

absence of any oedema where the glands were healthy, and of any definite noticeable oedema in the mucous membrane (of polypus cases) taken from regions where no glands were present; (2) the appearance of abrupt oedema associated with a patch of glands in a state of cystic degeneration. This was noticed in a large number of instances, of which Fig. 6 is an illustration of one example. In the portions of the section contiguous to the part shown, the glands were active, and the tissues superficial to them were not oedematous. There can be seen the abrupt interposition of a layer of glands, in a state of cystic degeneration, drawn like a broad boundary across the section. The tissues superficial to this layer of glands were oedematous; but there were no evidences of gradually increasing inflammatory change or of the gradual development of oedema.

It is possible that the peculiar and special method in which the blood is supplied to the glands in the turbinal regions—combined with the predisposition to oedema induced by the histological peculiarities of the middle turbinal regions—may help to explain why oedema only occurs in certain cases of inflammatory disease.

Zuckerkandl's account² of the arrangement of blood vessels in the turbinal regions is, briefly and as it appears to concern the present subject, as follows: The arterial supply of the mucous membrane ramifies in three networks. One network supplies the periosteal layer, a second is distributed to the glands, and a third to the superficial epithelial layer. The glands, which are surrounded by a special capsule, are closely enveloped by their network of capillaries. Around the excretory ducts there is a tube-shaped network which, as Zuckerkandl believes, helps to keep the duct closed when the gland is not actively secreting. When the mucous gland and the duct (which always participates) undergo cystic dilatation, pressure is exerted on the *réseau* of vessels which encircles the gland, and on the tubular network which is around the duct. The writer believes that this "unequal pressure" on the capillaries may be sufficient to cause oedema in the particular areas and tissues in which the phenomenon is noted. The suggestion, however, is at present purely conjectural.

THE INFLUENCE OF STRUCTURAL PECULIARITIES OF THE "POLYPUS REGIONS."

The structural peculiarities in the polypus regions, which have been referred to, appear to be necessary auxiliary factors—other causes, for example, inflammation and gland degeneration, intervening—for the occurrence of polypus at certain ages; negatively for its usual absence at certain other ages, and, lastly, for its occurrence, in the special districts in question, when a specific irritant, such as pus from an accessory sinus, is present. Moreover, even assuming that degeneration and cystic dilatation of the mucous glands can be shown to determine the initial stages of polypus formation, they (glandular changes) cannot apparently have these effects unless the subepithelial tissues are sufficiently thin and loose. Thus, in some instances of polypus the mucous glands were degenerated, in places, throughout the nose, although polypi and oedema were only seen in the middle meatal and a part of the middle turbinal regions. Also in an instance of chronic atrophic rhinitis there were a few groups of degenerated mucous glands in the region of the middle turbinal, without any evident oedema in the atrophied and fibrous subepithelial tissues.

PROVISIONAL CONCLUSIONS.

The following provisional conclusions are brought forward for discussion and further investigation:

1. Mucous polypi of the nose, in the majority of instances, are probably consequent upon, and certainly coincident with, inflammation of the mucous membrane of the nasal cavity.

2. The primary mechanical process is a localized oedema of the inflamed mucous membrane, which oedema, on account of certain structural peculiarities of the lining membrane, does not, in the great majority of cases, develop in any intranasal area but that of a portion of the middle turbinal and of the middle meatal regions. Analogous structural peculiarities are present in the mucous membrane of some of the accessory sinuses.

3. The determining cause of the occurrence of the oedema, in the regions specified, is the degeneration and cystic dilatation of the mucous glands.

4. The particular shape which polypi usually assume, their number, probably the appearance, in some instances, of recurrence, and other special peculiarities of these growths,

are due to the oedematous mucous membrane being thrown into folds, and to the normal folds becoming oedematous. Certain of the folds quickly increase in size by the absorption of serous fluid and favoured by gravity, and finally present the appearance of ordinary mucous polypi.

5. The "polypoid" outgrowths, which take origin on the inferior turbinal, and more rarely on the septum, generally differ markedly in microscopic structure from mucous polypi, and although they claim a common inflammatory origin, these conditions are distinct, principally on account of the dissimilar structure of the nasal regions from which they respectively take origin (Zuckerkandl²).

