Goldmann 型为代表, 以 62.5° 棱镜反向而观察, 尚有 Allen-O'Brien 房角棱镜, 系 64° 斜面水银镜反光。Van Beunigen 四面斗型水银反光镜。Allen-thorpe 四面棱镜等。

这些均需坐在裂隙灯显微镜前检查。事先需滴用麻醉药于结膜囊, 冲洗结膜囊, 把前房角镜安放在结膜囊内, 再滴入清水, 因容易进入空气泡影响检查, 故需有助手配合, 检查时必须转动房角镜, 且所见均是倒像。

这种坐式检查, 较费时间, 在繁忙的门诊工作中无暇多察, 影响了普遍开展, 也不便于教学。

2. **卧式** 主要以 Koeppel 房角镜或 Troncoso 型为代表, 可看到房角的直像, 不必转动房角镜, 但安装时也需先滴麻醉药。患者仰卧床上, 容易配合。只用手持裂隙灯或手电筒、扩大镜即可。但此种房角镜价格昂贵, 一支需数百美元。且因检查时要放到结膜囊内, 故禁忌证较多。

1978年以来, 受黄树春直接用链霉素瓶和市售小酒瓶检查前房角的启示, 改进了瓶型前房角镜, 方便、省时, 不必滴麻醉药, 像洗眼杯一样患者少有痛苦, 易配合, 检查时一人操作, 禁忌证也少于其他房角镜。不需裂隙灯, 用手电筒、扩大镜即可一目了然。相比进口的前房角镜, 设备成本大大降低, 更便于基层眼科展开应用、容易掌握, 一次检查过程仅需 1~2 分钟。

2. The method of examination of anterior chamber angle

Instrument: Goniolens

Slit-lamp (unpopular in local ophthalmology)

Portable slit-lamp (easy preparation)

Flashlight (convenient)

Magnifying glass (convenient)

Method:

1. **Sitting position:** Goldmann gonioscope can be representative by reversed observation through a 62.5° prism. There is a 64° slope mirror in Allen-O'Brien's gonioscope, four-sided dipper type reflector in Van Beunigen's gonioscope, four-sided prism in Allen-thorpe's gonioscope.

The examination with these goniolenses needs patients sit down in front of the slit-lamp. The anesthetic agent should be used to drop into the conjunctival sac in advance, the performance needs to wash the conjunctival sac, place the gonioscope into the conjunctival sac and drop the water into it, the performance often needs aids of assistant because air bubbles would easily enter the gonioscope to disturb the examination. At the same time, the examination needs to rotation of gonioscope and the image we observed is inverted.

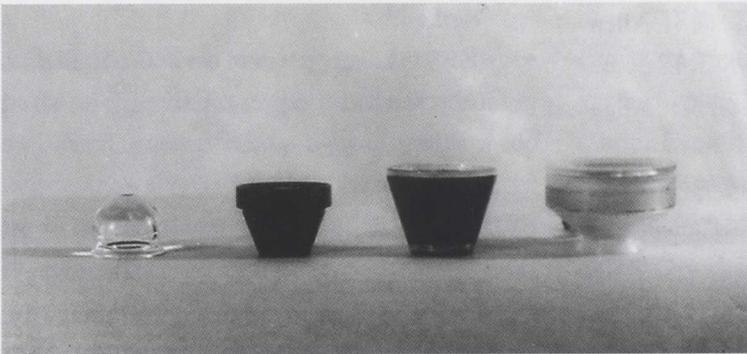
Examination in sitting position would waste the time, which influences its application and is disadvantageous to teaching.

2. **Lying posture:** it is represented by Koeppel's gonioscope or Troncoso's gonioscope, by which we can observe the positive image and don't need to rotate the gonioscope in examination, but the anesthetic agent is needed. Patients can be easily cooperated with lying posture in the

examination, which can be performed by portable slit-lamp, flashlight and magnifying glass. This kind gonioscope is expensive, and it also has many contraindications because it is needed to place the gonioscope into the conjunctival sac in the examination.

Since 1978, with the inspirations of Dr. Huang Shuchun who checked the anterior chamber angle with small glass medicine bottle and wine bottle, professor Huang improved the

bottle-style gonioscope to check the anterior chamber angle, which was painless and convenient to patients. The examination needn't anesthetic agent and slit-lamp, flashlight and magnifying glass are enough. To compare with imported gonioscope, the cost of this instrument is lower, which is advantageous to the application in local ophthalmology and it is easy to master, the time of examination is only 1 to 2minutes.

