

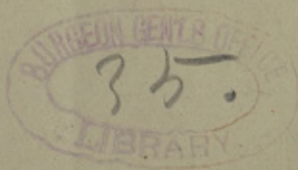
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
A COMPARISON
BETWEEN THE RESULTS & TREATMENT
IN
ONE HUNDRED CASES
OF
OPHTHALMIA NEONATORUM IN PRIVATE,
AND
One Hundred Cases in Hospital Practice.

By S. C. AYRES, M. D., Cincinnati.

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Ophthalmia Neonatorum is a disease not unfrequently met with in private practice. It occurs more frequently among the poorer classes and those uncleanly in their habits, but the higher classes are not exempt. It sometimes runs a mild course and terminates favorably, but at other times it is very violent and leaves the eyes more or less damaged.

No one will deny the importance of this disease, and no one who has treated a case will question its danger to vision. It is a form of eye disease, which more frequently falls into the hands of the family physician, than the specialist, at least in its earlier stages. Various causes are assigned for its origin. It has been claimed that it is usually excited by contact of specific or acrid vaginal discharges, with the conjunctiva during the act of parturition. There are undoubtedly many cases where there is no abnormal vaginal discharge in the mother and yet where the blennorrhœa assumes a violent form. On the other hand the children of mothers suffering from go-

norrhœa, often escape entirely. Want of cleanliness in washing the child after birth, impure air, sudden changes in temperature, atmospheric poisons, defective nutrition, exposure of the infant to bright light, have all been assigned as causes for this disease. Under favoring circumstances any one of them might be sufficient to account for its development.

While it is important to know the cause in all cases if possible, yet it is not essential to the treatment, for that depends on the severity of the case.

Whatever may be its origin, and it is often obscure, we have a dangerous inflammation to deal with, and one which should receive the prompt and faithful attention of the attending physician. Unfortunately for the poor children it is often considered a simple, harmless inflammation which will pass off in a few days. Some simple collyrium is ordered and the case is entrusted to the nurse. She follows instructions, and the case progresses until it becomes alarming, when the child is sent off to some specialist. In other cases the nurse takes it upon herself to treat the case, until her resources are exhausted, when she calls upon a physician, who may consider himself fortunate if he does not find the corneæ ulcerated and sloughing. Many of these cases fall into the hands of midwives. They are generally as ignorant as they are conceited, and undertake to treat the eye, unwilling to acknowledge that any one knows more than they. The consequence is a large proportion of the bad cases, which fall in the hands of the specialist, have been treated by these women until, either the parents become alarmed and desert them, or the child is found to be blind. The distressed parents generally tell the same story, the midwife said that there was no danger, that children often had such inflammations and recovered entirely, and that she used "breast milk" and "chamomile tea," and some other simple remedies "which would do no harm if they did no good." Thus are the anxious fears of the parents quieted, by one who is too ignorant to know the danger, and too stupid to see it when it is pointed out.

In the smaller towns and in the country these cases are subjected to most inefficient treatment, or shamefully neglected. The patient is often several miles from the doctor, and he is not able to give it that attention it deserves, and has to entrust the treatment to the nurse or the old women of the neighborhood. Many physicians seem to be afraid to treat the disease. They do not attack it as they do inflammations in other parts of the body; if they did, their results in its treatment would be much better than they usually are. We feel justified in

making the assertion that less judgement is used in its management than in that of any other disease to which infants are liable.

This seems like a bold assertion, but we think that the statistics presented below of one hundred cases in private practice, compared with one hundred cases treated in the Cincinnati Hospital, carry us out in it.

These cases are recorded with the condition of the child's eyes, at the time it was presented for treatment. They had all of them been under the care of their family physician, or midwife, or nurse up to that time.

The ultimate result in all these cases cannot be known, as the vision often continues to improve, even for years while the child is growing and developing. Thus very unpromising cases in the beginning, turn out much better than could safely be predicted for them while under active treatment. But enough is known to show the disastrous results of the disease, and its effects on the vision of the little sufferers.

These cases are recorded in the order in which they were admitted for treatment.