The writer is at present arranging to conduct some experiments, with the view of producing mucous polypi artificially in animals on the basis of the causative influence of glandular changes.

In connexion with this paper, the writer is greatly indebted for much kind and valuable assistance to Professor Symington, of Belfast, to Dr. Milligan, Professor Delépine, and Dr. Knowles Renshaw, of Manchester, to Dr. W. Glegg, of Birmingham, and, lastly, to Dr. Reginald Nichol, of Manchester, who has shown much accuracy and skill in connexion with the illustrations.

NOTE AND REFERENCES.

- ¹ Heyman, *Handbuch der Laryngologie und Rhinologie*, Band iii, Heft ii, Wien, 1900.
- ² Zuckerkandl, *Anatomie des Fosse Nasale*. Trad. sur la 2^e édition allemande par Lichtwitz et Garnault, Paris, 1895.
- The writer has not touched, in the present paper, on the subject of the influence of bone disease in the production of nasal polypi, because his observations, especially of early cases, have led him to believe that there is sufficient evidence of the process occurring as a primary mucous membrane condition.
- Grünwald, *Diseases of the Mouth, Pharynx, and Nose*, second edition, trans. by Newcomb, Philadelphia and London, 1903.

REPORT ON CERTAIN ENTERIC FEVER INOCULATION STATISTICS.

PROVIDED BY LIEUTENANT-COLONEL R. J. S. SIMPSON, C.M.G.,
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THE statistics in question were of two classes: (A) Incidence (B) Mortality Statistics. Under each of these headings the data belonged to two groups: (i) Indian experience; (ii) South African War experience. These two experiences were of a somewhat different character. That for India covered apparently the European army, of whatever branch and wherever distributed; that for South Africa was given partly by locality, partly by column, and partly by special hospital. Thus the Indian and South African experiences seem hardly comparable. Many of the groups in the South African experience are far too small to allow of any definite opinion being formed at all, having regard to the size of the probable error involved. Accordingly, it was needful to group them into larger series. Even thus the material appears to be so heterogeneous, and the results so irregular, that it must be doubtful how much weight is to be attributed to the different results.

The following groups were made on the basis of Lieutenant-Colonel Simpson's table (see Appendix A).

A. Incidence.

South Africa:

- I. Hospital Staffs. See Appendix B, Table (1).
- II. Garrison of Ladysmith. See Appendix B, Table (2).
- III. Methuen's Column. See Appendix B, Table (3).
- IV. Group of three special Regiments: 7th Hussars, C.I.V.'s, and 5th Battalion Manchester. See Appendix B, Table (4).

India:

- V. Army in India. Here I have taken only the data for years 1900 and 1901, as I am told that the statistics for 1899 are not fully comparable with those for the two later years. See Appendix B, Table (5).

B. Mortality.

South Africa:

- I. Hospital Staffs. See Appendix B, Table (6).
- II. Garrison of Ladysmith.* See Appendix B, Table (7).
- III. Special Regiments. See Appendix B, Table (8).
- IV. Group of special Hospitals, South Africa. See Appendix B, Table (9).

- V. Various military Hospitals. See Appendix B, Table (10).

India:

- VI. Army in India, 1900-1. See Appendix B, Table (11).

* No mortality experience was given in the case of Methuen's column.

After some consideration, it seemed best to reduce the above data by measuring (1) the association of inoculation and escape; (2) the association of inoculation and recovery by aid of the coefficient of correlation¹ extracted from the four-fold tables given in Appendix B, by the method treated in a memoir published in the *Philosophical Transactions*, vol. 195, A, pp. 1 to 47, 1900. The chief reason for using this method is that it enables us at once to compare the enteric fever inoculation returns with the results for vaccination and anti-toxin treatment in the case of diphtheria, which have already been dealt with in this manner.

For example, taking the relation between deaths and recoveries, and presence and absence of vaccination scar in cases of small-pox, we have:²

Correlation.

Metropolitan Asylums Board Returns,	
Epidemic 1893 0.595 ± 0.027
Epidemics for six towns 0.656 ± 0.009
Sheffield, 1887-8 0.769 ± 0.012
Homerton and Fulham, 1873-85 0.576 ± 0.009
London: Epidemic 1901 0.578 ± 0.031
Glasgow: Epidemic 1900-1 0.629 ± 0.030

We may safely say that the protective character of vaccination as against mortality after incurring small-pox is very substantial, and numerically it is represented by the value 0.6, which is fairly closely the actual result for the various epidemics which have at present been dealt with.

