

22/93

GOVERNMENT OPHTHALMIC HOSPITAL, MADRAS, FOR 1925.

1		2				3					4
Hospital.		Number of beds available.				Average daily sick.					Maximum patients treated on any one day in the year and date.
Government Ophthalmic Hospital, Madras.	Men.	Women.	Children.		Total.	Men.	Women.	Children.		Total.	
			Male.	Female.				Male.	Female.		
Europeans and Anglo-Indians.	12	12	...	..	24	4.94	3.89	0.12	0.84	9.79	} 282 on 16th February 1925.
Indians ...	86	50	10		146	126.39	78.66	4.39	3.41	212.85	
Total ...	98	62	10		170	131.33	82.55	4.51	4.25	222.64	

Annual and petty repairs to the hospital buildings, the Resident Medical Officer's quarters, the Sub-Assistant Surgeons' quarters and the House Surgeon's quarters were carried out.

V. Total treated—

		1918
(1)	Number treated	22,457
(2)	Average daily sick	219.18
n-patients—		
(1)	Remaining	173
(2)	Admissions	3,861
(3)	Discharged	3,688
	Cared	1,455
	Relieved	2,183
	Otherwise	30
	Died	5
	Total	3,861

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VI. Mortality—

District.	Total number of deaths. 1925.	Ratio of deaths to total treated. 1925.
Government Ophthalmic Hospital, Madras	5	0.12 per cent

VII. Statement showing classification of eye diseases during 1923—25.

	1923.		1924.		1925.	
	I.P.	O.P.	I.P.	O.P.	I.P.	O.P.
Diseases of conjunctiva—						
Inflammation—						
Acute catarrhal Koch week's infection	...	1,802	...	1,918	...	2,192
Do. others	63	3,241	100	3,096	84	3,375
Purulent of the newly born	5	29	5	21	10	35
Do. of children and adults	18	63	20	58	10	57
Membranous	...	2	...	2	...	2
Phlyctenular	8	801	18	703	6	742
* Conjunctivitis eozematosa	16	28	...	49	6	58
Chronic catarrhal	1	62	1	89	...	210
Spring catarrh	2	11	2	23	1	14
Follicular	1	112	1	127	2	140
Trachoma	92	772	97	903	133	925
* Angular	3	391	12	412	13	592
Echymosis	...	143	...	243	...	352
Chemosis	...	8	...	6	...	10
Pinguecula	...	18	...	10	...	16
Pterygium	15	94	18	86	21	130
Xerosis	4	232	5	340	7	310
* Conj. papule	1	1	...	...	...	...
Effects of irritants	2	21	1	45	...	23
Diseases of the cornea—						
Inflammation (keratitis)	20	343	27	282	80	446
Herpetic	...	...	2	2	1	2
Bullous	...	...	1	1	...	...
Panopiate	...	6	1	5	...	8
Phlyctenular	...	38	2	46	3	70
Filamentary	...	...	...	...	1	1
Interstitial	11	34	15	26	3	32
Sclerosing	...	...	...	3	...	2
Pannus	...	87	...	98	...	92
* Macular	5	18	3	33	7	100
Inflammation ulcer ulcers—						
Superficial	208	650	210	782	163	773
Phlyctenular	...	18	...	28	...	42
Ulcer serpens	9	68	...	112	...	72
Mooren's ulcer	1	3	3	7	2	4
Hypopyon ulcer	...	216	33	302	55	262
Neurophthia ulcer	...	4	...	5	...	8
* Traumatic ulcer	...	...	...	...	3	9
* Leprotic ulcer	...	15	...	27	...	17
* Marginal ulcer	...	...	...	...	3	8
Keratoconjunctivitis	49	70	46	63	44	71
Opacity nebula	4	75	10	85	4	96
Leukoma	109	392	87	423	98	375
Anterior staphyloma	56	136	54	190	39	125
Keratococcus	...	1	1	1	...	2
Malformations (microcornea)	...	1	2	5	...	6
Diseases of the sclerotic—						
Inflammation (scleritis)	...	5	...	6	...	3
Superficial episcleritis	4	59	1	43	2	34
Ciliary atrophy	...	18	2	29	2	26
Diseases of the iris—						
Inflammation—						
Iritis	71	279	94	345	104	380
Synechia—						
Anterior	...	9	...	17	...	13
Posterior	...	22	...	63	...	28
Atrophy	...	...	1	1	...	2
Prolapse of iris	9	9	6	6	3	1
Malformations—						
Congenital coloboma	...	...	...	...	...	2
Diseases of ciliary body—						
Iridocyclitis	56	168	38	275	40	259
Glaucoma—						
Primary acute	49	49	52	52	43	48
Chronic	156	263	162	220	174	205
Secondary	22	71	36	83	48	64
Haemorrhagic glaucoma	...	...	...	...	1	1
Infantile buphthalmos	...	...	...	1	...	1

	1923.		1924.		1925.	
	I.P.	O.P.	I.P.	O.P.	I.P.	O.P.
Diseases of lens—						
Cataract—						
Anterior capsular	2	13	...	16	...	14
Cortical	...	...	1	1	...	...
Lamellar or zonular	...	...	...	2	4	12
Nuclear	51	330	24	405	110	436
Juvenile	10	36	...	28	20	32
Senile	1,593	2,104	1,487	2,345	1,416	2,292
Secondary—						
Posterior polar	...	29	2	53	1	31
Congenital	...	...	3	4	...	...
Dislocation of lens	10	11	4	10	18	19
Subluxation of lens	...	...	1	1	...	1
Aphakia	39	689	62	849	84	814
* Muhammedan operation (couching)	16	189	13	243	7	212
* Traumatic cataract	10	15	8	12	7	6
* Complicated cataract	...	...	...	...	1	1
Diseases of the vitreous—						
Opacity simple	2	34	1	17	5	22
From blood	...	...	...	...	...	5
From cholesterin	...	...	...	...	...	8
Diseases of the choroid—						
Inflammation (choroiditis)	8	3	10	12	11	30
Retino choroiditis	2	2	2	2	1	9
Senile or central	...	...	...	10	5	9
Disseminated choroiditis	...	...	...	...	...	2
Macular choroiditis	1	1	...	8	...	1
Neuro choroiditis	...	...	...	4	6	6
Neuro retino choroiditis	...	7	...	2	...	2
Racemose choroiditis	...	...	...	...	...	1
Atrophy choroid	...	...	...	...	...	...
Diseases of the retina—						
Inflammation (retinitis)	2	14	1	10	7	10
Retinitis punctata albescens	...	...	...	1	...	1
Retinitis pigmentosa	1	9	1	21	4	20
Haemorrhagic retinitis	...	...	11	11	11	11
Affection of retinal blood vessels—						
Detachment of retina	...	8	...	8	2	5
Renal neuro retinitis	...	12	...	8	3	6
Glycosuric retinitis	...	1	...	1	1	1
Eclipse injury	...	...	1	1	...	...
Macular changes retina	...	...	1	1	...	...
Retinitis proliferans	...	...	1	1	3	3
Diseases of optic nerve—						
Inflammation (optic neuritis)	...	52	...	39	10	41
Papillitis	2	6	2	2	2	10
Papilloedema	...	2	...	4	2	6
Retro ocular neuritis	...	2	...	8	...	2
Neuro retinitis	...	9	...	1	5	8
Optic atrophy—						
Primary (simple)	...	19	28	28	35	20
Secondary	16	45	10	47	3	56
Following optic neuritis	2	2	2	2	1	1
Post-papilloedemic atrophy	1	1	...	...	6	8
Consecutive optic atrophy	...	...	...	14	...	12
Pallor of optic disc *	...	9	11	11	2	5
* Temporal pallor of optic disc	...	...	...	10	7	24
Affections of the whole eyeball—						
Panophthalmitis	30	98	42	98	46	92
Shrunken eyeball	13	98	4	92	15	102
Symptomatic disturbances of vision—						
Amblyopia toxic	...	...	...	...	...	1
Night blindness	4	87	...	26	1	29
Ametropia—						
Hypermetropia	1	489	4	421	1	408
Myopia	3	828	6	307	7	306
Astigmatism	1	719	9	651	6	748
* Myopia with dislocation of lens without high tension	...	...	...	...	2	2
* Myopia with dislocation of lens with high tension	...	...	...	...	1	1
Disorders of the mechanism of accommodation—						
Presbyopia	...	189	...	153	1	192

* Denotes diseases not mentioned in "Nomenclature of Diseases."

	1923.		1924.		1925.	
	I.P.	O.P.	I.P.	O.P.	I.P.	O.P.
Motor anomalies of external muscles—						
Squint concomitant	2	14	5	12	3	16
Ophthalmoplegia externa	...	...	1	1	3	8
Nystagmus	...	7	...	2	1	9
* Diplopia	...	...	...	...	1	26
Diseases of eyelids—						
Inflammation (Blepharitis)	...	97	1	89	2	80
Suppurative sty	5	79	1	42	...	89
Abscess	6	23	...	20	6	39
Entropion	1	43	2	81	6	46
Trichiasis	3	23	3	18	6	39
Ectropion	2	9	...	9	2	6
Ptosis	1	7	5	5	5	9
Chalazion	1	137	1	125	...	140
Tarsal cyst	...	...	...	...	...	2
Diseases of lachrymal apparatus—						
Of gland dacryodentitis	...	...	...	...	...	5
Mikulicz's disease	...	...	...	...	...	4
Of lachrymal sac (dacryocystitis)	83	212	116	241	104	276
Phlegmonous	...	...	...	...	3	3
Suppurative lachrymal abscess	19	22	11	14	3	18
Chronic mucocele	...	...	...	...	...	1
Fistula of lachrymal sac	6	8	6	6	3	8
Obstruction of nasal duct	9	52	...	65	19	63
Epiphora	1	19	...	10	...	12
Diseases of the orbit and neighbouring parts—						
Inflammation of connective tissue	1	3	7	7	2	5
Abscess	...	3	...	2	1	3
Exophthalmos proptosis	...	8	3	3	7	6
Lagophthalmos	...	...	6	6	6	5
Herpes ophthalmicus	...	8	...	6	7	9
Unclassified	830	2,476	740	3,411	451	946
Total ...	3,852	10,841	3,830	21,835	3,747	20,889

* Denotes diseases not mentioned in "Nomenclature of Diseases."

VIII. Training of medical students.—The following classes of students were trained :—

	1925.
M.B., B.S.	33
L.M.S.	17
Military pupils	3
Lady apothecaries	5
Medical School, Rayapuram	93
Vellore School	21

IX. Post-graduates work—

Post-graduates attending the practice of the hospital	24
Reserve duty	...
Honorary house surgeons and physicians	5

Members of the Madras Medical Service posted for special training—

	1925.
Indian Medical Service	1
Civil surgeon	1
Assistant surgeon	1
Lady apothecary	1
Sub-assistant surgeon	1

X. Finance—

Expenditure—

	1925.
	RS.
1. Establishment	58,876
2. Europe medicines and stores	8,054
3. Diets and extras	37,328
4. Miscellaneous	21,738
5. Buildings	3,945

1. The variations are due chiefly to Mr. C. G. Taylor, I.M.D., who acted as Assistant Superintendent from 5th September 1924 to 30th September 1925 having drawn the minimum pay of the appointment during the period.

2. The differences in the figures are due to the cost of medicines purchased in one year having been adjusted in another year.

3. The decrease under the head is due to the reduction made in the number of in-patients to cut down expenditure.

Buildings and repairs.—Minor works and repairs includes electrical work.

The following works were carried out during 1925 :—

New construction—Nil.