No.	AGE.	COMPLICATIONS.	RESULT RIGHT EYE.	RESULT LEFT EYE.
1	3 days.....	None.....	Rec'y with clear cornea	Recovery with clear cornea.....
2	3 weeks.....	Central ulceration of both corneae.....	Not recorded.....	Not recorded.
3	3 weeks.....	None.....	Favorable.....	Favorable.
4	2 months....	Ulceration and perforation of both corneae..	Cent'l opacity of cornea leucoma adherens some chance for iridectomy.....	Central opacity of cornea and leucoma adherens, hopeless.
5	2 months....	Blind from ulceration & perforation of corneae.	Hopeless.....	Hopeless.
6	4 weeks.....	Ulceration and perforation of left cornea.....	Favorable.....	Not stated.
7	.....	None.....	Favorable.....	Favorable.
8	3 weeks.....	Ulceration of left cornea	Favorable.....	Opacity of cornea.
9	2 weeks.....	None.....	Favorable.....	Favorable.
10	9 weeks.....	Ulceration of corneae...	Leucoma adherens.....	Leucoma adherens.
11	5 days.....	None.....	Favorable.....	Favorable.
12	4 weeks.....	None.....	Favorable.....	Favorable.
13	3 months....	None.....	Favorable.....	Favorable.
14	6 weeks.....	None.....	Favorable.....	Favorable.
15	3 weeks.....	None.....	Favorable.....	Favorable.
16	5 weeks.....	Ulceration and perforation of corneae.....	Macula cornea.....	Macula cornea.
17	2 weeks.....	None.....	Favorable.....	Favorable.
18	.....	None.....	Favorable.....	Favorable.
19	3 weeks.....	None.....	Favorable.....	Favorable.
20	2 weeks.....	None.....	Favorable.....	Favorable.
21	8 weeks.....	None.....	Favorable.....	Favorable.
22	.....	None.....	Favorable.....	Favorable.
23	1 year.....	Ulceration of corneae...	Macula cornea.....	Macula cornea.
24	.....	None.....	Favorable.....	Favorable.
25	4 months...	Ectropion and ulceration of corneae.....	Macula cornea.....	Macula cornea.
26	8 weeks.....	None.....	Favorable.....	Favorable.
27	3 weeks.....	None.....	Favorable.....	Favorable.
28	2 weeks.....	Ulceration of left corneae.....	Favorable.....	Macula cornea.
29	.....	None.....	Favorable.....	Favorable.
30	3 weeks.....	Ulceration of corneae...	Not recorded.....	Not recorded.

No.	AGE.	COMPLICATIONS.	RESULT RIGHT EYE.	RESULT LEFT EYE.
31	5 months...	Corneæ clear but lids granulated	Favorable.	Favorable.
32	4 weeks.....	None.....	Favorable.....	Favorable.
33	4 weeks.....	Ulceration corneæ.....	Not recorded.....	Not recorded.
34	.....	None.....	Favorable.....	Favorable.
35	.....	Ulceration left corneæ.....	Favorable.....	Macula corneæ.
36	.....	None.....	Favorable.....	Favorable.
37	6 weeks.....	Ulceration right corneæ.....	Not recorded.....	Favorable.
38	6 weeks.....	Ulceration right corneæ.....	Not recorded.....	Favorable.
39	16 months.....	Ulceration of corneæ	Macula corneæ.....	Macula corneæ.
40	5 weeks.....	Ulceration of corneæ	Macula corneæ.....	Macula corneæ.
41	.....	None.....	Favorable.....	Favorable.
42	.....	None.....	Favorable.....	Favorable.
43	3 weeks.....	Ulceration and perforation of left corneæ.....	Favorable.....	Leucoma adherens.
44	2 years	Blind from ulceration & perforation of corneæ.....	Hopeless.....	Hopeless.
45	2 months	Ulceration of corneæ.....	Macula corneæ.....	Macula corneæ.
46	4 weeks.....	Ulceration of corneæ.....	Not recorded.....	Not recorded.
47	.....	Blind from ulceration & perforation of corneæ.....	Hopeless.....	Hopeless.
48	2 weeks.....	None.....	Favorable.....	Favorable.
49	11 weeks.....	None.....	Favorable.....	Favorable.
50	4 weeks.....	Large ulceration & perforation of corneæ.....	Not recorded.....	Not recorded.
51	3 weeks.....	None.....	Favorable.....	Favorable.
52	3 months.....	None.....	Favorable.....	Favorable.
53	2 weeks.....	None.....	Favorable.....	Favorable.
54	2 weeks.....	Perforating ulcer of left corneæ.....	Favorable.....	Leucoma adherens.
55	10 days.....	None.....	Favorable.....	Favorable.
56	3 weeks.....	None.....	Favorable.....	Favorable.
57	7 days.....	None.....	Favorable.....	Favorable.
58	.....	None.....	Favorable.....	Favorable.
59	4 days.....	None.....	Favorable.....	Favorable.
60	8 months.....	Ulceration of corneæ.....	Macula corneæ.....	Macula corneæ.
61	13 days.....	Ulceration right corneæ.....	Favorable.....	Favorable.
62	6 weeks.....	Central sloughing of corneæ.....	Macula corneæ.....	Macula corneæ.
63	2 years.....	Ulceration and sloughing of corneæ.....	Leucoma adherens.....	Leucoma adherens.
64	5 weeks.....	Ulceration and perforation left eye.....	Favorable.....	Hopeless.
65	7 months.....	Ulceration and sloughing of corneæ.....	Moderate vision.....	Hopeless.
66	12 days.....	Ulceration of corneæ.....	Favorable.....	Favorable.
67	.....	Left corneæ ulcerated.....	Favorable.....	Favorable.
68	2½ years.....	Blind from sloughing of corneæ.....	Eye blind and staphylomatous.....	Eye atrophied.
69	4 weeks.....	Ulceration of corneæ.....	Macula corneæ.....	Favorable.
70	5 weeks.....	None.....	Favorable.....	Favorable.
71	2 weeks.....	None.....	Favorable.....	Favorable.
72	3 months.....	Blind from ulceration & sloughing of corneæ.....	Eye atrophied.....	Eye blind & staphyl't's.
73	.....	None.....	Favorable.....	Favorable.
74	.....	None.....	Favorable.....	Favorable.
75	3 weeks.....	None.....	Favorable.....	Favorable.
76	.....	None.....	Favorable.....	Favorable.
77	.....	None.....	Favorable.....	Favorable.
78	.....	None.....	Favorable.....	Favorable.
79	9 days.....	None.....	Favorable.....	Favorable.
80	2 months.....	Ulceration and sloughing of corneæ.....	Leucoma adherens, eye lost.....	Leucoma adherens, iridectomy & mod. res'tit.
81	4 weeks.....	None.....	Favorable.....	Favorable.
82	.....	None.....	Favorable.....	Favorable.
83	4 weeks.....	None.....	Favorable.....	Favorable.
84	3 months.....	Ulceration and sloughing of corneæ.....	Leucoma adherens ca'ce for iridectomy.....	Leucoma adherens—hopeless.
85	.....	None.....	Favorable.....	Favorable.
86	3 weeks.....	Ulceration right corneæ.....	Not recorded.....	Favorable.
87	.....	Blind from ulceration & sloughing corneæ.....	Hopeless.....	Hopeless.
88	.....	None.....	Favorable.....	Favorable.
89	4 months.....	Perforating ulcers of corneæ.....	Vision fair.....	Vision fair
90	.....	None.....	Favorable.....	Favorable.

