Clinical and other Notes

followed by improvement, I attribute this solely to the saline irrigation and the relief of pressure. It is interesting to speculate what would have been the ultimate result if the irrigation had not been carried out and the serum injections had been continued.

Summary.

To recapitulate the important points illustrated in the treatment of this case:

(i) Specific serum is necessary. The meningococcus must be typed at once and a serum embodying that type used. There was an absence of any therapeutic result in this a type IV infection with types I and III serum.

(ii) The serum must be brought as closely as possible into contact with the infected site. This implies the routine use of cisternal puncture with injection of serum by this route, and in young children intraventricular injection through the fontanelles.

(iii) In severe cases saline irrigation with 150 to 200 cubic centimetres normal saline is a valuable adjunct to serotherapy.

(iv) Treatment must be controlled by daily examination of the cerebrospinal fluid which must include a differential cell count, and treatment by serum must be discontinued on the occurrence of any of the precursors of serous meningitis noted above and on a definite change to a non-granular type of cell in the cerebrospinal fluid.

References.


A RARE COMPLICATION OF TYPHOID FEVER—PYONEPHROSIS.

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Some time ago a boy aged 11 years, came under my charge suffering from typhoid fever. He was acutely ill; no rash was visible, the spleen was not enlarged and no typhoid organisms were isolated from the faeces or urine. The Widal was positive (1:60).

A week afterwards a small, rounded, tender swelling was found on the left side of the abdomen about an inch below the costal margin and extending to within an inch of the middle line. The tumour did not descend on respiration; it felt very tense and the percussion note was dull. The liver
was not enlarged and there was nothing abnormal in the chest. Another specimen of urine was examined and \textit{Bacillus typhosus} was isolated from it.

From day to day this swelling perceptibly increased in size, extending from the left costal margin to about two inches from the left iliac crest. Fluctuation was made out and the dullness found on percussion could not be separated from the splenic dullness. After exploring this swelling posteriorly with a needle and finding pus, the usual lumbar incision was made and a large quantity of pus evacuated from which \textit{B. typhosus} was isolated. The abdominal tumour disappeared and no urinary sinus followed. Unfortunately the child died a fortnight later. At the post-mortem examination the left kidney showed a marked condition of pyonephrosis.

According to the history of the patient procured from the family doctor there never had been any previous renal trouble, and there were no renal symptoms during the course of the typhoid fever.

In the literature of typhoid fever I believe that this complication has only been mentioned two or three times.

A number of years ago Greaves reported a case which had had typhoid fever, and some years afterwards he incised the kidney by the lumbar route and found a stone and pus from which \textit{B. typhosus} was isolated.

An interesting case of a man who was a urinary typhoid carrier is described by Armstrong. This man had had typhoid fever some years before and eventually a left nephrectomy was done. The kidney showed a marked degree of hydronephrosis, and the contents of the pelvis consisted of a thin turbid fluid containing leucocytes and a pure culture of typhoid bacilli.

According to Withington bacteriuria often occurs in typhoid fever without pyuria or other evidence of inflammation. The bacteria are simply being excreted and they may at times take on active growth, evinced by the products of pus and often accompanied by pain. On the other hand, Neufeld holds that typhoid bacilli establish themselves in the kidneys, and there form little metastatic foci before they pass to the urine.

\textbf{REFERENCES.}

\textsc{Armstrong, G. E.} \textit{"Keen's Surgery,"} 1921, viii, p. 822.
\textsc{Neufeld, F.} \textit{"Kolle u. Wassermann Handbuch der pathogenen Mikro-organismen,"} 1913, ii, p. 401.