The correlation between recovery and the administration of antitoxin in laryngeal cases of diphtheria is 0.47, and between need for tracheotomy and the administration of antitoxin is 0.24.³ We may therefore state that when the correlation is as high as 0.6 it is admitted that inoculation or vaccination is a distinct advantage; that, even when it is 0.24 to 0.47, it has been universally adopted, as in the case of the antitoxic serum treatment of diphtheria, by the medical profession. If, therefore, with enteric inoculation we find values as high as 0.5, we may rest satisfied with its very considerable effectiveness; if between 0.2 and 0.5, its justification stands on the same statistical footing as the antitoxin treatment of diphtheria; but, if we find the value below 0.2, or even 0.3, we ought to be rather doubtful of its efficiency.⁴ Before working out the data the impression formed on my mind was that if the correlations turned out to be fairly constant and greater than 0.4, we might consider the case for inoculation against enteric proven; if irregular and less than 0.2, unproven—that is, it must be of very small value, possibly more than balanced by concomitant ills; while, if lying between 0.2 and 0.4, further cautious investigation by experimental inoculation seemed desirable.

The following table gives the results of calculating the correlation coefficients of the tables in Appendix B:

INOCULATION AGAINST ENTERIC FEVER:

Correlation between Immunity and Inoculation.

I. Hospital Staffs + 0.373 ± 0.021
II. Ladysmith Garrison + 0.445 ± 0.017
III. Methuen's Column + 0.191 ± 0.026
IV. Single Regiments + 0.021 ± 0.033
V. Army in India + 0.100 ± 0.013
Mean value + 0.226

Correlation between Mortality and Inoculation.

VI. Hospital Staffs + 0.307 ± 0.128
VII. Ladysmith Garrison - 0.010 ± 0.081
VIII. Single Regiments + 0.300 ± 0.093
IX. Special Hospitals + 0.119 ± 0.022
X. Various military Hospitals + 0.194 ± 0.022
XI. Army in India + 0.248 ± 0.050
Mean value + 0.193

If we except IV and VII, the values of the correlations are at least twice (in the very sparse data of VI) and generally four, five, or more times their probable errors. From this standpoint we might say that they are all significant, but we are at once struck with the extreme irregularity and the lowness of the values reached. They are absolutely incomparable with the fairly steady and large values of the vaccination correlations obtained for different epidemics and towns. The effect of enteric inoculation is evidently largely influenced by difference of environment or of treatment.

Considering the correlation between immunity inoculation, the order of decreasing intensity is:

Ladysmith Garrison.
Hospital Staffs.
Methuen's Column.
Army in India.
Single Regiments.

Indeed, while the correlation is sensibly zero in the latter case, it is actually negative for the C.I.V.'s.

Now, the one thing that appears in broad outlines to correspond with the above arrangement is the extent to which the environment was changeable in the groups referred to. The single regiments were very rapidly changing their environment—the C.I.V.'s, perhaps, more than any other group—the Ladysmith garrison least, and Methuen's column more mobile than the Ladysmith garrison, but far less than the single regiments. I am unaware how far the inoculated portions of the Indian army were seeing actual service of any kind during the years 1900 to 1901. But, so far as these statistics can guide us at all, they would seem to suggest that inoculation provided more immunity under constant than changing environment. It is difficult to explain this on the basis of any real theory of inoculation.⁵ It would be easier to account for it if the apparent correlation between inoculation and immunity arose from the more cautious and careful men volunteering for inoculation. It is far more easy to be cautious under a constant environment than when the environment is nightly changing. The order of intensities is not inconsistent with a spurious correlation between immunity and inoculation arising from a real correlation between immunity and caution.

Putting on one side, however, the mysterious difference between the 0.45 of Ladysmith and the practically zero result for the single regiments, and assuming that the average correlation is real and 0.23 about, we may doubt whether this is sufficiently large to justify the treatment being adopted as routine. I think we may safely say that the 0.1 of the Indian army is not. Of course, if the Ladysmith garrison result could be practically reached for all units, whatever their environment, it would be worth doing, almost as effective as the diphtheria antitoxin treatment, although still far below vaccination efficiency. But can any differentiation be discovered, except the stationary nature of the troops between the treatment and environment at Ladysmith and those, say, of the C.I.V.'s? The matter is at least worth inquiring into.

