List of references :—

1. Sajous' Encyclopædia of Medicine and Surgery.
2. Forcheimer's System of Internal Therapeusis.
3. Manson's Tropical Disease.
4. Rogers' Cholera and its Treatment.
5. Tropical Diseases Bulletin.
6. Indian Journal of Medical Research.

Note.—The value of prophylactic inoculation is well brought out by the results amongst coolies in the Goalundo epidemic, where only one inoculated coolie died of the disease.

CALCULI OF THE URINARY TRACT AS SEEN IN A BRITISH GENERAL HOSPITAL IN INDIA.

By D. J. HARRIES, M.D., F.R.C.S. (Eng.),

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THERE seems to be a general belief in England that patients with calculi in the urinary tract are commonly encountered in the tropics, and especially in India.

It is true that in some parts of India calculi are frequently found in the natives, but this statement requires modification when the white population is under discussion. In the latter, calculi over half an inch in diameter are decidedly rare, whereas small calculi a quarter of an inch or less in diameter are very frequently encountered. Between June 1916 and December 1918, 19,020 patients were admitted into the 34th General Hospital for treatment, 1,455 of whom were submitted to operation. Of these only six had urinary calculi over ½″ in diameter.

The first three were admitted in June 1918; the fourth in July 1918; the fifth in September 1918; and the sixth in December 1918.

The first case refused operation, but the other five were operated on and the calculi removed. I am not going to give a detailed account of these cases as I only wish to draw attention to the main points of interest here. A table is added at the end giving a few details. Hydronephrosis complicating renal calculi is said to be rare in England, but the last three cases operated on here showed a definite hydronephrosis, the kidney being over twice the normal in size, the pelvis and calyces considerably dilated and the kidney substance only 1/8″–1/4″ thick over some of the dilated calyces. In each of these three cases the calculus was pear-shaped, the body being situated in the lower part of the kidney pelvis, while the stalk projected into the upper end of the ureter. (plate No. 4).

The second case operated on also had a pear-shaped calculus in a similar position (plate No. 3) but the kidney and pelvis appeared normal to the naked eye. The first case operated on had an irregular calculus, ½″ in diameter, fixed in the inferior calyx in the lower pole of the kidney, and apparently it could not interfere with the pelvis or the ureter. The condition of the kidney in the case, which was not operated on, is not known, and even if we assume it to have been normal we still have 50 per cent of the cases showing definite hydronephrosis. In the first five cases the stone was on the right side, in the sixth it was on the left, but this patient had a stone 7/8″ × 3/8″ in his right ureter, near the spine of the ischium, in addition to the one in the left kidney pelvis. Large calculi in the ureters must be very rare in this country as I have only seen one case with a calculus over ¼″ in diameter, *viz.*, the sixth case mentioned above).

I have not seen a single case of vesical calculus over ¼″ in diameter in British patients in India.

When dealing with small calculi ¼″ or less in diameter we see an entirely different state of affairs. These are so common that it is exceptional for a month to pass without our having at least one case admitted suffering from symptoms due to their passage down the ureter. Most of these originate in the kidney, calyces or pelvis, but they seem to give rise to no symptoms until they reach the ureter, and are only accidentally discovered in the kidney. Their passage down the ureter gives rise to ordinary ureteral colic of varying severity; and as we have always X-rayed all cases of renal or ureteral colic we now possess numerous plates showing these small calculi in the ureters. They must pass very rapidly down into the pelvic portion of the ureter; as we have not succeeded in obtaining any plates showing them in the abdominal portion.

Obstruction to the passage of these calculi is first encountered near the spine of the ischium. Difficulty is also encountered at the commencement of the intramural portion of the ureter. Needless to say calculi in these two positions prevent the passage onwards of others coming down behind them, and we sometimes see a number lying in a row in the last 2″ to 3″ of the ureter. The last plates shown (Nos. 8, 9), illustrate clearly the above remarks. In this portion of the ureter the calculi sometimes remain for weeks or months without causing any symptoms and then pass onwards into the bladder, their passage giving rise to an attack of colic of a mild or severe type. They do not remain long in the bladder or the urethra, and, so far, we have not succeeded in obtaining plates showing any in these two positions. I have only met one patient who actually recovered a small calculus from his urine. He had been told to examine every drop of urine passed for a small calculus lodged in his ureter, otherwise I dare say, he would never have looked for it, as the passage of these calculi down the

