There are several points of interest in the etiology of this case. Its connexion with carbolic fumes did not strike the patient till a medical man asked him if he had been near burning carbolic acid fumes, as he had before seen similar lesions from this cause, and later a chemist made similar remarks spontaneously. The similarity in the affection attacking the patient's sister, who suffered the same exposure, is pertinent. In her case I am told the same chronic unyielding course has been followed by the disease, but I am also told that she has now been treated by bacterial vaccines, and is making rapid progress.

The lesions resembled syphilitic lesions more than any other, especially the mucous ulcers on the fauces. No history of such infection, however, could be obtained, and this was borne out by the fact that the "Wassermann" reaction gave a negative result.

It is noteworthy that, while the first vaccines greatly improved his condition, they failed to cure, as they were only directed against two of the three invading organisms. They succeeded in driving out the bacilli and staphylococci, leaving only the streptococci, which kept up irritation till driven out by an autogenous vaccine. The initial dose of 12,500,000 was evidently quite suitable, as, although it produced a marked negative phase, the mechanism of immunization was sufficiently good to raise his resistance to a positive phase after thirty hours, producing a well-marked phase of increased resistance, resulting in cure.

Considering the multiplicity of the infection, the chronicity of the case, and the results obtained after failure of ordinary methods, the case is interesting.

The only local applications used during the time of therapeutic immunization were frequent bathings with a lotion containing sodium citrate, 1.5 per cent., with common salt, 2.0 per cent.; while at night the ulcers were covered with small dressings of lint soaked in this same lotion. This, while preventing clotting of exuding lymph, promoted by osmosis a flow of the now highly opsonized lymph through the infected tissues. Antiseptics were not used.

I do not regard the carbolic acid as having any specific pathogenic action in this case; the sequence probably was: first, a chemical injury of the superficial layers of the skin and fauces, producing a local reduction of natural immunity, which allowed invasion by micro-organisms that happened to be present. This soon led to a lowering of this general immunity from absorption of toxic products, resulting in a chronic course, till a rising tide of general immunity was set up by the inoculations of each specific vaccine. The condition in the ear was probably due to the extension through the Eustachian tube of the pseudo-diphtheria bacillus from the fauces and nasopharynx.

VACCINE TREATMENT OF PYELONEPHRITIS IN PREGNANCY.

By CHARLES F. ROUTH, M.D.LOND.,
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A YOUNG married woman, aged 30, with one child aged 7, had suffered from the age of 14 from chronic constipation and an "irritable bladder," with frequent micturition. For many years also she had been unable to lie on the left side for any length of time, as that position always caused pain in the right loin sufficiently severe to awaken her if asleep. Her first child was born in 1902, the labour being normal. She has had no miscarriages.

In June, 1907, while abroad, she suffered from an attack of acute pain running up from the right iliac region towards the right kidney, with tenderness over the appendix, which lasted some days. This was diagnosed as appendicitis, and on her return to England she was seen by Mr. C. H. Fagge, who was then unable to find any trace of the disease. She enjoyed good health until June, 1908, early in which month she became pregnant. On October 1st she had another attack of pain similar to the first, lasting several days and accompanied by fever. This was also looked on as a mild attack of appendicitis. Two months later she came under my care, and I was asked to attend her in her confinement early in March. She was then in good health, and the abdomen appeared perfectly

normal. On January 2nd, 1909, she had a severe rigor, followed by acute pain in the right iliac region. This was followed on January 4th by vomiting. The symptoms did not abate, and when I saw her on January 6th she was evidently acutely ill; temperature 103°, pulse 120; constant vomiting and great abdominal tenderness, especially over the appendix; and pain running from the ascending colon to beneath the liver. Micturition was frequent and painful, and there were severe rigors followed by profuse perspiration and great exhaustion. She was treated with urotropin gr. x every four hours, aspirin at night when the pain was acute, and heat locally. On January 9th, 1909, pus was found in the urine, which was acid and free from smell. It became evident that the trouble was due to some lesion in the right kidney. Owing to the long history of pain in that organ in certain positions, and the history of "irritable bladder," it was thought that some calculus might be present, or that the attack was a lighting up of some old infection. Mr. Fagge saw her again on January 11th. The pain was then much more localized over the kidney, with acute tenderness over the point of the twelfth rib, running down to the iliac region and across to the left side, the patient being quite unable to lie with her legs extended. Micturition was very frequent, being accompanied by intense urethral scalding and great vesical pain. Mr. Fagge thought that the case was one of severe pyelonephritis due to *B. coli*, possibly complicated with some old-standing trouble.

Examination of the urine showed this view to be correct; a pure cultivation of *B. coli* was obtained, and from this a vaccine was prepared. The opsonic index was 1.8. The first injection was given on January 12th, and within six hours the temperature fell from 104° to normal, and the pulse, which had varied from 120-160, to 104. All other symptoms, with the exception of the rigors, remained, a very large amount of pus being passed daily. The urotropin was continued, small doses of morphine being occasionally given for the pain, which was still intense, and a purge each night. Five days after the injection the opsonic index was 25. From this date to January 24th the pulse never rose above 104, nor the temperature above 100°, though all other symptoms remained as acute.

On January 24th two rigors occurred, and the temperature rose to 102°, only to fall to subnormal the next day, at which point it remained. The patient was kept in bed on light diet, and gradually increasing doses of vaccine were given every eighth day until six had been administered.

On February 28th a healthy female child was born, the labour being perfectly normal. The patient made an uninterrupted recovery, and three weeks later the urine was free from pus and *B. coli*. She has now better health than she has had for years, as all constipation and frequency of micturition have ceased, and all pain in the region of the right kidney has disappeared, whatever position she is in.

The somewhat unusual symptoms have led me to publish the above notes. The disappearance of the old kidney pain and bladder irritation after the vaccine treatment makes me suspect that mild *B. coli* poisoning may have been present for many years, the pregnancy causing the acute attack.

At the onset of the illness the previous attack and character of the pain made the diagnosis very doubtful, and even when pus in large amount in the urine pointed to definite trouble in the right kidney, her sixteen years' history of pain in that organ still made the case obscure. The chief point of interest was the rapid improvement of the general condition of the patient after the first injection of vaccine, though all other symptoms remained as acute until the birth of the child, after which they rapidly disappeared.

THE estate of the late Dr. John Waggett, of Bourne-mouth, has been sworn at the net value of £49,542. Dr. Waggett, of whom an obituary notice was published in the last volume of the JOURNAL, p. 1445, formerly practised in Kensington, and died in his 91st year.

It is stated that Sultan Abdul Hamid has recently made up his mind, at the age of 70, to be vaccinated. Being a cautious man, however, he first had the procedure carried out on the ten wives left to him out of his former populous harem, and on his son.