If we turn from immunity to mortality we see that the results are even less conclusive. The order of increasing intensity is now:

Ladysmith Garrison.
Special Hospitals.
Military Hospitals.
Army in India.
Single Regiments.
Hospital Staffs.

The last item is of small value, as the mortality experience was very small. Generally this order is the same as that of decreasing immunity, or, roughly, the environment which causes inoculation to give the greatest immunity also causes, when immunity has broken down, inoculation to have relatively greater mortality. In fact, the inoculated in Ladysmith, once they had the disease, were more likely to die than the non-inoculated.⁶

Again, if any stress could be laid on the result, it is most mysterious that an inoculated man, if he caught enteric, profited less by his inoculation in Ladysmith than if he had been with one of the single mobile regiments; while he would be much less likely, relatively to the non-inoculated, to catch it in Ladysmith than in a mobile group.

NEED FOR FURTHER INVESTIGATION.

To sum up, it seems that, while most of the correlations both for immunity and recovery are distinctly sensible, having regard to their probable errors, yet they are so irregular that little reliance can be placed upon them as representing any definite uniform effect. They certainly appear to fall into that range of intensity which would justify suspension of the operation as a routine method. But the fact that the correlation, while sensible—and, in the case of the Ladysmith garrison, moderately substantial—is subject to remarkable variations, seems to urgently suggest the need for further investigation.

This might take a two-fold form :

1. An inquiry as to what happened at Ladysmith. Did the serum or the inoculation differ in any way from that usual in India or that administered to the C.I.V.'s. On the whole, were the inoculated and uninoculated at Ladysmith in different units, and, if so, was the exposure to risk the same in both cases?

2. An experimental inquiry. If further experimental inoculations were made, which seem fairly justified by the Ladysmith if not by the other returns, the greatest care ought to be taken to get homogeneous material, that is, men of like

caution, subjected to the same environment. Assuming that the inoculation is not more than a temporary inconvenience, it would seem to be possible to call for volunteers, but while keeping a register of all men who volunteered, only to inoculate every second volunteer. In this way any spurious effect really resulting from a correlation between immunity and caution would be got rid of.

But admitting that such an experiment might conclusively answer whether there is a correlation between immunity and inoculation, and, further, that inquiry might suggest a means of thrusting up the general mean result nearer the Ladysmith figure, it seems to me that the present statistics show that with the existing serum or the method of administration it is extremely unlikely that the effect of enteric inoculation will be as good as the antitoxin diphtheria treatment and will certainly fall far short of the mortality¹ result in the case of vaccination.

If it were not presumption for me with no special knowledge whatever on the subject to give an opinion, I should say that the data indicate that a more effective serum or effective method of administration must be found before inoculation ought to become a routine practice in the army. The statistics suggest the possibility of the discovery of a more perfect process, rather than indicate that the existing method, even if it be shown to give a slight correlation between immunity and inoculation, is really worth continuing as a universal rule of the service. Hence such an experiment as that indicated above should be made in the first place with a view to ascertaining whether any inoculation is likely to prove useful. If it showed a definite correlation in homogeneous material of only 0.2 or 0.3, I think the right conclusion to draw would be not that it was desirable to inoculate the whole army, but that improvement of the serum and method of dosing, with a view to a far higher correlation, should be attempted. In other words, the "experiment" might demonstrate that this first step to a reasonably effective preventive treatment was not a false one.

APPENDIX A. INOCULATION.