Description of building work.	Estimate amount.	Amount spent in the Calendar year 1925.		
	RS.	RS.	A.	P.
Annual repairs to Government Ophthalmic Hospital for 1924-25	4,100	2,222	4	0
Annual repairs to Government Ophthalmic Hospital for 1925-26	2,750	52	14	0
Special repairs to Government Ophthalmic Hospital for 1925-26	150	43	3	6
Municipal tax and annual repairs for the quarters of the house surgeon and house physician, Government Ophthalmic Hospital, for 1924-25	110	33	4	10
Annual repairs to resident assistant surgeon's quarters, Government Ophthalmic Hospital, for 1924-25	140	65	0	0
Special repairs to resident assistant surgeon's quarters, Government Ophthalmic Hospital	265	239	4	0
Annual repairs to house surgeon and house physician's quarters, Government Ophthalmic Hospital	119	48	0	0
Annual repairs to sub-assistant surgeon's quarters, "B" block of the Government Maternity Hospital, occupied by the sub-assistant surgeon of the Government Ophthalmic Hospital for 1924-25	67	36	8	0
Annual repairs to sub-assistant surgeon's quarters "C" block of the Government Maternity Hospital, occupied by the sub-assistant surgeon of the Government Ophthalmic Hospital for 1924-25	67	35	8	0
Annual repairs to the sub-assistant surgeon's quarters, "D" block, Government Ophthalmic Hospital, for 1924-25	75	43	8	0
Annual repairs to the sub-assistant surgeon's quarters, "E" block, Government Ophthalmic Hospital, for 1924-25	76	35	8	0
Annual repairs to the sub-assistant surgeon's quarters, "F" block, Government Ophthalmic Hospital, for 1924-25	71	30	8	0
Special repairs to sub-assistant surgeon's quarters, Government Ophthalmic Hospital	35	33	0	0
Annual repairs to sub-assistant surgeon's quarters, "B" block of the Government Hospital for Women and Children, occupied by the sub-assistant surgeon of the Government Ophthalmic Hospital for 1925-26	75	24	8	0
Annual repairs to sub-assistant surgeon's quarters, "C" block of the Government Hospital for Women and Children, occupied by the sub-assistant surgeon of the Government Ophthalmic Hospital for 1925-26	75	32	0	0
Annual repairs to sub-assistant surgeon's quarters, "D" block of the Government Hospital for Women and Children, occupied by the sub-assistant surgeon of the Government Ophthalmic Hospital for 1925-26	75	28	0	0

Description of building work.	Estimate amount.	Amount spent in the calendar year 1925.	
	RS.	RS.	A.
Annual repairs to sub-assistant surgeon's quarters, "E" block of the Government Hospital for Women and Children, occupied by the sub-assistant surgeon of the Government Ophthalmic Hospital for 1925-26	76	30	0
Annual repairs to sub-assistant surgeon's quarters, "F" block of the Government Hospital for Women and Children, occupied by the sub-assistant surgeon of the Government Ophthalmic Hospital for 1925-26	71	24	7
Total	...	...	...

Electrical works—

Original works—Nil.

Repairs to Government Ophthalmic Hospital and the Resident Medical Officer's quarters :—

	RS.	A.	P.
1. Repairs to faulty circuits	...	...	...
2. Rewinding fans	...	...	...
3. Rewinding the pump motor	...	...	...
4. Renewal of worn out bulbs	...	...	...
5. Renewal of silk flex for the pendant lights, table lights and table fans	993	3	11
6. Maintenance of electric lifts	...	...	...
7. Do. pump motor	...	...	...
8. Do. fans and the installation	...	...	...
9. Renewal of worn out switches, lamp holders, etc.	...	...	...
10. Renewal of broken fuse carriers, wall plugs, etc.	...	...	...
Total	993	3	11

XI. Special Fund—Poor Fund.—This fund is supplied by amounts placed at the personal disposal of the Superintendent and voluntary contributions from the public.

	RS.	A.	P.
Balance on hand on 1st January 1925	34	6	0
Amount collected during 1925	266	0	0
Total	300	6	0
Expended during the year	57	6	0
Balance on 31st December 1925	243	0	0

The Superintendent wishes to acknowledge with thanks funds placed at his disposal.

XII. Supplies.—(1) Medicines are, as a rule, obtained from the Medical Store Depot on indent. Special medicines and appliances, etc., are got from Home on indent on the India Office. Such medicines as are required urgently and are not available at the Medical Store Depot are bought locally.

(2) Repairs to instruments which cannot be done in the Medical Store Depot are done locally.

(3) *Furniture and repairs.*—The amount spent under this head was Rs. 258.

(4) *Bedding and clothing.*—Such articles as can be supplied by the Jail Department are obtained from the Jails, and other articles from local merchants by means of tenders.

XIII. Lighting.—The electric lights and fans have worked satisfactorily.

XIV. All the departments of the hospital have worked well during the year.

In accordance with the Government decision to put on trial an arrangement whereby private practitioners are appointed as honorary members of staff and given work in the State Hospitals, Dr. G. Zachariah remained attached to this institution for the year 1925 and was placed in charge of 30 beds.

The Right Honourable Sir Montagu Barlow and the Honourable the Raja of Panagal, Minister for Local Self-Government, visited the hospital on 14th January 1925 and the Minister for Education and Medical Relief, Bombay Government, on 22nd December 1925.

XV. Verification of stock.—The stock of Government property was verified and found correct.

XVI. Verification of service registers.—All service registers have been verified up to 31st December 1925.

MADRAS,
4th June 1926.

R. E. WRIGHT, MAJOR, I.M.S.,
Superintendent, Government
Ophthalmic Hospital.

PROFESSIONAL REPORT OF THE GOVERNMENT OPHTHALMIC HOSPITAL, MADRAS, FOR THE YEAR 1925.

Official staff.

Superintendent	...	Major R. E. Wright, I.M.S.
Assistant Superintendent	...	Dr. K. Koman Nayar, L.M.S., L.R.C.P. & S., D.O.M.S. (Returned to duty from study leave on 30th September 1925.)
Acting Assistant Superintendent	...	Mr. C. G. Taylor, I.M.D. (from 1st January to 30th September 1925.)
Resident Medical Officer	...	Major H. C. Craggs, I.M.D. (On leave from 1st October 1925.)
Do.	...	Mr. C. G. Taylor, I.M.D. (from 1st October to 31st December 1925.)
Assistant Surgeon (Temporary)	...	M.R.Ry. V. G. Muttayya, L.M.P.
	...	" T. Venkatarangam Nayudu, L.M.P.
	...	" A. Kandaswami Pillai, L.M.P.
	...	" V. Narayanaswami Pillai, L.M.P.
	...	" K. Gopalaswami Ayyangar, L.M.P. (On leave from 25th November 1925.)
Sub-Assistant Surgeons	...	" K. Achuthan Nayar, L.M.P. (from 1st January to 13th December 1925).
	...	" P. Sangasi Rao, L.M.P. (from 22nd December to 31st December 1925).
	...	" G. J. Narayanaswami Nayudu, L.M.P. (from 22nd December to 31st December 1925).

Honorary staff.

Honorary Surgeon	...	Dr. G. Zachariah, B.A., D.O.M.S., M.R.C.S., L.R.C.P.
	...	M.R.Ry. D. Nagarajan, L.M.S. (from 1st January to 5th April 1925).
	...	" C. M. Krishnamurti, L.M.S. (from 1st January to 1st July 1925).
House Surgeons and House Physicians	...	" L. R. Fernandez, L.M.P. (from 6th April to 5th September 1925).
	...	" V. Suryanarayana, L.M.P. (from 15th July 1925).
	...	" P. Govindan Nayar, L.M.S. (from 7th September 1925).

The Superintendent presents the following statistics and matters of scientific interest. Time does not permit of publishing more than a limited amount of the available material even in support of views expressed, for which unless otherwise stated the Superintendent is responsible. The report inadequately represents the professional work done, and the labour of the staff in maintaining and furnishing case records. The latter duty will, it is hoped, be minimised by the appointment of an extra sub-assistant surgeon as surgical registrar which was sanctioned this year.

	1924.	1925.	Average for the last 5 years (1921 to 1925).
Number of in-patients treated	3,951	3,861	3,999
Number of out-patients treated	23,430	22,457	21,488
Number of operations on in-patients	3,160	3,258	2,989
Number of operations on out-patients	1,164	1,983	1,326
Number of operations for senile cataract	1,468	1,359	1,507

The daily average of out-patients has been 219 against 226 in 1924.

The daily average of in-patients has been 223 as compared with 225 in 1924.

The following are the details as regards the number of in-patients treated during 1925:—

Number treated	...	3,861
Remaining on 1st January 1925	...	173
Admitted during the year	...	3,683
Discharged	...	3,673
Cured	...	1,455
Relieved	...	2,182
Otherwise discharged	...	30
Died	...	5

GOVERNMENT OPHTHALMIC HOSPITAL

CATARACT OPERATIONS.

The cataract work for the year is tabulated below:—

	"Successes" 6/86 and better.	"Partial successes" 6/36 to 2/60.	"Partial failures" 2/60 to H.M.	"Failures" less than H.M.	"Un-tested."	Total.	"Vitreal losses."
Simple ...	116	5	4	1	...	126	2
Complete iridectomy.	779	52	31	16	11	889	15
Peripheral iridectomy after extraction.	171	10	8	1	...	195	1
	1,066 (88.77%)	67 (5.57%)	38 (3.16%)	18 (1.58%)	11	1,200	18 (1.5%)
Expressions (Smith)	1	...	...	1	...	2	...
Linears	18	3	5	...	...	26	...
Removal of lens	74	14	26	10	7	131	10
Total	93	17	31	11	7	159	10
Grand total	1,169	84	69	29	18	1,359	32 (2.06%)

Again there is a reduction in the total number of cataract operations. As may be seen our daily average in-patients reached the low figure of 223 as compared with 265 in 1923. In accordance with Government retrenchment instructions the number of patients seeking admission is restricted. This does not altogether account for the falling off in cataract cases. It is possible, however, that owing to the continued policy of extending facilities for ophthalmic aid in the mofussil, cases from a distance do not resort to Madras as they did in the past. In fact since post-graduates trained here have been distributed throughout the Presidency more and more, and since the development of ophthalmic teaching centres in the districts, and the opening of a new ophthalmic hospital at the north end of this city, a definite policy has been pursued in the out-patient department of not admitting cases that might be dealt with at any of these centres.

If the table is compared with those of previous years it will be seen that our results remained fairly steady. There is a big difference in the number of operations performed with a peripheral iridectomy as compared with last year, but we observe elasticity in this respect and select our operation according to the individual peculiarities of the case.

Of post-operative complications iris prolapses and impactions are most important from the point of view of troublesome after-treatment and delay in hospital. We now treat practically all our iris prolapses and impactions by picric acid drops and eserine instillations. The method is valuable; small impactions or even small knuckles of iris frequently disappear back into the anterior chamber. Very big prolapses are reduced by heating or actual cauterization and allowed to epithelialise over. They are sometimes covered with a flap before discharge.