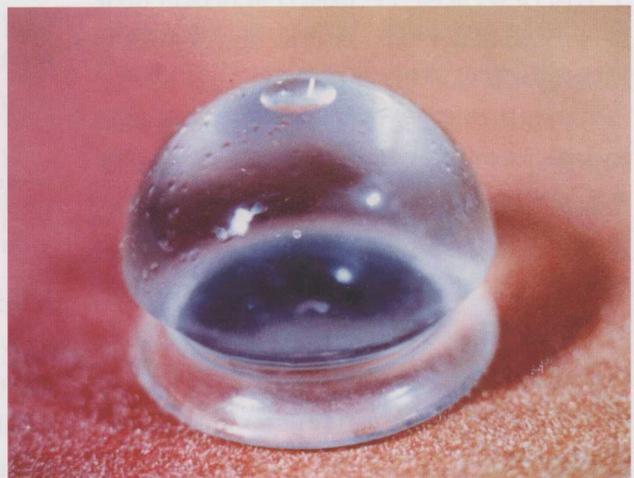


▲ 图1 进口前房角镜

Koeppel、Goldmann、Benllingen、Troncoco 各型、用前均需滴麻醉药,塞进结膜囊内,患者较痛苦,儿童更不易配合

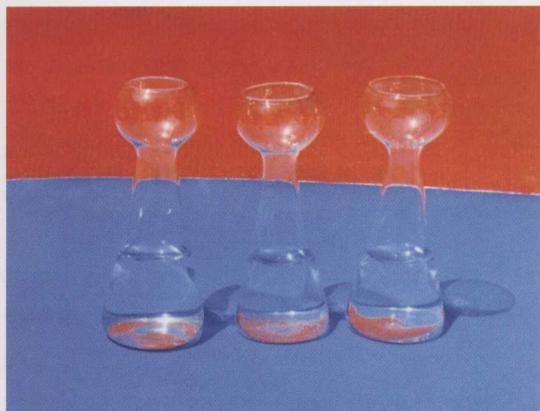
▲ Fig. 1 Imported gonioscope

Koeppel's, Goldman's, Benllingen's, Troncoco's gonioscope. The anesthetic agent is needed before examination, and the gonioscope needs to be placed into the conjunctival sac, which would cause uncomfortable to patients, and would not be cooperated by children.



▶ 图2 Koeppel 前房角镜

▶ Fig. 2 Koeppel's gonioscope



▲ 图3 瓶型前房角镜

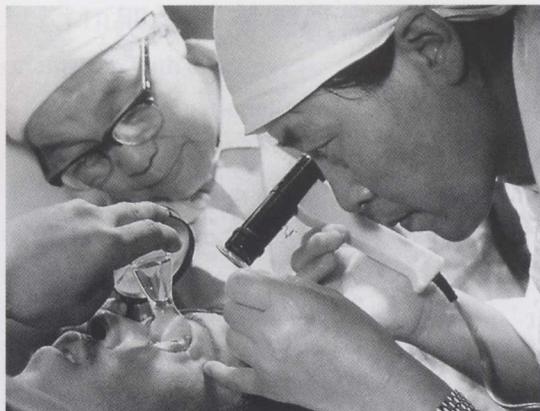
根据 Koepe 前房角镜改进而成。使用时似洗眼杯样扣在眼睑外

▲ Fig. 3 Bottle-style gonioscope

Improved according to Koepe's gonioscope, the instrument is placed outside of eyelids in examination, just like an eyecup.

▼ 图4 瓶型前房角镜安放方法

▼ Fig. 4 The placement of bottle-style gonioscope



▲ 图5 瓶型房角镜

卧式用手电筒、扩大镜二人可同时观察

▲ Fig. 5 Bottle-style gonioscope

Lying posture, the examination can be performed simultaneously by two persons with flashlight and magnifying glass.

▼ 图6 利用 Kowa 眼底照相机拍照前房角,患者手扶瓶型房角镜

▼ Fig. 6 Using Kowa fundus camera to take photos of the anterior chamber angle, the patient is supporting the gonioscope

