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VERLAG VON AUGUST HIRSCHWALD.

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Mittheilungen aus der geburtshülflichen Klinik in Leipzig.

Die Verhütung der Augenentzündung der Neugeborenen.

Von  
Crédé.

Die folgenden Mittheilungen über die Verhütung der Augenentzündung der Neugeborenen veröffentliche ich deshalb nicht in einem Fachjournale der Ophthalmologie, sondern in diesem Archiv, weil die Krankheit fast ausschliesslich durch eine Infection während des Geburtsactes entsteht, also mit einer Erkrankung der weiblichen Genitalien unmittelbar zusammenhängt. Auch muss die Verhütung der Krankheit allein in die Hände der Geburtshelfer und Hebammen gelegt werden. Ich beschränke mich ausschliesslich auf die praktische Frage der Prophylaxis.

Im Allgemeinen kommen die Augenentzündungen der Neugeborenen zeltener in den höheren Ständen vor, häufig schon im Proletariate, aber in den Entbindungsanstalten gehören sie zu einer fortlaufenden, höchst lästigen Plage und Sorge. Deshalb wende ich auch zunächst meine Aufforderung, die von mir zu empfehlende Prophylaxis weiter zu erproben, an diejenigen Herren Collegen, welche in Entbindungsanstalten oder in geburtshülflichen Polikliniken thätig sind und, gleich mir, häufige Erkrankungen zu beobachten haben.

Wohl von den meisten Geburtshelfern wird meine Ansicht getheilt werden, dass die so überaus häufig vorkommenden Katarrhe und Entzündungen der Vagina auf gonorrhöischer Infection beruhen und dass die Ansteckungsfähigkeit des Secretes noch fortbesteht, nachdem lange die specifisch gonorrhöischen Erscheinungen verschwunden sind, ja dass in Fällen, wo fast kein Secret mehr gefunden wird, doch noch die erfolgte Ansteckung in der Mutterscheide stattgefunden hat, wenn in den ersten Tagen nach der Geburt eine Augenentzündung sich entwickelt.

Eine Uebertragung des Infectionsstoffes von einem anderen augenkranken Kinde ist für die Leipziger Entbindungsanstalte völlig auszuschliessen, da jenes inficirte augenkranke Kind mit seiner Mutter auf die Krankenstation verlegt wird, welche von der Station der Wöchnerinnen nach allen Richtungen hin vollständig getrennt ist. Auch können die Wöchnerinnen die Kinder mittels ihrer Finger, welche etwa durch Lochialsecret verunreinigt wären, kaum inficiren, weil die Kinder stets von den Müttern so weit entfernt in ihren Bettchen liegen, dass die Mütter sie nicht erreichen können und nur dann mit den Kindern in Berührung kommen, wenn diese ihnen von den Wärterinnen an die Brust gelegt werden.

Somit bin ich nach meinen Beobachtungen und Einrichtungen der Ueberzeugung, .....

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Information from the Maternity Clinic in Leipzig

### Prevention of Inflammatory Eye Disease in the Newborn

by  
Crédé

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I am not publishing the following information concerning the prevention of inflammatory eye disease in the newborn in a specialist journal on ophthalmology but in this Archive because the disease is almost invariably caused by infection during delivery and is therefore directly related to a diseased condition of the female genitals. Responsibility for prevention of the disease must also lie solely with obstetricians and midwives. I shall confine my remarks exclusively to the practical question of prophylaxis.

In general, inflammatory eye disease in the newborn occurs relatively seldom in the upper classes and quite frequently in the working class, but it constitutes an ongoing and highly troublesome complication and concern in maternity hospitals. My request for further testing of the prophylaxis I am recommending is therefore addressed to those of my colleagues who work in maternity hospitals or obstetric clinics and who, like me, are frequently confronted with this condition.

Most obstetricians would probably share my view that the cases of vaginal catarrh and infections that are so frequently encountered are attributable to gonorrhoeal infection and that the discharge remain infectious long after the specific symptoms of gonorrhoea have disappeared; moreover, in some cases where there is virtually no further trace of discharge, the infection may still be considered to have occurred in the mother's vagina when an inflammatory eye condition develops in the first few days after birth.

Transmission of the infectious substance from another child with eye disease is inconceivable in the Leipzig Maternity Hospital inasmuch as every child who is suffering from inflammatory eye disease is moved with its mother to a ward that is entirely separate in all respects from the maternity ward. The possibility of mothers infecting their children, for example through fingers soiled by lochial discharge, is also remote because the child's cot is always placed beyond reach of the mother, who only comes into contact with the child when the nurse places it on her breast.