There were approximately 7.8 per cent of iris prolapses and impactions, a higher figure than usual. Delayed formation of the anterior chamber, either a persistently shallow or completely empty chamber, constitutes a type of complication which is sometimes very troublesome. There were 27 cases in which there was delayed formation of the chamber. The figure is very high and could not be accounted for. As often happens in hospital practice this particular complication constituted a 'run' of apparent bad luck or possibly bad management. If the chamber remains empty for two or three days, a central U-shaped keratitis which frequently interferes with vision is very liable to be set up. It is really a disturbance of Descemet's membrane, where the cornea

overlies the pupil and coloboma. In mild cases it may clear, but in more severe cases it is permanent. There are probably many varying factors which determine this delayed formation of the chamber. Undoubtedly one cause is the pushing forward of the diaphragm of the eye by the vitreous body in cases predisposed to glaucoma. Tags in the section are also to blame. We are not aware of a single case in which this delayed formation was associated with an epithelial downgrowth extending into the anterior chamber. In cases of constitutional disease where the healing powers are poor such as diabetes and albuminuria, or in chronic intestinal stasis, one may find that the depth of the section remains open whilst a thin film of epithelium seals it superficially. This is liable to give way with the slightest disturbance and allow the aqueous to escape. Such cases are best treated by heating the lips of the wound with the electro-cautery. In other cases we frequently find that provided the section is flat, the iris in good position, and the cornea clear, a few instillations of dionine tend to start the chamber forming. Should this fail one may get strikingly good results by means of a small sub-conjunctival injection of cyanide of mercury (1-4000) into the lower fornix. It is wonderful how very satisfactory this procedure may be.

There were two cases of turned sections, and four of primary infection. Thickened capsule and after-cataract in many cases prevented an immediate good result.

EVIDENCE OF UVEITIS IN CATARACT CASES AT THE TIME OF OPERATION AND INFLUENCE OF THE TYPE OF MATERIAL ON RESULTS.

In dealing with a series of cataract cases it is obvious that a large percentage of patients predisposed to high intraocular pressure and to complications associated with constitutional disease and local uveitis must influence unfavourably the rates of vitreous escape, iris prolapse and other complications. It is conceivable that by a careful selection of cases some of these complications at the time of and subsequent to operation would be reduced to vanishing point.

As suggested in last year's report a note was made of obvious evidence of uveitis in those cases brought to the operation table. Out of 1,200 cataract cases operated on 180 showed some evidence of uveitis. As will be seen on referring to the table above, these figures do not include the removal of lens cases under which heading conditions such as dislocated lenses, crouched cataracts, old glaucomatous cases previously operated on etc. are embraced. This gives a good idea of the material with which we have to deal. In addition to this, many of our patients are decrepit and diseased or in a condition of premature senility (probably the ultimate result of unsuitable and insufficient food associated with exposure). Large numbers allow their cataracts to go on to extreme degrees of hypermaturity, and in these there may be cyclitis due to the irritation of degenerative lens products. Out of the total of 1,359 cataract cases albuminuria was present in 141, glycosuria in 25, and marked anaemia in 26. Syphilis is very frequent, but figures are not available; leprosy less so, but common enough to add appreciably to the chances of post-operative complications.

These considerations, taken together with the fact that a large number of patients are exceedingly difficult on the table, and that many are quite out of control after operation and freely lift their dressings, make one look more favourably on results that are only partially successful. In many cases it is impossible to do more than give a guess from the clinical evidences at the cause of uveitis in old cataract cases. Some of these have been mentioned above. A probable cause of endocular infection is the large group of alimentary tract affections. Practically all our patients suffer from some pathological condition of the alimentary canal. Pyorrhoea and dental sepsis, tonsillar sepsis, gastritis, chronic affections of the gut such as chronic bacillary and amoebic dysentery are all very common while parasitic invasions such as ankylostomiasis and

ascariasis are universal. Hookworm infection has been shown by the Madras Ankylostomiasis Campaign under Dr. J. F. Kendrick to have a frequency of nearly 70 per cent in the Madras Presidency as a whole (in certain districts it is over 95 per cent). I cannot produce figures in proof of a correlation between hookworm infection and cataract, but from continuous observation of cataract cases we have come to regard certain types of cataract (the moon-stone-like opalescent cataract starting in the embryonic nucleus) as being associated with the intense anaemia due to hookworm. It is also, however, associated with other intense anaemias so that there is at least a correlation between such anaemias and cataract. Apart altogether from the specific toxæmia which intestinal parasites give rise to, the traumatism which they produce in the gut afford an opportunity for streptococcal (or other organismal) invasion of the blood stream. Experimental work on the bacteriology of endocular infections as a whole has not been carried out on a sufficiently extensive scale to allow us to regard many supposed sources of infection as proven. Clinically we suspect that organisms are transported from certain infected tracts to the eye via the blood stream. We direct our treatment towards the obviously diseased tract and often with such success that we accept the apparent relationship. Actually we have little experimental proof of the nature of endocular infections borne by the blood stream from foci either remote such as an ulcerated intestine, or adjacent such as might occur with infected tonsils; nor do we know whether many of the endocular inflammations are organismal or not. As we have a unique opportunity in this hospital of obtaining numerous specimens of diseased uvea from eyes opened under sterile conditions, it is proposed in the near future to conduct a research in this connexion. The Central Research Committee has been pleased to sanction a grant for this purpose and I hope to get a suitable worker and an attendant, together with the necessary material, apparatus and animals very shortly.

In this connexion it is interesting to note that in this clinic the tubercle bacillus is seldom incriminated as a cause of uveitis. This is in marked contrast with well-known clinics in Europe. It remains to be seen whether we are missing tuberculosis and whether some of these cases of uveitis to which we cannot assign a cause will fall into this group on animal experiment. Leprosy too may be much more frequent in the eye than we imagine, but it is difficult to prove.

Mention was also made last year of the action of mydriatics on the dark brown iris and the possible reasons for a poor dilatation of the pupil in our routine cases. The figures collected during the year comparing the action of atropine on dark and light irides are insufficient, in the case of light irides from which to draw any conclusions. It is obvious, however, that our routine gave poor dilatation in many cases with dark brown irides. In 947 cases with dark brown irides about 50 per cent came to the table with the pupil half dilated and in just over 66 per cent half dilated or less in spite of the fact that in many instances when a poor response was noted during preparation a second instillation of 1 per cent atropine was given. The actual figures for dark brown irides are as follows:—

Size of pupil.	Number.
$\frac{1}{2}$	461
$\frac{2}{3}$	218
$\frac{3}{4}$	138
$\frac{4}{5}$	68
$\frac{5}{6}$	28
$\frac{2}{5}$	27
$\frac{1}{4}$	4
$\frac{1}{5}$	2
Full	1
Total	947

In many cases uveitis was possibly responsible. Others might have responded better with further instillations or with the addition of adrenalin or hyoscine. In order to compare the different response to the same dose of a mydriatic in light coloured and dark brown irides it will be necessary to test light irides on every opportunity comparing them with dark irides, which are always available, until a sufficiently large number has been recorded from which to draw conclusions.

With regard to the response of our cataract cases to mydriatics it will be necessary to modify our routine during the year and see if better dilatation is attained by increasing the strength of the atropine solution, or the number of instillations, and augmenting it with adrenalin. A well dilated pupil is not always desirable at the time of operation, but there are times when it is essential and one wishes to know how to obtain it with certainty in the deeply pigmented irides.

RELATION OF GLARE AND BRIGHT LIGHT TO THE FREQUENCY OF CATARACT.

As we are now in possession of the records of over 20,000 cataract cases going back to the year 1901 during Colonel Elliot's superintendency, the work has been started of plotting out the cases according to the areas of country from which they came in order to find out if a relatively higher rate is associated with the dry and arid districts. I hope next year to be in a position to publish some interesting figures which Mr. A. Kandaswami Pillai is collecting from our old registers.

DISCISSIONS OTHER THAN THOSE FOR AFTER-CATARACT.

Thirty-eight cases were needed:—

Juvenile cataract	...	...	26	Improved	...	16
				Remained the same	...	5
				Vision not tested	...	5
Zonular cataract	...	...	3	Improved	...	3
				Improved	...	4
Traumatic cataract	...	...	9	Remained the same	...	4
				Not tested	...	1

In order to get an accurate conception of the frequency and types of cataracts met with in young people a detailed record was made during 1925. Such cases are usually recorded in our annual reports under headings such as discissions for juvenile cataract, etc. In the year under review it will be seen from the table that 26 juvenile and 3 zonular cataracts were operated on. Actually 24 cases were collected in which there was cataract in both eyes either congenital or of early onset. Excluding 4 zonular cataract cases there remained 20, which may be included under the head of acquired juvenile cataract. It is obvious that the same case operated on for each eye was in some instances counted as two and that one zonular cataract was not operated by discission. The same error appertains to previous records. In all the onset was before 25 and this age is taken arbitrarily as the age-limit for the purpose of determining our juvenile cataract rate. It is necessary to take a limiting age, as there are quite a number of cataracts between 25 and 35 which are to all intents and purposes senile. There were, therefore, 20 cases seen in 1925 out of 22,457 out-patients, in which there was a history of the patient having acquired cataract in both eyes without evidence of trauma and without evidence of uveitis or other signs, which would lead one to suspect secondary cataract due to endocular disease. These patients were said to have had nothing wrong at birth and this seemed to be capable of proof in many cases, but histories alone had to be accepted in some, so that from a statistical point of view the figures are not valuable in this respect. They are, however, of interest, as it seems likely that our experience in 1925 is very similar to that in previous years and may be taken

as average. This does not apply to the number of zonular cataracts seen during 1925, which is smaller than usual and might easily be doubled in any year. Even so it is a smaller number than one would expect to see in such a population. The figures are of course subject to the following limitations. Twenty cases were admitted, but it does not follow that a few others were not seen at the out-patient department which were not admitted. The error here is not very great as in 1925 I was particularly careful to admit such cases. There may, however, be a serious fallacy in connexion with the out-patient figure, and as this affects other estimations of frequency it is well to explain it here. The total number of out-patients does not represent the fresh cases presenting themselves at the hospital. The latter are particularly difficult to estimate; the fresh tickets issued may include the same person coming twice or even three times in the same year. Patients also come on several occasions and deliberately give different names and addresses. We must therefore consider that the number of original cases presenting themselves at the hospital is really much less than the figure given under the head of total out-patients calculated from the daily tickets issued. If a liberal error of 25 per cent is allowed, our figures would be reduced from 22,457 to 16,842, and the juvenile cataract rate would rise to about 0.1 per cent. The age periods in which the cataract was said to have started are as follows:—

Years				
1—5	5—10	10—20	20—25	Not determined.
2	4	9	2	3

For the most part the cataracts were membranous in type, four were Morgagnian. In two cases there was evidence of congenital syphilis, but it could not be definitely proven; there was no case of diabetes although in previous years one or two such have been observed. Two cases were mentally defective. In two there was severe anaemia. In only one was distinct evidence obtained of other members of the same family similarly affected. In two there was an obviously abnormal condition of the teeth. There were two very poorly developed; one showed obvious endocrine disturbance (thyroid), while a history of fits was not obtained in any case.

The study of these cases was not very instructive. It was perhaps surprising not to see more evidence of an association with congenital syphilis. Some cases of both juvenile and zonular cataract showed extraordinary interesting features when examined with the corneal microscope, but elaborate details are outside the scope of this report.

BLOCKING THE FACIAL NERVE IN CATARACT OPERATION CASES TO PREVENT SQUEEZING.

For some time efforts have been made to develop a simple and practical way of paralysing the circumorbital musculature. Sometime ago (1923), I published a note in the Archives of Ophthalmology on blocking the main trunk of the facial nerve at the stylomastoid foramen. This procedure has been more fully developed, and all bad squeezers that are brought to the table for cataract operation are dealt with by having their 7th nerve blocked at its exit from the skull by a solution of novocaine and adrenalin. It is considered that this is a very valuable procedure and superior to methods of partial blocking such as infiltrations round the orbit. The operator is relieved from all anxiety in so far as

movement of the circumorbital muscles is concerned because there is hemiparalysis. Paralysis sets in within a short time of the injection and continues for upwards of an hour. Occasional cases show prolonged paralysis and care must be taken in every case in closing the lids and applying the dressings after operations. These, however, are minor points as compared with the advantages of hemiparalysis in violent squeezers, and do not detract from the practical value of the method. Over a hundred and fifty cases have been dealt with and it has become part of our ordinary routine. We use a special syringe "The Alston washerless syringe" by the Dental Manufacturing Co., London, which when fitted with special mounts and needles has been well recommended for nerve blocking about the face by experienced workers in this field. The needle is pushed through the skin in front of the mastoid process and is directed backwards and upwards grazing the deep aspect of the mastoid process, just below the tympanic plate. When the point of the needle is in the digastric fossa in the neighbourhood of the stylomastoid foramen the injection is made. Details of this procedure will be published separately. My thanks are due to Dr. K. Koman Nayar and Mr. C. G. Taylor for their co-operation in this work.