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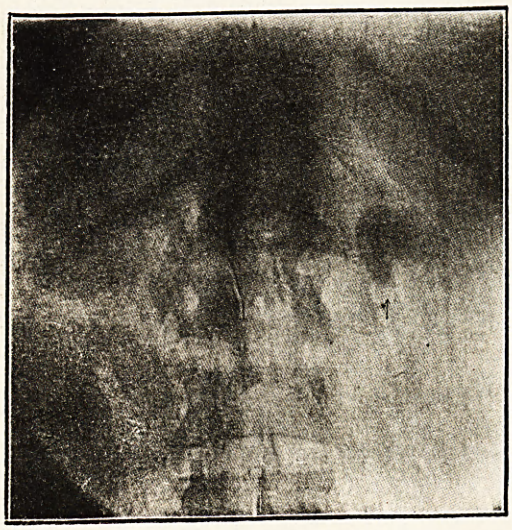
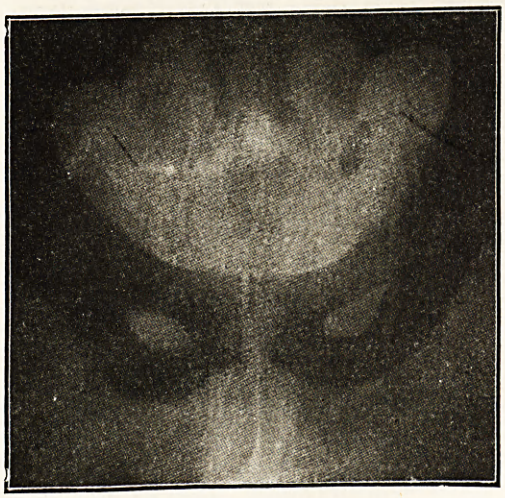
By Captain D. J. HARRIES, M.D., F.R.C.S. (Eng.), R.A.M.C.

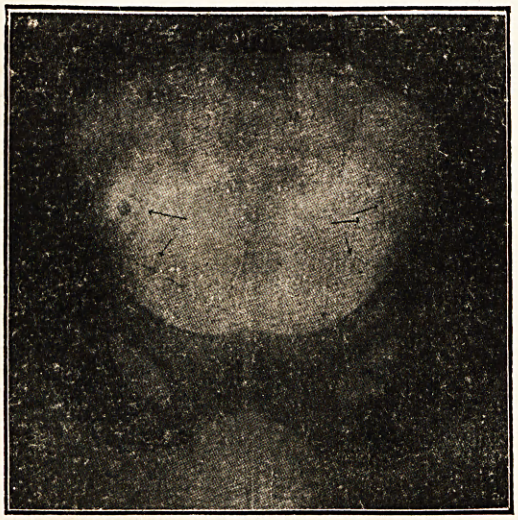


Private Ruston. No. 3.
The calculus was removed on 12-7-18 by nephrotomy.
No changes were found in the kidney or pelvis.

Private Edmett. No. 4.
The calculus was removed on 15-8-18 by nephrotomy.
Two shadows are shown. This was due to the respiratory movements.
The kidney was hydronephrotic.

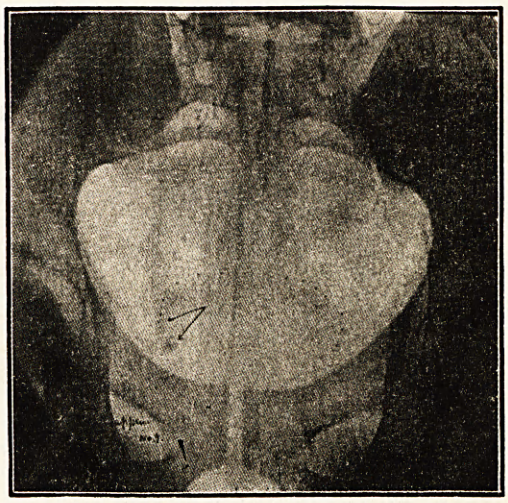


Private Jones. No. 6-B.
It shows a calculus $\frac{7}{8}'' \times \frac{5}{8}''$ in the right ureter.
The calculus has been arrested in its passage down the ureter opposite the spine of the ischium.



