adenoids. He also found that, of 26 boys described as bad scholars, 22 had adenoids, and that of 84, forming the bottom 12 of each class, 65 suffered in the same way.

URINE.

Of the 1,890 urines examined, albumen was found in 172, or 9.1 per cent.

In 73 there was a trace.

In 54 there was a faint cloud.

In 17 there was a fair cloud.

And in 28 there was a heavy cloud.

107 of these urines were examined a second time, intervals of from three to eight months elapsing between the examinations.

In 54 albumen was present only at one examination.

In 53 albumen was present at both examinations.

Of the 172 boys who suffered from albuminuria, 15, or 8.7 per cent., had definitely hypertrophied hearts and increased arterial tension, and were undoubtedly affected with chronic nephritis.

Although there were no such definite signs of chronic nephritis in all the 53 boys in whose urine albumen was found on two separate occasions, I should regard the condition of their kidneys with suspicion, but can come to no absolutely definite conclusion with regard to them, as it is not possible to keep them under observation for a lengthy period.

With reference to the subject of albuminuria, Dr. Samuel West gave some very interesting statistics in his Lettsomian lectures, reported in the *BRITISH MEDICAL JOURNAL* of February 25th, 1899, and the following refer to children between the ages of 10 and 18 years. Stirling found on examining the urine of 369 boys albumen was present in 20.8 per cent. Ribbert in 240 examinations found albumen present in 22.8 per cent.; and Grainger Stewart in 100 examinations found albumen present in 17.0 per cent.

In conclusion, I should wish to record my thanks to my colleague, Dr. Lullum Bathurst, for his assistance in these examinations, especially with reference to the careful re-examination of all the cases in which I found cardiac lesions, and his thorough and painstaking testing of the urines.

I would also thank the Technical Education Board for their unvaried courtesy and kindness in considering and granting all requests I have found it necessary to make for the better carrying out of these examinations.

REFERENCE.

¹ *Deut. med. Woch.*, February 5th, 1903.

EPIDEMIC SORE THROAT FROM SUPPURATIVE MAMMITIS IN COWS.

By ROBERT FRENCH, M.B.DURH., M.R.C.S.,
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I HAVE read with much interest Dr. R. W. C. Pierce's account of epidemic sore throat in connexion with suppurative mammitis in cows, in the *BRITISH MEDICAL JOURNAL* of December 5th, 1903, and also Dr. Kenwood's account of a similar epidemic in North Finchley and neighbourhood, in the *JOURNAL* of March 12th. It is quite apparent that these epidemics are similar in nature, and that from their wide-spread and pernicious effect more notice should be taken of their cause and treatment, and, if possible, of their prevention in the future. Prevention, to my mind, can only be carried out by a far more strict surveillance being exercised, by the veterinary inspectors appointed to the farm, when the cows are milked. It is too late to repair the damage when the milk is sampled from the cans during the daily round of the milkman. It seems to me an extraordinary proceeding to allow curdled milk, or perhaps pus, to be drawn from cows suffering from mammitis and distributed for human beings to drink. It is "filthy and disgusting," as Professor Axe mildly puts it. A cow suffering from mammitis must surely be apparent even to an experienced milker, and yet we hear that this condition had existed for several days prior to the inspection by a veterinary expert. A few notes on the epidemic at Finchley may be interesting.

SYMPTOMS.

The disease was generally ushered in with chilliness and *malaise* about twenty-four hours after infection, and the throat felt sore. Its appearance was generally one of follicular tonsillitis or commencing quinsy. In no cases were any patches resembling diphtheria. In one or two instances the throat seemed to have escaped, and the infected milk produced

an intense attack of diarrhoea. As the throat grew worse the glands of the neck became enlarged and matted together, and felt very hard and very painful. In rare instances suppuration occurred, but this was not the rule. At the same time the temperature rose to 103° or thereabouts, and in one instance I was able to record 107°. Neuralgia was a common symptom, and no nerve seemed exempt. One patient suffered from very acute neuralgia of the ophthalmic division of the fifth left cranial nerve, followed by herpes of those parts supplied by it. This was one of the cases complicated with erysipelas as hereafter described. Other complications arose, such as oedematous swellings of the limbs, swellings of the joints resembling rheumatism, and occasionally erysipelas of the face and head, and a rash resembling measles on other cutaneous parts. A fatal termination was rare, but was generally due to some complication, and in one instance in this epidemic cerebral toxication producing Bell's mania proved fatal. A recrudescence of the symptoms was a very common factor.

TREATMENT.

I was particularly struck with the fact that the usual remedies for follicular tonsillitis, for enlargement of the glands of the neck, and for all other symptoms caused by this infected milk were not at all amenable to treatment and it was not until I had had a case of severe facial erysipelas complicating the disease, in which I used the antistreptococcus serum (B. W. and Co.) that I noticed all other symptoms abate, as well as the marked effect on the erysipelas itself.

I was thus induced to try the same treatment in other severe cases of the epidemic. Without exception the disease began to abate immediately, the temperature fell to normal within 12 hours, and the patient made rapid progress towards recovery. This treatment suggested to me that the cause of the disease was undoubtedly the streptococcus mammitis bovi and should I ever be called upon to treat similar cases, I should at once adopt the serum treatment.

Dr. Eastes of the Laboratories of Pathology and Public Health, Queen Anne Street, very kindly examined some of the pus which I took from a suppurating mass of glands in a child, and I am much indebted to him for the following report:—

In cover-smear preparations of this pus numerous streptococci were seen and a very few bacilli. These bacilli were short and comparatively stout, not at all fine and thin like the *B. mallei*. Cultures were made in various media, but only the streptococcus has grown. Some of the pus was also examined for tubercle bacilli, but none were discovered. It is interesting to see that the bacteriological finding coincides with your diagnosis of an "erysipelatos character of infection."

CONCLUSIONS.

The conclusions I formed upon the nature and cause of this disease were that it is of an erysipelatos infection of the throat caused by these micro-organisms, which find their way into the glands of the neck and occasionally spread to the skin, causing a typical erysipelas of the face and head. They eventually find their way into the blood, causing a general septic infection, making their appearance in colonies under the skin and infecting the synovial membranes of the joints. They also attack the neurilemma of nerves, accounting for the acute pains in various parts. The case of neuralgia of the ophthalmic division of the fifth cranial appeared to me very interesting. The micro-organisms apparently attacked this nerve, and herpes followed its course. One morning when I arrived I was astonished to find erysipelas had supervened without any other apparent reason. I am now inclined to think that the streptococci found a suitable soil in the herpes to increase and multiply. The clear fluid in the herpetic vesicles became sanguineous and the vesicles much enlarged. The whole disturbance quickly subsided under the serum treatment. The oedematous swellings of the limbs were apparently due to phlebitis.

INFECTION.

It was not common to find the infection to spread from one member of a family to another; but unless due care be taken—as we should do in dealing with erysipelas—the disease may be contracted without ever having drunk any infected milk. I can recall one instance which would absolutely prove this statement. The husband drank some of the infected milk on his way to business. His own milkman had not called when he left home. The same evening he had a shiver, and passed through the course of the disease in the usual way. His wife, who had not drunk the infected milk, duly became a martyr to an attack typical of the disease.