GLAUCOMA.

Sclero-corneal trephining.—One hundred and thirty-three cases were trephined as shown below :—

	Early or incipient cases without impaired vision.	Vision and tension improved.	Tension only improved.	Not improved.	Total.
Primary glaucoma	4	15	81	12	112

Trephining was also performed in the following cases :—

Previously trephined eye	...	...	...	...	...	...	...	1
Staphyloma	...	...	...	...	...	...	...	8
Leucoma	...	...	...	...	...	...	...	2
Aphakia	...	...	...	...	...	...	...	9
Retinitis pigmentosa	...	...	...	...	...	...	...	1
								21

The number of trephinations remains somewhere about the same as the last few years, but does not represent anything like the number of primary(?) glaucoma cases which we see in the year. Some of the more desperate cases are now dealt with by posterior sclerotomy followed immediately by iridectomy. If, however, trephining can possibly be done it is preferred. In a few cases other procedures such as iridectomy, iridencleisis, sclerotomy were employed. Iridectomy is frequently adopted in cataractous eyes with elevated tension (or which otherwise show a predisposition to glaucoma).

In last year's report the importance of the role played by the vitreous in glaucoma was hinted at. Opportunities are afforded here of observing comparatively large numbers of glaucoma cases. The difficulty of classifying them is enormous so much so that even with the aid of the corneal microscope numbers of our cases cannot be placed with certainty into the clinically recognizable groups of primary or secondary. It is in these circumstances useless to quote figures in support of ætiological statistics. We recognize the frankly secondary glaucoma in which there is no doubt about the antecedent pathological condition. We see a few cases, a very few relatively, of glaucoma "simplex" where there is apparently normal

tension, no congestion, no suggestion of glaucoma by ordinary inspection of the anterior segment, but in which there are disc changes and field defects. The bulk of our cases of primary glaucoma come within a congestive group, mostly a chronic passive congestive group. The congestive nature of the case may be merely represented on inspection by a very slight, but peculiarly typical fullness of the anterior scleral veins such that some observers would probably classify these as simple non-congestive glaucomas. There is, however, a marked difference between these cases and the group which we call above "glaucoma simplex." In the former, rises in tension can be detected and the chamber is more often shallow.

The majority of our cases therefore are those showing anterior segment signs in lesser or greater degree ranging from what are usually called chronic non-congestive to marked congestive and exhibiting tension and failing vision. So much for the material with which we have to work. That venous engorgement is a leading feature of our cases is only too obvious, but it is difficult to assign to it the importance which Magitot and Bailliart claim for it. The thesis of these writers has many attractive points, but it is not satisfactory when one considers the behaviour of the vitreous and its varying relations to the anterior segment, i.e., its influence on the plane of the diaphragm of the eye under different conditions. We must take exception to one of their statements, (American Journal of Ophthalmology, October 1925) which is used as a basic fact on which to build. They say most cases of chronic glaucoma with constant ocular hypertension are accompanied by a high arterial pressure revealed by the armlet. This may be so in Paris, but it is not the case here. It is hardly necessary to collect figures in support of our statement in view of those already published from this clinic by Craggs and Taylor in the "Ophthalmoscope" for 1913, Vol. XI, page 350. We have no doubt that the bulk of our cases of chronic glaucoma have not an associated high blood pressure. We see a very large number of chronic glaucoma cases yearly (trephinations alone performed in the more hopeful cases numbered this year 116) and in observing them and turning over the various hypotheses of causation, one is constantly brought back to the role of the vitreous. It is fairly obvious at the operating table and in the laboratory that normal vitreous in the young eye differs physico-chemically from that in certain diseased conditions of the eye and even from that of the apparently normal senile eye. It varies physically from a transparent jelly to a thin syrupy fluid, but wherein does the difference lie? Is it merely that the fibrillar structure which springs for the most part from, or from the intervals between, the epithelial cells of the pars ciliaris retinae and posterior part of the ciliary body and spreads out to form the almost unrecognizable mesh, no longer holds together as such. Does the trabecular structure which normally retains the fluid portion as, to give a crude illustration, a sponge retains water, become altered so as to lose its supporting function? Does it change not only in its arrangement, but also in its composition? These important questions are easily asked, but not readily answered. One may assume a colliquative degeneration of the fibrillar structure (the solid part of the vitreous), but to determine its nature requires most difficult research. Numerous efforts have been made to determine changes in the composition and reaction of the vitreous and to base alterations in volume on assumed or partially demonstrated departures from the normal. Sometimes experimental work involves too great a source of error, e.g., estimation of the p.H., by colorimetric methods. All such work however, is of some value, and even negative findings in connexion with investigations into the nature of the vitreous in normal and pathogenic states may be of use to workers in this field.

SOME OBSERVATIONS ON THE CHEMICAL COMPOSITION OF THE VITREOUS IN GLAUCOMATOUS AND NORMAL EYES.

On the assumption that the vitreous under certain abnormal conditions may change its volume so as to increase the capacity of the posterior segment at the expense of the anterior segment it is extremely important to find out how the glaucomatous vitreous differs from the normal, chemically and physically. With such an idea in view I was fortunately able to obtain the interested co-operation of Major Newcomb and by placing material at his disposal to obtain a comparative study of the crystalloids in normal and glaucomatous eyes. Vitreous was collected from 22 cases of advanced primary glaucoma by making a valvular posterior sclerotomy with a single plunge of a Graefe's knife, thereafter inserting a large bore needle mounted on a glass syringe and withdrawing about $\frac{1}{2}$ c.c. of vitreous. The same procedure was adopted in a normal eye. In another normal eye, the vitreous was removed with forceps spoon and scissors immediately after enucleation. Mr. V. Narayanaswami Pillai assisted me by maintaining a record of the cases dealt with and other details of the enquiry. The investigations will not be published in full here, but will probably be recorded elsewhere. As Major Newcomb did the chemical work and my part consisted in supplying the material and discussing the subject with him, it will be well to quote his own words as to the results:—

"For some months past we have been attempting in collaboration with Major R. E. Wright, I.M.S., to discover what changes take place in the composition of the vitreous humor of the eye in cases of glaucoma. If the increased tension in this disease is due to an increase in the osmotic pressure of the substances dissolved in the vitreous it should be possible to show this by analysis. The osmotic pressure of the vitreous is presumably chiefly due to the inorganic constituents with small molecules and to account on this hypothesis for the rise in pressure noticed in glaucoma (from about 25 mm. of mercury in normal eyes to 70 mm. in severe cases of glaucoma) the concentration of the inorganic constituents should be raised by some 100 per cent. We have therefore determined the total solids, the ash, and in some cases the chlorides in a series of glaucomatous vitreouses, and in two normal ones. Normal vitreous is difficult to get. These determinations need considerable care as in most cases less than half a c.c. of vitreous is available, and the solids and ash are very hygroscopic and some of the ash and chlorides are readily lost if heated to too high a temperature. The methods adopted were controlled by analysis of horses' vitreous of which large quantities can be got, and it is considered that the experimental error is less than 5 per cent. Although in a few cases the figures for glaucomatous vitreous show variations from the normal of more than 5 per cent, in most cases the variations are within the experimental error. This, we think, negatives the idea due to a general increase in osmotic pressure within the eyeball, but does not dispose of the theory that it is due to a swelling of the colloids, due in its turn to an increased adsorption of salts and increased osmotic pressure of these in the interstices of the colloid meshwork."

It will be seen that in so far as the work goes the crystalloid content of the glaucomatous vitreous does not appear to play an important part. In one case where there obviously has been a hæmorrhage into the vitreous some time before, the total solids ran very high. As Major Newcomb suggests this investigation does not touch the important question of the behaviour of the vitreous as a gel. It may well be that some local pathological state determining an increase in vitreous depends on the possibility of the vitreous behaving as a gel. It is of interest to note that the fluid obtained by aspiration from a normal eye as described above does not differ in physical characters from that obtained under similar conditions from a glaucomatous eye; both showed a glycerine-like consistency.

But although this may indicate that the fluid part of the vitreous was withdrawn from its fibrillar framework under negative pressure, it may be observed that vitreous when cut out with its fibrillar or solid elements gave the same figures as to crystalloids on analysis. The importance of colloidal change in the vitreous in glaucoma has been emphasised by Verhoeff whose suggestion that the increased volume of the vitreous is due to excessive mucin formation is of the greatest interest. It is not of course suggested that increased volume of the vitreous is anything more than one feature of the glaucomatous picture. There can be no doubt however, as to the important part played by the vitreous body in eye conditions whether it be through its shrinking, swelling, or opacification. This has been suggested in reports from this clinic on more than one occasion in the past few years.

RETROBULBAR INJECTION OF NOVOCAINE AND ADRENALIN PRELIMINARY TO OPERATIVE PROCEDURES ON PAINFUL EYES, MORE PARTICULARLY IN IRIDECTOMY FOR SECONDARY GLAUCOMA.

This measure has proved itself of the greatest value during the past year, more particularly in operations for secondary glaucoma due to intumescent cataract in which it has been our custom to do a broad iridectomy. An injection of 1 to 1.5 c.c. of 2 per cent novocaine to which some drops of 1/1000 adrenalin have been added is made in the neighbourhood of the ciliary ganglion. An injection at the same time of a minim of saturated solution of cocaine sub-conjunctivally close to the limbus above is a useful adjunct. Restless troublesome patients become quiet and tolerant and the difficulties of a painful operation are reduced.

SUB-CONJUNCTIVAL INJECTIONS OF ADRENALIN IN CHRONIC CONGESTIVE GLAUCOMA.

Observations were made on certain of our glaucoma cases selected for treatment by adrenalin injections. The results confirmed previous experience in this type of glaucoma. Notes were made on 15 cases by Mr. C. G. Taylor and subsequently by Dr. K. Koman Nayar. In five cases there was a tendency for the tension to fall. In two cases only of these was there what might be called a useful drop in the tension. In two cases the injection induced a rapid onset of severe pain and increase of tension. In eight there was either no change or there was a tendency for the tension to rise. The cases were various, but for the most part advanced chronic congestive glaucomas. One was secondary to intumescent cataract and here no change took place. In addition to the above I observed one catastrophe during the year in a case of chronic non-congestive glaucoma as a result of sub-conjunctival injection of adrenalin. The method is possibly useful in isolated cases of chronic congestive glaucoma, but indications for its use are not very clear, and it is probably safer to restrict it to cases of secondary glaucoma, and post operative rises in tension.

REFRACTION ROOM.

Two thousand seven hundred and fifty-nine (2,759) cases were seen. Of these 2,232 were pure refraction cases and 527 were cases of fundus disease. These figures do not include vision testing for immature cataract, leucoma, and fundus examination of such cases, or iritis and injury cases sent from the out-patient department. Nor do they show the repeated visits of the same case. Hence they do not represent the actual dark room work done.