Group.	Inoculated.			Non-Inoculated.		
	Strength.	Cases.	Deaths.	Strength.	Cases.	Deaths.
Staff Portland Hospital	28	7	—	13	3	1
" I.Y. Deelfort	59	4	—	25	4	—
" I.Y. Pa. (1)	12	2	—	38	3	—
" I.Y. Pa. (2)	20	1	—	34	4	—
" No. 8 General Hospital	21	5	—	110	44	8
" No. 9	87	11	1	47	13	2
" and Sc. Red Cross	70	2	1	12	4	1
	297	32	2	279	75	12
Garrison, Ladysmith	1,705	35	8	10,529	1,489	339
Methuen's Column... .. .	2,535	26	?	10,981	257	?
	4,240	61	—	21,510	1,746	—
5th Battalion Manchesters	200	3	—	547	23	7
C.I.V.'s	700	60	9	494	30	11
7th Hussars	307	9	—	244	20	3
	1,207	72	9	1,285	82	21
India, 1899	4,502	44	9	25,851	657	146
" 1900	5,999	54	8	54,554	731	224
" 1901	4,883	32	3	55,955	744	199
	15,384	128	20	136,360	2,132	569
Tintown Hospital	—	—	—	30	2	—
No. 7 General Hospital	—	—	—	137	3	—
Im. Yeo. Hospital	—	—	—	47	4	—
No. 9 General Hospital	—	—	—	387	32	—
Irish Hospital	—	—	—	80	5	—
No. 6 General Hospital	—	—	—	50	5	—
No. 1 Portland Hospital	—	—	—	33	6	—
Portland Hospital	—	—	—	54	4	—
Station Hospital, Harrismith... .. .	—	—	—	203	18	—
Scot. Nat. Red Cross	—	—	—	15	1	—
No. 5 Station Hospital	—	—	—	24	2	—
No. 2 General Hospital	—	—	—	28	3	—
Orange River Hospital	—	—	—	27	1	—
	—	1,174	86	—	4,091	538
Various Military Hospitals	—	—	—	764	63	—
	—	—	—	3,374	510	—

APPENDIX B.

A.—INCIDENCE EXPERIENCE.

	Inoculated.	Non-inoculated.	Totals.
<i>1. Hospital Staffs in South Africa.</i>			
Escaped Cases	265 32	204 75	469 107
Totals	297	279	576
<i>2. Garrison of Ladysmith in South Africa.</i>			
Escaped Cases	1,670 35	9,040 1,489	10,710 1,524
Totals	1,705	10,529	12,234
<i>3. Methuen's Column in South Africa.</i>			
Escaped Cases	2,509 26	10,724 257	13,233 283
Totals	2,535	10,681	13,516
<i>4. Single Regiments in South Africa.</i>			
Escaped Cases	1,135 72	1,203 82	2,338 154
Totals	1,207	1,285	2,492
<i>5. Army in India.</i>			
Escaped Cases	10,798 84	109,034 1,475	119,832 1,559
Totals	10,882	110,509	121,391
<i>B.—MORTALITY EXPERIENCE.</i>			
<i>6. Hospital Staffs in South Africa.</i>			
Recovered	30	63	93
Died	2	12	14
Totals	32	75	107
<i>7. Garrison of Ladysmith.</i>			
Recovered	27	1,160	1,187
Died	8	329	337
Totals	35	1,489	1,524
<i>8. Special Regiments in South Africa.</i>			
Recovered	63	61	124
Died	9	21	30
Totals	72	82	154
<i>9. Special Hospitals in South Africa.</i>			
Recovered	1,088	4,453	5,541
Died	86	538	624
Totals	1,174	4,991	6,165
<i>10. Various Military Hospitals of South Africa.</i>			
Recovered	701	2,864	3,565
Died	63	510	573
Totals	764	3,374	4,138
<i>11. Army in India, 1900-1.</i>			
Recovered	73	1,052	1,125
Died	11	423	434
Totals	84	1,475	1,559
NOTES AND REFERENCES.			
1 Those who have not had occasion to study the Theory of Correlation may possibly find some difficulty in attaching a definite meaning to the expression "coefficient of correlation," usually denoted by the letter " <i>r</i> ". Without going into the theory of the subject, I offer a few explanatory remarks which may to some extent clear up the difficulty. When two characters have no correlation at all then <i>r</i> = 0; when they are completely correlated, or when the idea of correlation passes over into that of cause and effect, <i>r</i> = 1. The extreme limits between no relationship and cause and effect being 0 and 1, <i>r</i> may take any value between the limits, the value depending on the intensity of the relationship between the two characters. We may calculate <i>r</i> for a pair of characters in one class—for example, for right and left femur in man, or for two classes with respect to a selected character—for example, for English middle-class fathers and sons with respect to stature. Many such calculations have been made, and from the mass of results already obtained I select the following:			
High correlation Right and left femur in man <i>r</i> = 0.96 0.75 to 1. Stature and femur in man <i>r</i> = 0.80			
Considerable correlation Weight and length of new-born infants <i>r</i> = 0.63 0.50 to 0.75. Head breadth and face breadth in criminals <i>r</i> = 0.62			
Moderate correlation Vaccination and recovery in cases of small-pox <i>r</i> = 0.60 English fathers and sons (stature) <i>r</i> = 0.51 English fathers and daughters (eye colour) <i>r</i> = 0.44			
Low correlation Low barometer (Norway) and high barometer (Lisbon) <i>r</i> = 0.30 Strength of pull and stature in women <i>r</i> = 0.22 Size of family for mother and daughter (in man) <i>r</i> = 0.11			
2 Macdonell, <i>Biometrika</i> , vol. i, p. 375, et seq., and vol. ii, et seq. 3 Pearson, <i>Phil. Trans.</i> , vol. ccxcv, p. 45. 4 Writing in 1900 of the diphtheria anti-toxin statistics, I said: The correlation between administration of anti-toxin and recovery in laryngeal cases is substantial. But the relationship is by no means so great as in the case of vaccination, and if its magnitude justifies the use of antitoxin, even when balanced against other ill which may follow in its train, it does not justify the sweeping statements of its effectiveness, which I have heard made by medical friends. It seems, until wider statistics are forthcoming, a case for cautiously feeling the			