No.	AGE.	COMPLICATIONS.	RESULT RIGHT EYE.	RESULT LEFT EYE.
91	3 months.....	None.....	Favorable	Favorable.
92	14 days.....	Small ulceration of each corneæ.....	Not recorded.....	Not recorded.
93	8 days.....	None.....	Favorable	Favorable.
94	7 days.....	None.....	Favorable	Favorable.
95	2 weeks.....	None	Favorable	Favorable.
96	10 days.....	None	Favorable	Favorable.
97	4 weeks.....	Ulceration right corneæ	Not recorded.....	Favorable.
98	2 weeks.....	None	Favorable	Favorable.
99	.....	None	Favorable	Favorable.
100	3 weeks.....	None.....	Favorable	Favorable.

In looking over the condition of the patients previous to the commencement of the treatment we find the following as the result.

Fifty-eight per cent. were free from corneal complication, while in forty-two per cent the integrity of the eye was more or less impaired.

Six per cent. were hopelessly blind in both eyes and five per cent. in one eye from ulceration and sloughing of the cornea. Of the latter five cases we find the other five eyes terminated as follows: one favorably, one with chance for iridectomy, one with moderate vision after iridectomy, two with leucoma adherens in which an iridectomy was followed by tolerable result in one, and the remaining eye was not operated on. So that of twenty-two eyes affected in these eleven cases only one recovered with good vision. Ten per cent. recovered with more or less extensive opacities of both corneæ and three per cent. with opacity of one cornea. Leucoma adherens of both eyes occurred twice and of one eye five times. The results in eleven cases are not recorded, five of central ulceration of both corneæ, one of ulceration and perforation of the left cornea, one of ulceration and perforation of both cornea, and four of ulceration of the right cornea. Good results are recorded as following once after central ulceration of both corneæ, once after ulceration of the right and once after ulceration of the left cornea.

Of the eleven cases, in which the results are not recorded, we may say that they were complicated by severe central ulceration of one or both corneæ, and that it would be unreasonable to expect all of them to make good recoveries.

All of the 58 cases which were seen before the cornea had become implicated, recovered with perfect vision. The treatment pursued in these was practically that described below as having been carried out in the Hospital. In none of them did the cornea become involved at any time during the course of treatment.

Now in contrast with this result I am able to present the statistics of one hundred cases of ophthalmia neonatorum

treated in the Cincinnati Hospital which were kindly collected for me by Dr. Watson. The record extends from March 2, 1871, to March 11, 1875, inclusive.