The various classes of fundus diseases met with and specially noted upon are indicated below :—

	Number	Syphilis.	
		Absent.	Present
Diseases of optic nerve	219	38	126
Glaucoma	161	40	121
Diseases of retina	81	25	56
Diseases of choroid	54	22	32
Un grouped cases	12	7	5
Total	527		

RETINAL HÆMORRHAGES IN YOUNG PEOPLE.

During the year under review an attempt was made to collect details of the cases of hæmorrhages occurring in young persons. Our experience has been that such hæmorrhages are comparatively common. The notes were taken with a view to elucidating important points in ætiology and the following summary may be given here :—

Twenty cases in all were seen. As the out-patients numbered 22,457, and new cases as explained elsewhere, say 25 per cent less, it will be seen that the condition is infrequent. The number of patients forwarded from the out-patients department to the refraction room from which these 20 cases were separated was 2,759. We have no reason to think that this is any great departure from the average. Of the 20 cases, there was only one female, the average age was twenty-six, nine were affected in the left eye only, four in the right eye, and seven in both eyes. The urine was normal in all. In four cases there was evidence of venereal disease, in two evidence of tuberculosis, in one marked anæmia, and in one myocarditis. Such cases are for the most part puzzling and when we originally started collecting detailed notes we were under the impression that probably the largest proportion of our hæmorrhages in young people would be found associated with venereal disease of some sort. This, however, has not turned out to be the case and the great difficulty is to establish any ætiological relation whatever. If time is found hereafter Mr. V. G. Muthayya will assist me in publishing details of these cases which we have examined together and of which he has kept detailed notes throughout the year according to a pre-arranged plan.

OUT-PATIENT DEPARTMENT.

The chief conditions dealt with were—

1. Catarrhal conjunctivitis (undiagnosed)	3,585
2. Macular keratitis	109
3. Koch-Weeks conjunctivitis	2,192
4. Angular conjunctivitis	592
5. Gonorrheal ophthalmia	82
6. Diphtheritic conjunctivitis	2
7. Trachoma	925
8. Follicular conjunctivitis	140
9. Phlyctenular conjunctivitis	742
10. Keratomalacia	71
11. Leprosy	17
12. Panophthalmitis	92
13. Ulcus serpens	72

DEATHS.

There were five deaths—

Enteritis	3
Dysentery	1
Marasmus	1
	5

POLYVALENT HIGH TITRE (ANTI-PNEUMOCOCCUS) SERUM IN ULCUS SERPENS.

In last year's report the result of taking cultures from a series of cases of ulcus serpens was published. During the year under survey it was determined to try the effect of a polyvalent high titre serum obtained by utilizing the organisms isolated last year to develop such an anti-serum in the rabbit. The organisms were pneumococci of groups I, II, III and IV. A serum capable of agglutinating any of these strains in high dilution was prepared and furnished to us by the Director of the King Institute, Guindy. It was used in typical examples of ulcus serpens by dropping it into the eye after irrigation. In some instances no other treatment was adopted. In certain cases it was used as an adjunct to the ordinary routine methods of treatment. As the result of these observations it does not appear that the high titre serum prepared from stock cultures of the pneumococci usually met with in ulcus serpens had any marked influence on the course of the condition. Mr. T. Veukatarangam Nayudu was not favourably impressed with its use in the out-patient department and I could not satisfy myself that it had any specific action.

MILK INJECTIONS IN ULCUS SERPENS.

In contradistinction to the above it was found during 1925 that the result of treatment of ulcus serpens and extensive corneal ulceration from whatever cause was markedly improved by adopting in addition to the routine methods a course of milk injections. It is a very difficult matter to control experimental work in this connexion, but the staff of the out-patient department and post-graduates directly interested were able to convince me of the more satisfactory progress of patients so treated as compared with others receiving routine treatment. Possibly the former got more personal attention. Be this as it may, milk injections have been adopted in the out-patient department as a routine measure not only in ulcus serpens, but in many inflammatory conditions of the eye.

PATHOLOGICAL DEPARTMENT.

A considerable amount of cultural work was carried out during the course of the year, particularly in connexion with moulds and fungi. Strains of aspergillus were isolated from orbital granulomata which will be referred to later. Cultures were also made from cases of corneal dystrophies which, it was considered, might possibly be due to parasitic fungi, with negative results. The laboratory undertook a considerable amount of animal inoculations in investigating the pathogenicity of aspergillus cultures. Animal experiments were also carried out at the request of Mr. Treacher Collins and Mr. Mayou in connexion with work on siderosis. In both cases the purchase and upkeep of animals and birds was met by the local branch of the British Medical Association. We investigate all our own histopathological material. Occasional cases of doubt or interest were sent for opinion to laboratories in India and overseas. Histopathological examinations for diagnosis numbered 51, eyeball specimens examined 48. The Director, King Institute, Guindy, has, as in previous years, undertaken a large amount of work for our laboratory.

Blood specimens sent for Wasserman test number 1,078 and gave the following results :—

Positive 330, Negative 748.

A large amount of special culture media was supplied to us and cultural work carried out at our request. My thanks are due to him and the members of his staff for continued co-operation.

The routine examination of blood, urine, and conjunctival smears, blood pressure examinations and examinations of stools for parasites, together with the preparation of tissues for histopathological examination, constitutes the chief work of the laboratory, but there is also a considerable amount of labour in connexion with the preparation and upkeep of museum specimens and special investigations of one sort or another which devolves on the sub-assistant surgeon posted to this department.

RADIOGRAPHIC RECORDS.

My thanks are due to Captain T. W. Barnard of the X-ray Institute for the trouble he has taken with our cases and the excellent results produced. As in previous years a large number of optic nerve disorders were sent for examination and some very good records obtained of changes associated with nasal sinus and pituitary affections and increased intracranial pressure from various causes.

ITEMS OF SCIENTIFIC INTEREST AND RECORDS OF SPECIAL CASES.

GRANULOMATA OF THE ORBIT DUE TO AN ASPERGILLUS, SPECIES UNKNOWN.

Two very interesting cases of this condition came under our notice during the year. The first was that of a man who was sent from another hospital with a large growth towards the inner aspect of the orbit pushing the eye upwards and outwards so that the cornea was completely under cover of the upper lid, and extending mesially so as to occlude the nasal fossa. The skin had broken down in several places and there was a thin purulent discharge. Sarcoma had been diagnosed. A small portion of tissue was taken from the growth which on histopathological examination did not suggest to me anything of this nature. The tissue was of a chronic granulomatous type with active endothelial proliferation and large numbers of giant cells. It suggested a chronic irritant with foreign body giant cell response, but the nature of the condition was obscure. The usual staining methods were employed and I spent a considerable time in examining different preparations in order to find a causative organism. Specimens were submitted to various laboratories for examination, but no satisfactory opinion as to the nature of the condition was forthcoming. At length whilst examining a slide I noted highly refractile fungoid elements in a giant cell. The section was submitted to Lieut.-Col. Cornwall, I.M.S., Director of the Pasteur Institute of Southern India, for confirmation. He agreed with me that there was a fungus present in the giant cells. Fragments of tissue were then taken from the depths of the growth, planted on Sabouraud's media and pure cultures obtained in most of the tubes. From these original cultures sub-cultures were planted and animal experiments carried out to test pathogenicity. I used pigeons and found that intravenous inoculations of heavy suspensions did produce aspergillosis. Col. Cornwall confirmed this observation, but found that the parasite was pathogenic to rabbits. In his opinion the species could not be determined. The patient was treated with large doses of potassium iodide which did not seem to influence the growth; X-ray applications, however, produced a definite reduction in the mass and the patient was markedly improved at the end of a prolonged course. He left hospital but returned again with the growth somewhat increased in size. On the second occasion he was advised to continue X-ray treatment, but after a few exposures he took his discharge and would not return. We have not seen him again.

The second case was that of a woman who came to the out-patient department on account of two small hard elevations about the size of large peas under the skin above and below the internal tarsal ligament. She said they had been there for one and a-half years, but the history is

doubtful. The skin moved over them and there was no obvious inflammation. There was chronic dacryocystitis with complete obstruction. On examination of the nose on the same side there appeared to have been considerable destruction of the mucous membrane about the sphenoidal and posterior ethmoidal regions where it was replaced by scar tissue. The anterior end of the middle turbinate was oedematous and there was granulomatous tissue in the superior fossa. There was no suppuration, the appearances were rather those of an old granulomatous process which had spread slowly and had for the most part healed leaving extensive scar tissue behind; it suggested a syphilitic condition. Apparently the process was still in progress towards the anterior part of the superior meatus. The history was not helpful. A curved incision was made on the mesial side of these nodules with the idea of elevating them together with the periosteum and the lachrymal sac to find out, if possible, whether they were connected in any way with the sac. The periosteum was elevated and it was found that these two nodular growths abutted on the nasal processes of the frontal bone and superior maxilla. They appeared to be incorporated with the periosteum and the underlying bone was rough. They were continuous with indurated tissue extending into the nasal cavity. On cutting into one of them it was found to be solid in nature. A small fragment was removed and when examined histopathologically was recognized to be very similar in structure to the tissues obtained from the above mentioned case, so much so, that I did not hesitate in diagnosing a granuloma of fungoid origin. It took me some time, however, to find the aspergillus in the giant cells, as even with previous experience of staining for these parasites, it was with the greatest difficulty that a characteristic appearance was obtained. Meantime, however, pure growths had been obtained on a number of tubes by taking small fragments from the depth of the two nodules and planting tiny portions on Sabouraud's media. The nodules in this case showed no inclination whatever to necrosis or suppuration and were evidently very slow growing. The patient was sent for X-ray treatment, but did not appear to improve in the same way as the other case. What was left of the nodules remained practically the same size after the X-ray exposures as before. The woman, however, did not stay long enough for us to reach final decision on this point. She took her discharge and unfortunately we have not been able to trace her. One got the impression that the nodules formed the anterior extension of a process which had started in the nasopharynx and slowly advanced leaving a trail of cicatricial tissue and that the dacryocystitis was secondary. The parasite obtained in this case was found to be non-pathogenic to rabbits and pigeons when inoculated intravenously.

These two cases are of great interest in so far as records of human granulomata due to an aspergillus are rare, and granulomata of this nature in the region of the orbit must be still more so. Up to the present I have not been able to obtain a survey of the literature on the subject. In the ophthalmic works at my disposal I can only find reference to one case of a similar nature, an inflammatory growth involving the base of the brain, discovered post-mortem and supposed to be due to *A. fumigatus* and to have originated in the antrum (Dalmeyer, orbital and cerebral disease from aspergillus, quoted in Ophthalmic Year Book, Vol. XI, 1914, page 359, from original article in Zeit fur Augenh, Vol. 31, page 420).

The fact of two cases being met with in one year shows that one must at least be prepared to meet such conditions in this country. The histopathology of the growths was quite distinctive and once having seen a section, a diagnosis could easily be made, quite apart from actually seeing the parasites in the giant cells. It would be out of place here to go into detail with regard to these cases. They will be presented in full elsewhere. The appended microphotograph, for which I have to thank

Mr. H. Hawley of the staff of the King Institute, Guindy, shows the parasite in a giant cell.

PLASTIC OPERATION FOR THE CRESCENTIC DEFECT OF THE LOWER LID CAUSED BY THE APPLICATION OF IRRITANT REMEDIES.