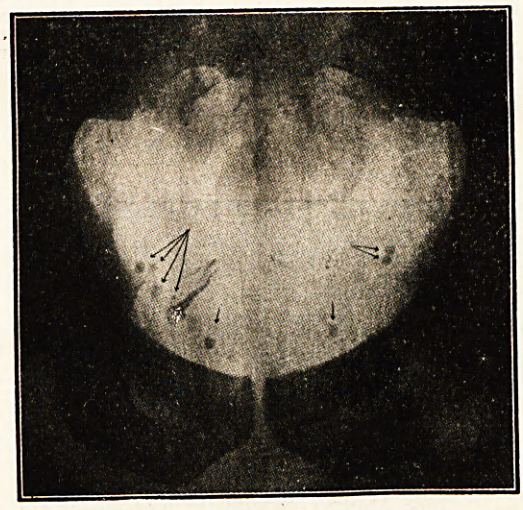
PRIVATE LANGTON. No. 7.

It shows two small calculi in the left ureter and three in the right, opposite the ischial spines. This is the commonest situation for the calculi to be arrested in their passage down the ureters.



PRIVATE PRICE. No. 8.

It shows two calculi in the right ureter and four in the left, opposite the ischial spines.
There is also a calculus shown in each ureter at the commencement of the intramural portion.



PRIVATE MAPPEN. No. 9.

It shows two small calculi at the commencement of the intramural portion of the left ureter.
The bladder outline is clearly seen in the position shown by the dotted line.

urethra seems to be unaccompanied by and symptoms. Looking over the books of the Ambala Brigade, I was interested to see that in the two years 1917–1918 there were no patients with urinary calculi over ¼″ in diameter admitted into hospital. During that period 398 major operations were performed by my predecessor, but none of these were for urinary calculi.

In conclusion I wish to thank Captain T. J. Evans, 34th General Hospital, for taking the plates, and Private Beattie for preparing the prints used to illustrate this article.

Table showing the main points of interest in Captain Harries' six cases of Calculi.

No.	Name.	Date of admission.	Date of discharge.	Duration of symptoms prior to operation	Skin incision employed	Method employed for removing the calculus.	Number of days the kidney bed was drained after operation.	Duration of hæmaturia following the operation.	Number of days the incision took to heal, completely.	Nature and shape and size of the calculus.
1	This case was not operated on.									
2	Morgan ...	26-6-18 ...	7-9-18 ...	6 months ..	Oblique	Nephrotomy	1 day ...	7 days ...	7 days ...	Oxalate. Irregular. ½″ in diameter.
3	Rushton*	24-6-18 ...	7-9-18 ...	1 month ...	,,	,,	3 days ...	14 ,, ...	14 ,, ..	Urates with coating of phosphates. Pear shaped. 1″ ¾″×¾″.
4	Edmett*	23-7-18 ...	20-9-18 ...	1¼ ,, ...	,,	Nephrotomy hydronephrosis present.	2 ,, ...	21 ,, ...	27 ,, ...	Same as 3.
5	Saul ...	17-9-18 ...	20-11-18 ..	3 months...	,,	Post-pyelotomy hydronephrosis present.	2 ,, ...	8 ,, ...	9 ,, ...	Do.
6	Jones ...	12-11-18 ...	Still in hospital.	5 ,, ...	,,	Ant-pyelotomy hydronephrosis present.	2 ,, ..	9 ,, ...	12 ,, ...	Do.

* Cases whose plates are reproduced.

Size and shape of the calculus in Nos. 3—6.

FISH POISONING IN THE PERSIAN GULF.

By C. C. KELLY,

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IN Koweit and other ports in the Persian Gulf a dark-brown nut, which is used as a fish poison, is imported from India and also grown in and around Basrah.

It is known in England as the "Indian berry" or fish poison. The Arabs name it "*zar ul simuk*," fish poison.

It is generally used in the hot months, April to October, the nut being well ground and mixed with soft crab shell, well crushed: or with fish oil imported from the Malabar Coast, and used for smearing the exterior of pearling and fishing boats.

When pearlers leave for Bahrein annually, about May, they take away large quantities of it, and when they want to vary their diet, go near the shore and throw the mixture in shallow water, where it sinks to the bottom. In about half an hour, the poisoned fish come to the surface in a stupefied condition, and become frantic, performing all sorts of contortions, until they finally die, or are killed with sticks.

The fish generally so killed in large quantities are named—the "Mayeed," "Sheboom," "Yemem," and the "Abeèyah."

The inhabitants in these parts eat the fish entire, but from Baghdad downwards, along both banks of the river, and in the swamps, the head is discarded, apparently the poison being more potent in that portion, or the poison being more active in fresh water.

The fish caught in the swamps are mostly by fishermen called "Birarberas," equivalent to our word "Barbarians."