way forward rather than for hasty generalizations." Unfortunately further statistics of the proper kind are not forthcoming, owing to the nearly universal adoption of the treatment in severe cases.⁵ Supposing, of course, the avenue to the disease is always the same. If inoculation closed one avenue but not another to the disease—say effect of contact with enteric patients, but not of contaminated water—it is clear that constant and changing environment might modify the relative prevalence of the two possibilities.⁶ We must bear in mind the possibility of inoculation producing a weakening of the constitution, and that this is more effective when the soldier is stationary than when he is on the move.⁷ Strangely enough, we have no reliable statistics on the immunity correlation in vaccination, as the number of unvaccinated who do not catch small-pox appears quite unknown.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

A PRACTICAL SUGGESTION FOR THE PREVENTION OF ANKYLOSTOMIASIS.

Of the many troubles with which the planter in tropical countries has to contend, not the least is coolie anaemia, and the disabling form of pustular dermatitis variously called coolie itch, ground itch, etc.

The dependence of coolie anaemia on ankylostoma infection has long been recognized, and the probability that the form of dermatitis called coolie itch is produced by the penetration of the skin of the feet and legs by the embryos of ankylostoma contained in contaminated soil is now, from the observations and experiments of Looss and Bentley, practically a certainty. We are therefore in a position to indicate with precision the direction of prophylactic measures against both phases of this infection. Unfortunately, although it is easy enough to indicate measures which theoretically would be efficient, to get them applied is a very different matter. At the suggestion of Bentley, boots and baths of carbolic lotion have been tried, but so far apparently without striking results, in great measure in consequence of the want of co-operation on the part of the coolies.

Some time ago, in the course of a conversation with a West Indian sugar planter, I learned of a method which in his hands had proved efficient; it appears to me to meet the circumstances, and deserves, I think, publicity and further trial. This gentleman, in ignorance of Looss's and Bentley's observations, had concluded that coolie itch was contracted from contact with faecally-fouled soil, and that somehow it led up to coolie anaemia—that is, ankylostoma anaemia; he reasoned that, could he prevent the injurious effects of the contaminated soil, he would not only prevent coolie itch, but the consequent anaemia. Knowing the antiseptic and adhesive properties of green Barbadoes tar (a mineral oil rich in paraffin, and cheap, costing 3d. a gallon), he got his overseers to see that the coolies, before going out to work in the contaminated fields, dipped their feet and legs in a bucket of this tar, and then walked across and through some fine sand; in this way an impervious sandal and stocking was donned every morning. In practice it proved efficient. My informant suggests that sawdust would probably be better than sand. He told me he got the idea from a practice existing among goose farmers in certain parts of Germany, who, by first dipping the feet of their geese in tar and then in fine sand, provided the birds with a plastic and protective sandal, thereby enabling them to be driven many miles to market without injury.

London, W.

PATRICK MANSON.

OPHTHALMIA NEONATORUM: TREATMENT BY ARGYROL: RECOVERY.