During this period one hundred cases were treated and in *not a single one* did any corneal complication arise and *all* recovered with good vision. They commenced as such cases usually do, and often many threatened to run a violent and destructive course, but under a simple but judicious treatment, were brought through to a favorable termination. We might reasonably expect, in the class of patients which we find in our hospitals, to have more trouble in the management of such a disease as purulent conjunctivitis than we would have in private practice.

We here look in vain for an explanation of the origin of this disease. The mothers are nearly all reported healthy. Six had offensive lochia after confinement, one had cystitis soon after delivery, one had erysipelas four days after confinement, three were anæmic, one had phthisis, one bronchitis, and one vaginitis. It is impossible to state how many may have had gonorrhœa at the time of confinement, but probably the number is not large. The greatest care is always exercised by the nurse in washing the child. The face and eyes were always attended to first and washed in clean water before the rest of the body was touched.

The infants were all placed in as nearly equally favorable hygienic circumstances as possible, and yet out of 726 born during the period above questioned 100 had purulent conjunctivitis in a more or less severe form.

The greatest number 47 occurred in 1872, against 20 in '73 and 14 in '74.

Season of the year, seems to have had but little influence, as the largest number occurred in June, (14,) January (13,) and July (12,) respectively, and the smallest number in February and November, 5 in each month.

The treatment of these cases which was carried out almost entirely by the internes under the supervision of the attending oculist on duty, was with little variation as follows:

The eyes were cleansed every hour or half hour or even oftener in cases where the discharge was very profuse by gently separating the eyelids with the fingers and removing the accumulated pus with a soft rag or camels hair brush. A solution of alum, gr. ij. ad. aqua ζ ss. or of argent nitr, gr. ij. ad. aqua ζ i. was dropped into the eye every hour or two.

My colleague, Dr. Aub, uses cold compresses, day and night, in the acute stages. While I am not partial to them in the

purulent conjunctivitis of infants, yet, I occasionally order them.

Every morning the eyelids were everted and brushed with a solution of argent. nitrat. grs. v. ad. xx ad. aq. dest. iʒ. according to the severity of the case, and the lids washed off with tepid water. Unless the swelling of the lids mechanically prevented it, the cornea was inspected *daily* in each case. As the case improved the interval between the instillations of alum and argent. nitrat. was increased, and finally discontinued entirely, but the argent. nitrat. was continued in a weaker or stronger solution, until every trace of the disease had disappeared.

The greatest stress was laid upon the thorough cleansing of the eye in the acute stages of the disease, and this was attended to not only by day but by night.

To this part of the treatment, do we owe the immunity of the cornea from ulceration. The pus is neutralized or coagulated by the action of the nitrat. and alum, and its corroding effects thus prevented.

Another important point in hospital treatment is that the cases receive attention *immediately* the slightest swelling of the lids is noticed and the severity of the disease is probably thus diminished.

When the lids are very much swollen their eversion is an easy matter. Slight pressure with the tip of the index finger, upon the lid near the edge of the orbit, will generally suffice, or a probe or the handle of a camels hair brush may be used instead of the finger. As the lids get thinner their eversion is much more difficult. Then it is better to seize the ciliæ between the index finger and thumb, or, the loose skin near the margin of the lid, and draw it a little down and out from the ball, and at the same time make pressure upon the upper edge of the tarsus, which if properly directed easily everts it.

The best plan is for the operator to lay the child across the nurses lap and take its head between his knees, after first protecting them with a towel. In this way he can control the motion of the child's head most easily, and make the applications most effectually.

When a treatment so simple is followed by such excellent results, why is it that forty-two per cent. of those cases in private practice, no more severe in the beginning, than those in the Hospital practice, are followed by such disastrous results? There is nothing in the treatment which any intelligent physician could not carry out successfully, and yet they will neglect and slight them. An oculist can not be on hand to treat every case, and there is no need of one.

If purulent conjunctivitis was treated as promptly and carefully as other infantile diseases are, we would have fewer blind in our asylums, and much less suffering and distress to the world.

How few who visit our institutions for the blind ever think of the cause and prevention of the diseases which fills them. Sympathizing friends gaze upon the poor blind children as they move about, guided by their delicate sense of touch, and wonder why Providence should so afflict children who seem, otherwise, healthy and well developed. Generous donations often show how deeply these unfortunates excite the sympathy of those who can afford to be liberal to the afflicted. It is well, perhaps, that but few besides medical men can look behind the curtain to see the cause of all this trouble.

This is a question which belongs not alone to the medical profession, but to the public—to the tax-payer and to the Legislator. Many of these children are thrown upon the charities of the State for protection and education, at a heavy expense to the people. Could this expense be avoided, and the life-long affliction of the children prevented, by judicious treatment, certainly the State and the people would both be better off.