As mentioned in previous reports, extensive ulceration of the lids is frequently caused by the application of irritant pastes and compositions applied by quacks for the relief of eye disease. The ulceration of the upper lid, unless very severe, does not as a rule give rise to much trouble, but a crescentic defect of the lower lid is certain to be followed by excessive ectropion, and loss of the eye unless treated early. The photograph shows such a lesion. In the case illustrated, the lower lid margin and a narrow border of the skin escaped. This enabled one to do a tarsorrhaphy which is the first thing to be aimed at in such cases. In doing tarsorrhaphy great care has to be taken in placing the lower lid sutures so as not to interfere with the subsequent suturing of the skin edge to the flap. The photograph shows how by elevating a large crescentic cheek flap, the relatively small crescentic defect may be filled. The flap is moved into position by rotation leaving a gap, if any, towards the ear. A few sub-cuticular sutures in the lower wound might be an improvement on the interrupted points as utilized in the case under report. The granulating area with its recent fibrous tissue is first cut away and its skin edges (usually undermined) trimmed vertically. Great care is taken not to sacrifice skin at the upper boundary of the granulating area where it may just be sufficient to enable one to do the tarsorrhaphy and put in a series of fine sutures uniting it to the upper border of the flap. The method suffers from the same disadvantages as many of the flap methods for gross defects of the lower lid, namely, that when the lids are opened up there is an inclination for the conjunctiva at the lower fornix to pout associated with a slight eversion. This may be partially met by leaving the lids stitched together in their outer fourth. The type of flap described gives excellent cover, but is open to the obvious objection of leaving a big cheek scar. For this type of defect epithelial outlays are not very satisfactory. A useful type of flap is a pedicle flap with its base between the outer canthus and the pinna, the body of the flap being taken from the supra-orbital region as far as the middle line if necessary. It gives a very bulky looking result, but is useful in hospital practice.

SOME UNUSUAL CASES OF HERPES OPHTHALMICUS AND HERPES IN FACIAL PARALYSIS.

We see a number of cases of Herpes ophthalmicus from time to time. Some interesting cases came to the hospital during 1925. In one, an engine driver, the attack was mild in so far as the skin was concerned, the cornea was not ulcerated, but he developed optic atrophy. He had a very decided temporal pallor of the disc about two and a half months after the original attack and the vision had dropped to 6/9 in this eye. There was a big defect in the lower half of the visual field. No change of any importance could be seen in the eye ground except the appearance of partial optic atrophy. Vision gradually improved again until four and a half months after the original attack when the patient had 3/5 vision. The field at this time had improved to a small quadrant depression in the inferior nasal region. The nerve head was not so pale.

A second case in which the skin supplied by the external nasal branch of the nasal nerve only was affected is shown in the photograph appended. It was at first considered that the eye had absolutely escaped, but on following up the case very carefully it was found that the eye from time to time during the month subsequent to the attack showed slight irritability and ciliary congestion, but never could any

uveal disturbance be detected either with the ophthalmoscope or with the corneal microscope. The case is of somewhat exceptional interest in view of the fact that according to Hutchinson's dictum one expects a greater liability to corneal trouble in cases where the nasal branch is affected.

In the third case also the nasal branch only was affected, but here there was keratitis of a macular type. In either of these patients the true nature of the condition might quite easily have been overlooked as the actual skin markings were insignificant. In the second case there were two small depressed scars and the typical history of neuralgic pain and tenderness of the skin was only obtained after the eye condition had aroused suspicion and the nature of the scars was minutely enquired into. These cases suggest the possibility of obscure eye symptoms occurring in Herpes where the skin lesion is so slight as to be unrecognizable or possibly even suppressed.

One case showed Herpetic eruptions on the concha of the pinna the margin of the tongue and the soft palate, on the left side. The man felt itching sensations in the left eye and two days later developed facial paralysis, which he considered was due to exposure. Shortly afterwards there was pain followed by eruptions on the same side. The case is of interest in connexion with the sensory function of the seventh nerve.

CYSTIC EPITHELIOMA.

For want of a better name the above term has been used to describe the curious condition illustrated in one of the photographs appended. The patient, male, Hindu, age 24, first came to the hospital with what apparently was a dacryocystitis on the left side. On careful examination it was found that the swelling in the neighbourhood of the internal tarsal ligament was not uniform. There were several rounded cyst-like elevations to be felt under the skin which would not empty on pressure. The region of the sac was explored through a somewhat larger incision than usual and it was then discovered that there were several cysts of varying sizes filled with white curdy material such as one might find in a sebaceous cyst or simple dermoid. At this time there was no breach of the surface of the skin but the cysts had caused pressure atrophy of the lachrymal bone and projected into the nasal cavity. They did not appear to be connected with the lachrymal sac. The lachrymal sac and the cysts were removed as completely as possible, but it was thought advisable to pack the wound instead of stitching it up in the usual way. The largest of the cysts was not bigger than a cherry stone. They might readily have been called sebaceous cysts or simple dermoid cysts, but there was no sign of hairs. The wound granulated up and the boy was discharged from hospital. Sections made at this time showed several cysts, the walls of which were composed of skin showing all the typical cell layers of the epidermis somewhat flattened, and in this respect unlike the wall of a simple dermoid or sebaceous cyst.

Some months later he returned with a sinus discharging through the scar leading into the nose. There was a soft fluctuating swelling over the bridge of the nose covered with glazed congested skin which suggested a superficial collection of pus. There were similar elevations on the left side of the nose over the alar sulcus. These resembled superficial abscesses which spreading horizontally undermined the skin; they were slightly inflamed and tender. Some of the smaller ones suggested inflamed sebaceous follicles. One of these skin cysts had burst and a small sinus exuding pus and offensive sebaceous material led into a shallow cavity which undermined the skin for some distance all round. The cysts were opened up and scraped. One of them situated over the ala nasi had penetrated between the cartilages and led into the vestibule;

a second contained white epithelial debris in an uninfected state; others had the contents mixed with pus. The nose appeared to have been invaded and showed ulceration in the region of the anterior end of the middle turbinate and also in the vestibule as stated above. Tissue removed from the walls of some of these superficial skin lesions showed distinct epitheliomatous changes. There were large columns of epithelial cells branching irregularly into the dermis with isolated cells and cell groups invading the connective tissues. The cells were squamous in type, there was no suggestion of a basal cell growth. Cell nest and pearl were forming and apparently cystic cavities were developed by necrosis of the enclosed surface squames. There was nothing suggestive of a sebaceous glandular tissue to be seen even in small epithelial buds. There were, however, large comedones in the neighbouring skin. The patient was given X-ray treatment and improved slowly. The large ulcerated areas left near the bridge and ala of the nose slowly healed after scraping. The undermined skin edges closed down and adhered to the underlying base leaving curious crateriform scars. Growth however still continued in the nose and spread above and below on the lid margins towards the puncta. The latter extensions are progressing fairly rapidly. Whether the condition was originally purely cystic in nature is doubtful, but the original sections showed no hyperplasia of the epidermis, only cysts. It is now microscopically and clinically malignant and evidently cannot be controlled by X-rays in so far as the growth along the lid margin and deep into the nose is concerned. This condition would appear to be one in which a simple epidermal cystic group took on epitheliomatous characters of a feebly malignant type associated with the formation of pseudocysts filled with squamous epithelial debris some of which on becoming secondarily infected presented inflammatory evidences of a low degree.

MACULAR KERATITIS.

Macular keratitis cases of the type described by Kirkpatrick presented with unusual frequency at the out-patient department particularly during the monsoon weather. I examined over 20 with the corneal microscope. Briefly the following points were noted. There was always a considerable swelling at the site of the opacity. This could be observed well in the small round spots. In such the anterior layers of the cornea were uniformly curved, while there was marked bulging of the posterior surface into the anterior chamber, showing well marked elevation of the posterior edge of the optical section. The bulk of the opacity appeared to be towards the middle of the substantia propria. Frequently the centre was clearer than the periphery, a common appearance being a ring of greater opacity enclosing a somewhat clearer centre and being enclosed by a halo of less density. Descemet's membrane was thrown into distinct folds behind the opacity and for some distance beyond the limits of the less dense halo. Very fine pigment granules were nearly always observable on Descemet's membrane. They were always few in number and sometimes they were very difficult to find. In no case was there an appearance which could be described as keratic precipitates present, but one or two showed pigment aggregations forming large isolated spots. The fine pigment granules were sometimes wide of the zone of the opacification on clear cornea. In certain cases there was a very slight curdy-looking appearance close under the surface epithelium at the very centre. In only three cases could any distinct irregularity of the surface epithelium be detected at the centre of a macular spot. A few eyes in which the changes just referred to were seen suggested that possibly the process originated at a point superficially and spread out and down therefrom. In no case, however, could a breach of surface be detected by staining.

A lady student who had the left eye affected the previous year showed a round spot about 1 m.m. in diameter in the right eye. The remains of the affection in the left eye consisted of a distinct faintly opaque broken ring. The centre was perfectly clear, the cornea was uniform in thickness; there were no pigment spots. We are still as ignorant of the aetiology and treatment of this affection as when Kirkpatrick drew attention to it in the British Journal of Ophthalmology, 1920.

It will be noted that 109 cases are recorded in 1925. The most outstanding feature of the condition is the absolute lack of irritation in the bulk of cases many of which are discovered accidentally. The patients only complain when the pupillary area is involved. The eye may be a perfectly "quiet" eye from beginning to end.

OSTEOMA OF THE FRONTAL SINUS WITH EXTENSIVE INVOLVEMENT OF THE ROOF OF THE ORBIT.

A male, Hindu, age 24, said to have been struck by a cow's horn on the left brow one and a half years ago showed a firm tumour of the upper rim of the left orbit. The eye was displaced down and in by the mass. The appearance was as shown in the photograph. The growth felt solid, but at one point below the centre of the brow the skin was slightly glazed and red and there was slight fluctuation. The skin was incised here and about a drachm of pus evacuated. On exploration a probe passed a short distance towards the nasion in a bony fistula. An X-ray photograph on 23rd May 1925 showed a cauliflower-like mass of bony tissue filling the frontal sinus, the walls of which were markedly expanded. This is well seen in the illustration appended for which I am indebted to Capt. T. W. Barnard of the X-ray Institute. On 26th May 1925 the frontal sinus was explored through a brow incision. Its anterior and inferior walls were shell like over the region which had previously been the orbital rim, and showed an irregular aperture through which passed the sinus above mentioned. Part of the orbital roof was completely eroded. On elevating the periosteum all round and removing the thin scale of bone which represented the anterior and inferior walls of the frontal sinus, a large cauliflower-like bony mass was exposed which apparently had grown forwards and downwards from the back of the sinus filling it completely and causing pressure erosion of its walls. The narrow irregular space partially lined by mucous membrane lying between the bony growth and the expanded wall representing the cavity of the sinus, was filled with muco-pus. The surface of the bony growth was ivory like. On trying to cut away a portion towards the nasal side, it was felt to move and the large mass was carefully levered out of its bed. The whole bony growth which formed a sort of cast of the interior of the expanded sinus gradually came away leaving a cancellous pedicle stump about three-fourths of an inch in diameter towards the middle of the posterior part of the sinus. The fronto-nasal duct was readily opened taking the little finger with ease and so it was determined to be the entire wound and carry out after-treatment through the nose. Pus continued to discharge from the nasal aperture and from the brow sinus for a considerable time. The cavity was granulating up well some months later when the patient left us.

