SPONTANEOUS ANEURYSM OF THE DORSALIS
PEDIS ARTERY.By ARCHIBALD CUFF, B.A., M.B., B.C., F.R.C.S.,
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ANEURYSM of the vessels of the foot is of such rare occurrence (Chauvel, quoted by von Bergmann, could only collect the records of twenty such), and, when it does occur, is nearly always to be traced to definite trauma, that I have thought the history of the following case of spontaneous aneurysm occurring in my hospital practice worth recording.

The patient, a woman aged 53, had noticed a small swelling on the dorsum of her left foot for over two years. It had until the last four or five weeks given her very little inconvenience, but of late had been enlarging and had given her a good deal of pain. There had never been any injury of the foot, and no history of syphilis was to be obtained.

On the dorsum of the foot was a pulsating, expansile swelling about the size of a small walnut, over which the skin was slightly reddened and thinned. It presented all the typical and usual signs of aneurysm, and was situated towards the point of termination of the dorsalis pedis artery. The patient's arteries generally were slightly thickened, the pulse tension increased, and the second sound over the aortic valves accentuated. Nothing else abnormal was to be made out in her physical condition.

The treatment adopted was excision of the aneurysm, and the patient made a good recovery. Well-marked endarteritis of the resected portions of the artery was present, with very considerable thickening of its walls.

THE SCIENCE COMMITTEE

OF THE

British Medical Association.

REPORT CII.

UPON THE BACTERIOLOGY OF THE SUMMER
DIARRHOEA OF INFANTS.

[SECOND COMMUNICATION.]

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SUMMARY OF LAST YEAR'S REPORT.

In my previous report, which was published in the BRITISH MEDICAL JOURNAL of April 21st, 1906, a detailed account was given of my investigations into the bacteriology of the summer diarrhoea of infants in London during the course of the summer of 1905.

The non-lactose fermenting bacteria isolated from the stools or intestines of 58 cases of summer diarrhoea were compared with those isolated from the stools of 20 normal infants under 2 years of age. By this comparison it was possible to show that a certain bacillus pathogenic to animals, which has been designated by me as "No. 1 bacillus," was isolated in 28 out of the 58 cases of summer diarrhoea, whereas that bacillus was found in the stools of

only 1 of the 20 normal cases, and even then its identity was doubtful, as in that case it was found to be non-pathogenic for experimental animals. The pathogenicity of Bacillus No. 1, which was isolated from cases of summer diarrhoea, was then tested by feeding experiments. A series of young rats and young rabbits were fed on various strains of the bacillus, half an agar tube being used in the case of the former, and one tube in the case of the latter, with the result that all the animals were attacked with diarrhoea and died within a few days, the bacillus being recovered from their spleens after death.

I made inquiries from Dr. Houston and also from Dr. MacConkey, both of whom had made extensive bacteriological examinations of water, sewage, human faeces and milk, as to whether either of them had ever isolated this bacillus from any of the above sources. They both very kindly looked up their notes, and were able to assure me that they had never isolated any such bacillus, and so far as I can ascertain the bacillus has not hitherto been described.

The characteristics of this bacillus are very distinctive. It is a motile rod about the size of the *Bacillus enteritidis* of Gaertner, it is non-sporebearing, does not liquefy gelatin, and gives a negative reaction on broths containing mannite, dulcitol, lactose and cane sugar, but produces acid and a small amount of gas on glucose broth. The fact of its producing acid and gas on glucose broth, and not on mannite broth, brings this bacillus into a comparatively small group, the only important pathogenic member of which is the hog cholera bacillus of McFadyean from which, however, it is easily differentiated by other tests.

These results aroused the suspicion that this bacillus might be an important factor in the causation of the summer diarrhoea of infants, and this suspicion was strengthened by the fact that it was isolated in pure culture from the stools of one of the nurses who had contracted diarrhoea in the ward set apart for this disease in the Hospital for Sick Children, Great Ormond Street.

In view of the importance of the results obtained from one year's investigations, it seemed advisable to continue the work on the same lines during another summer epidemic. I therefore wrote to the authorities at the Hospital for Sick Children, Great Ormond Street, who very kindly promised to supply me with specimens for another year. Dr. Batten also undertook to supply the stools and *post mortem* specimens from the ward set apart for diarrhoea at that hospital, independently of whether he diagnosed them as suffering from summer diarrhoea or not, at the same time withholding his diagnosis until after the bacteriological examination.

THIS YEAR'S RESEARCH.

During last summer (1906) 54 cases from the special ward set apart for diarrhoea at the Hospital for Sick Children, Great Ormond Street, were examined bacteriologically in the same manner as during the previous year, except that on this occasion the spleens and mesenteric glands were examined as well as the stools and small and large intestines.

METHODS ADOPTED FOR THE ISOLATION OF THE BACTERIA.

A small portion of material, either from the faeces or scrapings from the mucous surface of the small or large intestine, was transferred to a tube of sterile peptone beef broth and an emulsion made; from this the bile-salt-neutral-red-lactose-agar plates of MacConkey were inoculated, and incubated for twenty-four hours at 37° C. In the examination of the spleens and mesenteric glands, the outside of these organs was previously sterilized in a Bunsen flame, and a small portion taken from the inside and rubbed direct on to the lactose agar plates, which were then incubated. On the following day all the colourless colonies—that is, the non-lactose fermenters—were picked off, and put into tubes of lactose broth. These tubes were then incubated for five days at 37° C., at the end of which time all those that had not produced acid and gas were retained and the rest discarded. The former were then used to inoculate gelatine tubes, and set aside for future investigation. In the numerous instances where no colourless colonies were to be found on the agar plates, the same material, which had been kept frozen in the cold room, was used for reinoculating fresh agar plates.