I am therefore convinced, in the light of my observations and arrangements, that all affected children in this hospital virtually without exception were infected solely by direct transmission of vaginal discharge to the eye during delivery. The infected eye usually begins to show symptoms of disease two or three days after birth, but also sooner or later – the sooner, the more serious the condition.

For some time now, I have set myself the doubtless worthwhile task of finding effective ways and

means of preventing this disease with its pernicious consequences for so many eyes and of detecting the infectious discharge.

I initially focused on ensuring extensive and effective treatment and cleansing of the diseased vaginas of pregnant and delivering women. But the results were poor and unsatisfactory; although there were fewer cases of eye disease, they were not eradicated. I then began to disinfect the children's eyes themselves and from then on the success recorded was surprisingly encouraging.

My experiments proceeded as follows: first, the vaginas of all pregnant and delivering women admitted to the hospital with gonorrhoea or chronic vaginal catarrh were cleaned out with lukewarm water or a light solution (2 : 100) of carbolic or salicylic acid as frequently as possible – every half hour in the case of delivering women. The incidence of eye disease declined but the problem persisted; indeed there continued to be a number of tenacious and virulent cases.

In October 1879, I carried out my first test involving the introduction of prophylactic eyedrops into the eyes of newborn babies immediately after birth, using a borax solution (1 : 60) because it seemed to be the mildest and least caustic substance. This was only done, however, in the case of children whose mothers were ill and whose vaginas had been cleansed during the whole delivery process in the manner described above. From December 1879, I replaced the borax by solutions of *Argentum nitricum* (1 : 40), which were injected into the eyes shortly after birth. The eyes were carefully washed beforehand with a solution of salicylic acid (2 : 100). The children of sick mothers who were treated in this way remained healthy, while other children who had not been given preventive treatment (nor their mothers either because we thought they were not infected) still fell ill, in two cases quite seriously.

From 1 June 1880, all eyes without exception were disinfected immediately after birth by means of a weaker solution of *Argentum nitricum* (1 : 50). Moreover, the liquid was no longer injected into the eyes but a glass stick was used to introduce a single drop of liquid into each eye, which was gently opened by an assistant and which had been cleaned beforehand with ordinary water. Then the eyes were cooled for 24 hours with a canvas cloth soaked in salicylic water (2 : 100). The numerous vaginal douches, on the other hand, were abandoned and used only for other reasons entirely unrelated to the cases of vaginal catarrh. All children treated in this way remained free from even mild attacks of inflammatory eye disease, although many mothers showed advanced symptoms of vaginal blenorhoea and trachomatous growths. Only one child (annual number 339) fell ill on the sixth day with a moderate inflammation of the conjunctiva of the left eye, without swelling of the eyelid, which healed within three days. It emerged that, quite by chance, owing to pressure of work, the prophylactic eyedrops had not been administered to this child.

To date, no adverse effect on the treated eyes has been observed. Not infrequently the administration of the eyedrops is followed by a slight hyperaemia and in some cases by slightly increased secretion from the conjunctiva in the first 24 hours. Then these symptoms also disappear. They could perhaps be avoided if further tests indicate that a weaker solution of *Argentum nitricum* is sufficient.

As has been shown, the procedure is simple, easy to follow under all circumstances by anybody with fairly skilful hands, completely without risk and seemingly reliable in terms of its effect.

Although my set of observations is still too limited to draw firm conclusions, it is still sufficiently extensive and striking to warrant further urgent application of the procedure. I wish to lay special emphasis on the finding that the desired effects are achieved through disinfection of the eyes themselves rather than the vagina. It is to be hoped that the future will tell whether the eye procedure that I have been using is the best and most reliable one, or whether an even more effective procedure can be found. For the time being, I have no reason to deviate from my own method.

Needless to say, the successful banishment of inflammatory eye diseases at least from maternity hospitals and clinics would constitute a major achievement in many respects.

Lastly, I wish to present some figures for cases of inflammatory eye disease observed in this maternity hospital in recent years. Perhaps vaginal disease and hence also eye disease in the newborn occur less frequently elsewhere than in Leipzig. The distinctive conditions here, which differ from those prevailing in many other towns and even cities, must be taken into account in this connection.

Year	Number of births	Number of cases of inflammatory eye disease	Percentage
1874	323	45	13.6
1875	287	37	12.9
1876	367	29	9.1
1877	360	30	8.3
1878	353	35	9.8
1879	389	36	8.2
1880 (until 31 May)	187	14	7.6
1880 (from 1 June to 8 December)	200	1*	0.6

\* This is the case in which the eyes were not disinfected; the figure should therefore read 0.0%.