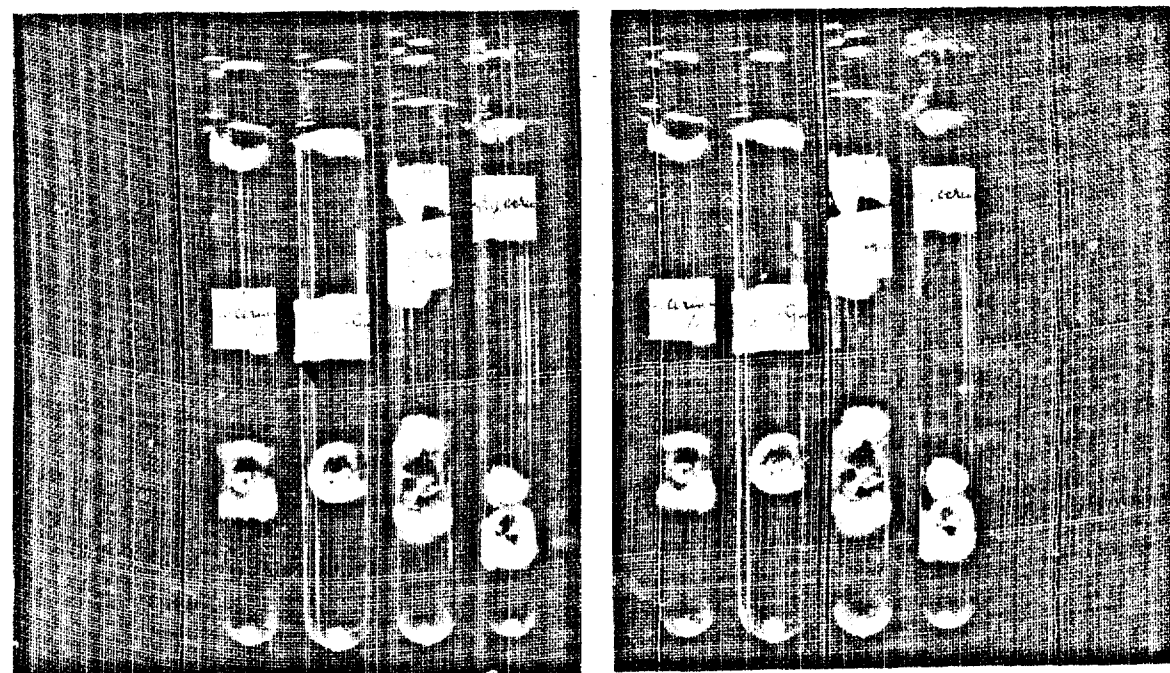
FRONTO ETHMOIDAL MUCOCELE.

The largest fronto ethmoidal mucocoele which we have yet seen came to the out-patient department during the year. The patient, aged 20 presented a large swelling just below the inner side of the nose and the eye was displaced downwards and outwards about three-fourths of an inch below the level of its fellow on the opposite side. When opened

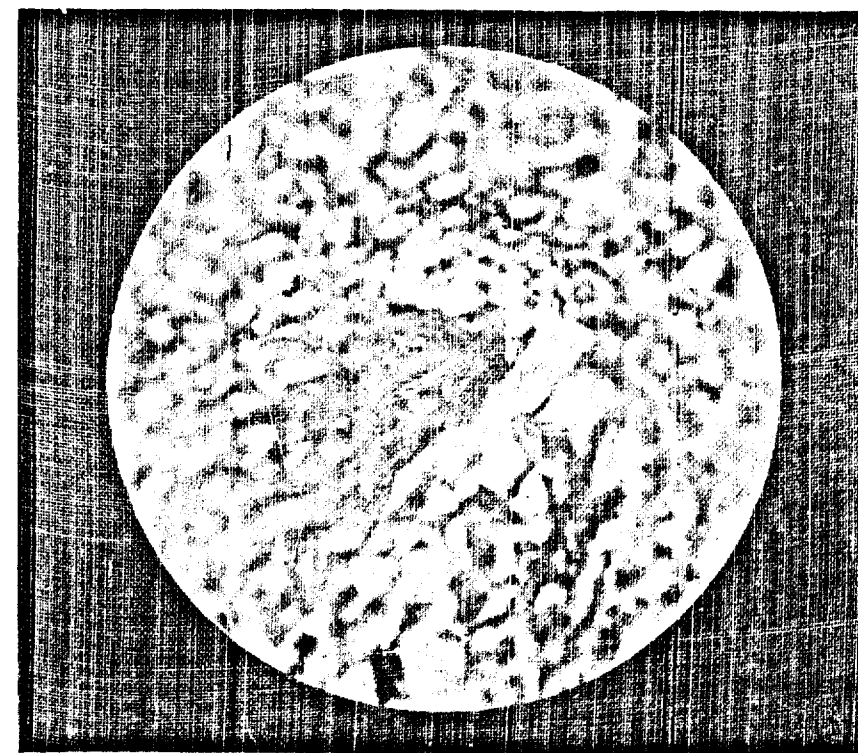
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through a Killian incision a cavity filled with glairy muco-pus was found to extend right back to the apex of the orbit and downwards so as to encroach considerably on the maxillary antrum. The capacity of the cavity was over 4 ounces. Naturally there was great deformity of the orbit, its lower rim had become sunken hence the drop in the position of the eye on that side. This cavity was drained into the nose and the incision allowed to close after a time. Even after healing the girl presented a most extraordinary appearance due to the eyes being at a different level, the left eye being, as it were, in the malar region.

R. E. WRIGHT, MAJOR, I.M.S.,
Superintendent.



PURE GROWTH ON SABOURAUD'S MEDIA FROM THE SECOND CASE OF ASPERGILLUS GRANULOMA.
(SEE PAGE 20.)



MICROPHOTOGRAPH OF GIANT CELL SHOWING THE PARASITE IN THE CELL.
FROM THE FIRST CASE OF GRANULOMA OF THE ORBIT DUE TO AN
ASPERGILLUS. (SEE PAGE 20.)



PLASTIC PROCEDURE FOR DEFECT OF LOWER LID. (SEE PAGE 22) BEFORE OPERATION.



AFTER OPERATION.



HERPES OPHTHALMICUS AFFECTING THE EXTERNAL NASAL BRANCH OF THE NASAL NERVE.
(SEE PAGE 22)

ADMINISTRATION REPORT OF THE

Class of dispensary.		Diseases caused by infection.												Number of out-door patients treated.		Number of in-door patients treated.		Number of beds.				Number.											
Number.	Name.	For males.		For females.		Children.		Males.		Females.		Cholera, Asiatic.		Dysentery.		Enteric fever.		Gono-ccocal infection.		Syphilis (primary and second-ary).		Kala-Azar.		Leprosy.		Malaria.		Plague.		Influenza.		Relapsing fever.	
		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total treated.	Deaths.	Total treated.	Deaths.	Total treated.	Deaths.	Total treated.	Deaths.	Total treated.	Deaths.	Total treated.	Deaths.		
1		98	62	10	2,296	1,575	..	..	..	1	1	..	13	11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
I.P.	Government Ophthalmic Hospital, Madras.	..	..	..	..	..	14,417	8,040	..	..	..	..	24	74	1	14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
O.P.		98	62	10	2,286	1,575	14,417	8,040	..	1	1	..	47	85	1	14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
	Total	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		

Other general diseases.

[illegible]

• Males include male children.

+ Females include female children.

STATEMENT C—cont.

Showing the diseases, etc., of the in-door and out-door patients treated in the several classes of Medical institutions in the Madras Presidency, during the year 1925—cont.

Other general diseases—cont.										Systemic diseases.															
New growth.					Diseases of the nervous system.					Diseases of the eye.		Diseases of the ear.		Diseases of the circulatory system.		All diseases of the respiratory system except pneumonia and tuberculosis.		Diseases of the stomach and intestines.		Abscesses of the liver.		All other diseases of the liver.			
Diseases of the ductless or endocrine glands.		Non-malignant.		Malignant.		Diseases of the nerves, brain and meninges.		Diseases of which the pathological basis is not accurately known.		Mental Diseases.		Total treated.		Deaths.		Total treated.		Deaths.		Total treated.		Deaths.		Total treated.	
Total treated.	Deaths.	Total treated.	Deaths.	Total treated.	Deaths.	Total treated.	Deaths.	Total treated.	Deaths.	Total treated.	Deaths.	Total treated.	Deaths.	Total treated.	Deaths.	Total treated.	Deaths.	Total treated.	Deaths.	Total treated.	Deaths.	Total treated.	Deaths.	Total treated.	
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52										
13	12	11	10	9	8	7	6	5	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	
35	15	15	8	57	...	...	20,364	6	1	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
48	27	3	3	67	...	...	24,356	3	3	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Total																									
I.P. } Government Opthalmic Hospital, Madras.																									
O.P. }																									

Systemic diseases—cont.										Labour.															
General and Local.					Poisoning.					Injuries (General and Local).					Abnormal.					Total number of in-door and out-door patients treated in each dispensary.					
All other diseases of the circulatory system.		Other diseases of the skin.		Inflammation of the viscera.		Diseases of the areolar tissue.		Diseases of the generative system.		Diseases of the organs of locomotion.		All other local diseases.		Injuries (General and Local).		By opium.		By other means.		Normal.		Abnormal.		Total number of in-door and out-door patients treated in each dispensary.	
Total treated.	Deaths.	Total treated.	Deaths.	Total treated.	Deaths.	Total treated.	Deaths.	Total treated.	Deaths.	Total treated.	Deaths.	Total treated.	Deaths.	Total treated.	Deaths.	Total treated.	Deaths.	Total treated.	Deaths.	Total treated.	Deaths.	Total treated.	Deaths.	Total treated.	
53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69									
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
5	...	...	...	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
5	...	...	...	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Total																									
I.P. } Government Opthalmic Hospital, Madras.																									
O.P. }																									

STATEMENT D

Infectious diseases (including malignant growths, opium poisoning and beriberi).

[illegible]

STATEMENT E.

Number of in-door and out-door patients, according to class and sex, treated in the Government Ophthalmic Hospital Madras, in the year 1925.

District.	Name and class of dispensary.	Europeans and Anglo-Indians.				Hindus.				Muhammadans.				Others.				Total treated.	
		Adults.		Children.		Adults.		Children.		Adults.		Children.		Adults.		Children.			
		Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.		
Madras.	Gert. Oph. thalamic Hospital.	In-door.	78	63	8	10	1,748	1,122	62	59	159	91	8	6	211	208	17	16	2,861
		Out-door.	659	479	49	25	10,808	4,879	1,026	1,092	1,013	374	139	154	1,058	837	170	200	22,457
		Total ...	737	547	52	35	12,056	6,001	1,088	1,151	1,172	465	147	160	1,264	1,090	187	216	23,318

STATEMENT F.

Showing the surgical operations performed in the Government Ophthalmic Hospital, Madras, during the year 1925.

