

Unusual Infection with the Diphtheria Bacillus

(Kleb's Loeffler's Bacillus)

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CLINICAL NOTES BY SAMUEL GREEN, F.R.C.S.E.

On 13th May, my daughter, æt. 13 months, vomited her evening meal. For some days after this she refused her food, although she did not lose much weight. Temperature 100-102 deg. (axilla), pulse 114-120; stools undigested, not green, obvious colic; examination of the throat revealed nothing pathological. In spite of routine treatment, energetically carried out, no improvement took place.

Let me here state that at no time during the illness was there any vomiting or diarrhœa; furthermore, that daily examination of the throat failed to reveal any suggestion of membrane or even reddening of the fauces and pharynx. There were no respiratory symptoms.

May 26th.—Suspicion of an intussusception having arisen, the child was examined under an anæsthetic by three fellow-practitioners who unanimously agreed that the condition was a severe enteritis.

A stool passed during examination was sent to the Laboratory, Waikato Hospital. The Bacteriologist reported that the fæces were crowded with an organism which had the staining properties of Klebs Loeffler's bacillus.

The throat was immediately swabbed; the swab being positive.

Anti-toxin produced an immediate improvement, which was maintained until 3rd June when the child suddenly collapsed, became pale and cold, respiration, sighing and irregular. Three such attacks occurred on this day.

4th, 5th and 6th June.—There was slight regurgitation of food through the nose on these days, and difficulty in swallowing for about a week. There was a transient otitis media in the right ear.

The chief interest in the case lies, of course, in the Bacteriology which is fully reported by Mr. J. G. Smith, Bacteriologist at the Waikato Hospital.

No attempt to review the literature on the subject is made, for the good reason that it is not available.

No membrane was passed at any time and there was apparently no ulceration as the occult blood test was only faintly positive (Benzidine). The site of the lesion can only be conjectured, but, from the absence of vomiting and diarrhœa, and from the fact that nutrition was wonderfully well sustained, it might be reasonable to suppose that the small intestine was not seriously affected.

The child undoubtedly owes her life to the painstaking work of Mr. Smith, to which the use of the anti-toxin was a natural sequel.

Any opinion as to the date of onset of the infection is purely speculative. The simplest view would be that a faucial diphtheria was missed, as it so often is in infants, and that the diphtheria organism became implanted in an intestine already the seat of enteritis.

Against this is the fact that the throat was carefully inspected daily. Of course, I should have taken a swab, but there was no indication to do so.

As to the source of the infection, the only fact of any interest is that a fox terrier in the house was ill at the time, and later developed paralysis of the hind quarters; however, swabs from the animal showed no Kleb's Loeffler's Bacillus.

BACTERIOLOGICAL NOTES BY MR. J. G. SMITH, BACTERIOLOGIST, WAIKATO HOSPITAL.

On 26th May a specimen of fæces was sent to me from a case of enteritis.

The specimen consisted chiefly of a greenish mass which appeared to be mucus, hanging drop preparation revealed bacilli in masses, no protozoa or cysts being discovered.

I decided to stain films to exclude T.B., and, upon examining the films (counterstained with methylene blue), there appeared to be many-beaded bacilli which resembled K.L.B., and, in spite of never having heard of this organism in

the fæces, I stained further films with Gram's and Neisser's stains, with the result that the bacilli were morphologically K.L.B., in fact, the films resembled those of a pure culture of the diphtheria bacillus from serum.

I immediately reported the specimen as suspicious, and in the meantime prepared cultures which proved to be K.L.B.

Specimens of both fæces and culture were sent to Dr. Gilmour, pathologist, Auckland, who confirmed these findings.

A throat swab (taken after the fæces examination) showed a few K.L.B., but another swab taken next day was negative, as were several consecutive

throat swabs.

A further series of fæces specimens was obtained from this case every few days, and during the first 14 days the Kleb's bacilli were very abundant, in fact very few gram negative organisms being seen in the films, but after 14 days from the first examination the diphtheria bacilli began to diminish and more coliform bacilli appear, until after a month the infection disappeared altogether.

I inoculated a guinea pig with the first culture obtained, and the organism was highly virulent, the animal dying in 36 hours, and the *post mortem* features were very typical.