On July 8th I was asked to see a child, 16 days old, which the mother, a primipara, informed me had been suffering since birth with a discharge from its eyes. The history was that the midwife, during her attendance, told the mother that it was a common occurrence for children to get sore eyes like her infant, and that they would get all right.

As the condition began to grow much worse, causing both eyes to be firmly glued together, with a profuse discharge of a whitish nature, it was decided to seek medical advice, as her own remedies of boracic lotion had failed.

Examination revealed great chemosis, and difficulty was encountered on separating the lids, when a yellowish-white, purulent discharge was observed, which increased on deep pressure. The child did not appear to be in much pain. The right eye showed keratitis, with two ulcers on the cornea, the left showing one ulcer. Lotion of corrosive sublimate

(1 in 5,000) was ordered every half-hour or hour, also the following unguentum: R. Hydr. ox. flav. gr. ss; coc. hydroc. and atrop. sulph. aa gr. j; vasel. spt. 3 ij, which was to be applied at night, both pupils being very much contracted.

As the condition did not improve much in thirty-six hours, I decided to use argyrol 20 per cent., which I prescribed twice daily, with careful directions as to its application and cleanliness, etc. After the second application, improvement manifested itself, and became so marked after the fourth application that the chemosis practically disappeared, the discharge greatly diminishing and becoming less purulent. The corrosive sublimate lotion was increased in strength (1 in 3,000) and used as before, and the argyrol was discontinued for two days, as a slight trace of the chloride of silver began to form. The course after the sixth day was most satisfactory, and at the end of the eighteenth day all discharge had ceased and the eyes appeared quite healthy, only a slight manifestation of an ulcer remaining in the right eye. A history of gonorrhoea was elicited from the mother, the wife of a soldier, who had not undergone any treatment. The case is interesting from the point of view that considering the duration of the affection and the great chemosis, etc., such a speedy recovery should follow after the use of argyrol. The friends and parents of the child often remarked that the change was wonderful after the second application, as the child opened its eyes and the discharge considerably lessened.

Argyrol did not cause the patient any pain and no ill effects were produced; on the whole I think it is much preferable to either protargol or nitrate of silver.

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EPITHELIOMA OF PENIS ASSOCIATED WITH LEUCOPLAKIA.

I saw the patient first in October, 1903, when he came complaining of a warty growth of the penis, which he first noticed as a small wart a few days before leaving Chili for this country, which was on August 24th. He also complained of some itching in the part, which had been going on for ten or fifteen years.

The patient left England twenty years ago quite well. He went to India, and stayed there fourteen and a half years, but came home for holidays two or three times. He first noticed the itching whilst in India, and for this he used to wash himself in warm water. When the itching first started he went to a doctor, who told him the condition was natural and he must just wash himself with soap and water. The patient thinks the itching was caused by wearing the foreskin over the glans in a hot country, the urine being acid and concentrated. As a boy the patient could not bear his foreskin back. The itching used to come and go.

The patient has only noticed the condition of marked whiteness since coming to England, but has had a slight whiteness for fully ten years. This would come and go away again. Keeping the foreskin back and washing it caused the whiteness to disappear and the itching as well, but he was not able to keep the foreskin back because the head of the penis would commence to swell, and on one occasion he had to have a doctor to bring it forward again with a handkerchief and vaseline—and this with much difficulty. Afterwards he was afraid to draw the foreskin back for fear of the same result.

On coming home on board ship the patient says the water was hard, and that salt water and hard water did not cure the white condition, but made it worse. Vaseline would cure it. The wart has been growing rapidly.

Present Condition.—The patient is a gentleman, aged 53 years. He looks the sort of man who has lived a hard life, much in the open air. He is a mining engineer, and has lived many years in the tropics. He is thick-set and obese; the neck is short and thick; the chest is well-shaped and massive; the abdomen is well covered with fat and is protuberant; neither liver nor spleen can be felt through its wall. The second sound at the aortic base is accentuated, but the sounds at the apex, though clear and distinct, are distant. The breath sounds are accompanied by occasional rhonchi, and the urine contains some albumen but no sugar. The penis has the foreskin over the glans, and looks natural enough, except that there is some slight swelling over the region of the corona. On the patient pulling the foreskin back from the glans a circumscribed warty growth appears on its inner or glandular portion; it is situated on that part of the prepuce which lay in contact with