Class of operation.	Nature of operation.	Number of patients remaining from last year.	Number of operations performed during the year.			Number of patients operated on in columns 4 to 6	Result of operations on patients.				Number of patients remaining at close.
			Principal.	Secondary.	Total.		Cured.	Relieved.	Discharged otherwise.	Died.	
Operation on tumours ...	Removal by excision ...	...	22	...	22	22	22	...	...	...	...
	Destruction by CO ₂ snow ...	...	1	...	1	1	...	1	...	...	...
Do. on cysts ...	Removal by excision ...	...	13	...	13	13	13	...	...	...	...
Do. for abscess ...	Incision and curetting of cyst wall.	...	2	...	2	2	2	...	...	...	...
	Acute abscess ...	...	39	...	39	39	39	...	...	...	...
Intravenous injections	N.A.B. ...	...	234	...	234	234	...	234	...	...	...
	Iodine ...	...	38	...	38	38	...	38	...	...	...
Operation on skin and subcutaneous tissues.	Plastic operation for cicatrices ...	...	1	...	1	1	...	1	...	...	...
	Skin-grafting ...	...	1	...	1	1	1	...	...	...	...
	Operations on eyelids—	...	...	...	...	...	...	...	...	...	...
	For ectropion ...	...	4	...	4	4	4	...	...	...	...
	For entropion—Streetfield's and modified Streetfield's.	...	26	...	26	26	26	...	...	...	1
	Do. Panama ...	...	2	...	2	2	2	...	...	...	...
	Do. Plastic ...	...	7	...	7	7	7	...	...	...	...
	Plastic operation on lid for granulomas ...	...	2	...	2	2	...	2	...	...	...
	Uniting the lids ...	...	1	...	1	1	...	1	...	...	...
	For trichiasis—Electrolysis ...	...	36	...	36	36	36	...	...	...	...
	For symblepharon ...	...	4	...	4	4	...	3	...	...	1
	* For ptosis ...	...	1	...	1	1	...	1	...	...	...
	For trachoma—Excision of fornix.	1	3	...	3	3	...	4	...	...	...
	Do. Expression by roller forceps ...	...	74	2	76	74	...	74	...	...	...
	* Do. Ballooning fornix and copper sulphate brushing.	...	79	...	79	79	...	79	...	...	...
Operations on the eye and its appendages.	* For styte ...	...	28	...	28	28	...	28	...	...	...
	* For chalazion ...	...	135	...	135	135	...	135	...	...	...
	Repair of wounds ...	...	6	...	6	6	...	6	...	...	...
	Operations on lachrymal apparatus—	...	...	...	...	...	...	...	...	...	...
	Operation on puncta lachrymale and canaliculi ...	...	58	...	58	58	58	...	...	...	...
	Operation on lachrymal sac and nasal duct ...	...	234	1	235	234	232	...	...	...	2
	Operation on lachrymal abscess.	...	13	...	13	13	...	13	...	...	...
	Removal of lachrymal gland ...	...	2	...	2	2	...	...	...	...	...
	Operations on eye ball—	...	...	...	...	...	...	...	...	...	...
	Peritomy ...	2	5	...	5	5	...	7	...	...	...
	Tattooing cornea ...	...	4	...	4	4	...	4	...	...	...
	Cauterising ulcer cornea ...	...	93	...	93	93	...	93	...	...	...
	Paracentesis for ulcer cornea ...	...	43	...	43	43	...	43	...	...	...
	* Heating for corneal fistula ...	...	1	...	1	1	...	1	...	...	...

* Not mentioned in the nomenclature of diseases.

STATEMENT F—cont.

Showing the surgical operations performed in the Government Ophthalmic Hospital, Madras, during the year 1925—cont.

Class of operation.	Nature of operation.	Number of patients remaining from last year.	Number of operations performed during the year.			Number of patients operated on in columns 4 to 6.	Result of operations on patients.				Number of patients at close.
			Principal.	Secondary.	Total.		Cured.	Relieved.	Discharged otherwise.	Died.	
Operations on the eye and its appendages—cont.	Operations on the eye ball—cont.										
	* Floating for keratitis		10		10	10		10			
	* Floating section, secondary, to cataract extraction			+13	13						
	* Centerization of prolapsed iris			+149	149						
	* Excision of prolapsed iris			+3	3						
	* Replacing prolapsed iris & retractor.			+2	2						
	* Removal of cysticercus after keratome incision		1		1	1	1				
	* Corneal section and washing out blood from ant. chamber		9	1	10	9	8				
	Iridotomy	1	5		5	5	6				
	Iridectomy	8	286		286	286	277				
	Making artificial pupil		89		89	89	85				
	Other operations on iris		8		8	8	8				
	Conjunctival flap operation for prolapsed iris, etc.			+10	+10						
	For staphyloma—trephining (sclero-corneal)		9		9	9	9				
	Needling lens for cataract	3	57	7	64	57	19	41			
	Extraction of lens including removal of lens, linear extraction and removal of dislocated lenses	39	1,373	5	1,378	1,373	1,196	138	30		
	Laceration of opaque capsule	1	50		50	50	51				
	For glaucoma—										
	Anterior sclerotomy		10		10	10	10				
	Posterior sclerotomy		35		35	35	35				
	Paracentesis for glaucoma	3	27		27	27	30				
	Herbert's operation	2	3		3	3	5				
	Sclerectomy		9		9	9	9				
	Trephining sclero-corneal	8	132		132	132	136				
	Extraction of foreign body		746		746	746					
	Evisceration		72		72	72	71				
	Excision of eye ball		51		51	51	51				
Operations within the mouth.	Orbital operations—										
	For strabismus		3		3	3	3				
	Abscess orbit		1		1	1	1				
	For new growth—Exenteration of orbit		9		9	9	8				
Operations on nasal cavities and accessory sinuses.	Removal of tonsil		2		2	2	2				
	On nasal septum: sub-mucous resection and turbinectomy		6		6	6	6				
	Plastic operations on nose		1		1	1	1				
	On maxillary sinus		4		4	4	4				
	On ethmoidal sinus		2		2	2	2				
	On frontal sinus		2		2	2	1				
	Exploration of nasal sinuses		18		18	18	18				
	* Operation on eye lid—(Omitted above)—										
	Lengthening palpebral fissure		16		16	16	16				
	Shortening do.		32		32	32	32				
	Pterygium		58		58	58	58				
Total		68	4,348	193	4,541	4,348	2,628	1,517	30		
			4,416			4,416					

* Not mentioned in the nomenclature of diseases.

† Secondary to 1,373 cataract operations mentioned below.

STATEMENT F-1.

Showing the surgical operations performed in the Government Ophthalmic Hospital, Madras, during the year 1925.

Class of operation.	Nature of operation.	Number of patients remaining from last year.	Number of operations performed during the year.			Number of patients operated on in columns 4 to 6.	Result of operations on patients.				Number of patients at close.
			Principal.	Secondary.	Total.		Cured.	Relieved.	Discharged otherwise.	Died.	
Operations on tumours	Removal by excision		22		22	22	22				
Operation on cysts	Removal by excision		13		13	13	13				
Operation on skin and subcutaneous tissues.	Incision and curetting of cyst wall		2		2	2	2				
	Plastic operation for cicatrices		1		1	1		1			
Operations on the eye and its appendages.	Operation on the eyelids—										
	For ectropion		4		4	4	4				
	For entropion—										
	Streatfield and modified Streatfield		26		26	26	25				1
	Plastic (Panas's)		7		7	7	7				
	For symblepharon		2		2	2	2				
	For ptosis		4		4	4	3				1
	For trachoma—Excision of fornix.	1	1		1	1	1				
			3		3	3	4				
	Operations on lachrymal apparatus—										
Operations within the mouth.	Operations on lachrymal sac and nasal duct		234	1	235	234	232				2
	Removal of lachrymal gland		2		2	2	2				
	Operations on eyeball—										
	Iridotomy	1	5		5	5	6				
	Iridectomy	8	286		286	286	277				17
	Making artificial pupil		89		89	89	89				
	Other operations on iris		8		8	8	8				
	For staphyloma—sclero-corneal trephining		9		9	9	9				
	Removal of cysticercus from ant-chamber		1		1	1	1				
	Needling lens for cataract	3	57	7	64	57	19	41			
Operations on nasal cavities and accessory sinuses.	Extraction of lens including linear extraction, removal of dislocated lens	39	1,373	5	1,378	1,378	1,196	138	80		48
	For glaucoma—										
	Herbert's operations	2	3		3	3	5				
	Sclerectomy		9		9	9	9				
	Trephining sclero-corneal	8	132		133	132	136				6
	Excision of eyeball		51		51	51	51				
	Orbital operations—										
	For strabismus		3		3	3	3				
	Orbital abscess		1		1	1	1				
	For new growth—										
Operations within the mouth.	Exenteration of orbit		9		9	9	9				
	Removal of tonsils		2		2	2	2				
	On nasal septum—										
	Sub-mucous resection and nasal spur		6		6	6	6				
	On maxillary sinus		4		4	4	4				
	On ethmoidal sinus		2		2	2	2				
	On frontal sinus		2		2	2	2				
	Plastic operation on nose		1		1	1	1				
	Total	62	2,374	18	2,387	2,374	1,530	608	80		78
			2,436			2,436					

STATEMENT G.

Showing the income and expenditure of Government Ophthalmic Hospital, Madras, in the year 1925.

Name of dispensary.	Income.					Expenditure.									
	Cash balance.	As salary.	Otherwise.	Miscellaneous receipts (to include sale of securities).	Total receipts.	Salaries.				Medical.	Miscellaneous charges.	Buildings or repairs.	Total expenditure.		
						Medical officers.	Nurses.	Stewards, clerks and servants.	European.						
	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.		
Government Ophthalmic Hospital class I.—Hospital was opened in 1883. The present hospital was occupied on 31st March 1886. The Lady Lawley wards and the European operation wards were opened on 13th February 1911. The administration and the septic blocks were opened on 1st August and 14th September 1911, respectively. The Elliot School of Ophthalmology was opened on 10th February 1920.	58,576	68,263	2,408 (a)	1,20,941	26,705 (b)	12,018 (c)	26,763	8,054 (d)	37,528 (e)	21,733 (f)	3,945	1,20,941			

Number of patients treated in 1925

Daily average sick

3851

5,801
264

¹ (a) "Miscellaneous receipts" comprise the following items:—

2) Hospital charges recovered from paying in-patients Rs. 2,722.

(2) Charges recovered from paying out-patients Rs. 24.

(3) Sale of unserviceable articles Rs. 50.

(6) The Superintendent's and the Resident Medical Officer's salary is debited to the Medical College and is not therefore included in this figure.

The decrease in expenditure in 1921 under this head is due mainly to Mr. C. G. Taylor who acted as Assistant Superintendent having drawn the minimum pay of the appointment.

(c) The increase in expenditure in 1955 under this head is due to leave allowances drawn by the permanent matron on leave, to increments drawn by the other nurses and to the inclusion of uniform allowances under this head.

(4) This figure is made up of Rs. 7,492 on account of medicines supplied by military Department and Rs. 452, on account of medicines purchased locally.

The difference in figures is due to the list of medicines purchased in one year having been adjusted in another year. As the decrease in expenditure under this head is due to the coming down of the number of in-patients.

(f) Miscellaneous charges comprise following items :—

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466
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[illegible]

The daily average cost of dieting a European patient in the general wards is Re. 0-11-7 against Re. 0-12-2 in 1924.

No. _____ in Indian _____ do.

Do. a European patient in the

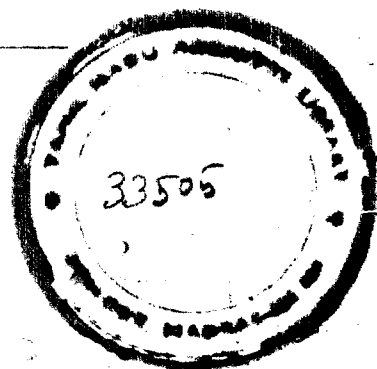
R8. 1-12-60 in the z
in Indian patients in the

Do. in Indian patients in the
paying in and out-patients in 1925: are Rs. 2,745

The recoveries from paying in and out-patients in 1925 are Rs. 2,712 and Rs. 21 against Rs. 2,735 and Rs. 110 in 1924, respectively.

Buildings.

Description of work.	Hospital buildings.	Residential quarters of the Resident Medical Officer, the Sub-Assistant Surgeons, and the House Surgeons.
Minor work and repairs including electrical work.	Rs. 3,197	Rs. 48

[illegible]

செப்பனீடுபவர் பெயர்

647. பிழைக்காதவன்

செப்பனிருவதற்காக எடுத்ததே

கொள்ளப்பட்ட நாள் ஜூன் '92

செப்பனீடு முடிந்த நாள்

93

(8) 93.

சிறீமாரக்குர் : ஜெயங்கொண்டி

மு.பா.எ. உத்தியோகம்

தையாப்பம் தையாப்பம்

1912193
