A FOREIGN BODY IN THE KIDNEY

BY

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Urinary infection is frequently due to or accompanied by the deposit of calculi, and in these circumstances it is notoriously difficult to treat the infection satisfactorily so long as the foreign body remains. Rarely a foreign body introduced into the bladder per urethram is found to be the cause of chronic pyuria. Still more rarely—as in the case here recorded—a foreign body may ulcerate through the wall of some part of the alimentary tract into the kidney, ureter or bladder and give rise to urinary infection.

Case record

A female child aged four years, of healthy parents and with good personal history, developed symptoms of cystitis (increased frequency of micturition, with specks of blood in urine) in June 1935. She received home treatment and apparently responded fairly well, but the urine never became free of pus cells, and when first seen (by N. B. C.) in January 1936, she had developed a recrudescence of haematuria following an attack of tonsillitis three weeks previously. Micturition was neither frequent nor painful, but there was some impairment of general health with loss of appetite, slight wasting and lethargy. A history that the child had swallowed a small metal hair-slide early in 1935 was given, but little importance was attached to this statement.

Examination of the patient showed her to be a pale and debilitated child weighing 35 lb., with coated tongue and unhealthy tonsils. The lower pole of the right kidney was distinctly palpable but not tender; the genitalia were slightly inflamed; the urine was white in colour, turbid, alkaline in reaction and contained numerous pus cells, with a few erythrocytes. There was no oedema, no rise of blood-pressure (systolic pressure 75 mm. Hg), no abnormality of the optic fundi, no organic lesion in the heart, no enlargement of the lymphatic glands and no obvious congenital malformation.

It was decided to give a course of medical treatment, and to submit the patient to further investigation if she did not respond satisfactorily within two or three

weeks. Acid therapy accompanied by hexamine and then by mandelic acid was unsuccessful, and the patient's general health deteriorated. Furthermore,

FIG. 1.

her temperature became very variable, rising to 101° or 102° F. each evening, and a tender swelling of the right kidney was easily palpable. It was obvious that special investigation was essential, and the following results were obtained.

FIG. 2.

The urine contained much pus and many colon bacilli. A 'straight-through' x-ray showed an enlarged right kidney. It also showed the hair-

slide, of a variety known as the 'Kirbigrip,' apparently in the second part of the duodenum (fig. 1). This is the common position for such bodies to come to rest, as they find difficulty in negotiating the double bend of the duodenum below this level. An intravenous urogram showed a normal kidney on the left with a normal bladder, but no function on the right. No further investigation seemed desirable. A diagnosis of right-sided pyonephrosis was made, and operation was decided upon. It was thought that nephrectomy would probably be necessary.

Under general anaesthesia, the right kidney was exposed and explored. It was enlarged, engorged and oedematous. In sweeping the index finger over the anterior surface of the pelvis of the kidney, a rigid structure was felt and recognized as the Kirbigrip in the duodenum. Further exposure demonstrated an astonishing state of affairs. The hair slide had perforated the posterior duodenal wall and entered the pelvis of the kidney. The greater part of its length actually lay within the kidney substance, about half an inch remaining in the duodenum, which was, as it were, pinned to the anterior surface of the kidney. As the nephrectomy was completed, the pin was withdrawn from the duodenum, in which the small puncture was carefully repaired. The wound was closed except for the usual drainage tube.

Convalescence was uneventful, the much-dreaded complication of duodenal fistula happily not arising. The greatest possible satisfaction was manifested by the child's grandmother, who had always maintained that all the trouble dated from the swallowing of the hair-slide ! The photograph (fig. 2) shows the kidney exactly as removed, with the hair-slide transfixing its substance.

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