

Nothing abnormal was revealed on clinical examination. Blood-pressure was 120/60. The urine contained a trace of albumin and some red cells. Cultures were sterile. As painless hæmaturia in Africans always arouses suspicion of bilharzia a series of urine specimens were searched for schistosoma ova, but with negative findings.

The blood urea was 22 mgm. per 100 c.c.

Cystoscopy: Bladder capacity about 10 oz. Mucous membrane normal. Marked hypertrophic trabeculation of the bladder wall. Both ureteric orifices were wide and gaping to the size of a No. 10 catheter. Little peristalsis of ureters observed.

Straight X-ray showed the shadow of what appeared to be a grossly hypertrophied right ureter opposite the fourth and fifth lumbar vertebræ (fig. 1).

*Intravenous pyelogram* revealed marked bilateral hydronephrosis and hydro-ureter, with good secretion and concentration on both sides. A constricted segment was observed in the left ureter opposite the bodies of the fourth and fifth lumbar vertebræ (fig. 2).

*Retrograde Pyelogram.*—The cystoscope was passed with ease and a ureteric catheter introduced into the left ureter to 6 cm. where it stopped. 4 oz. of sodium iodide were injected into the bladder through the cystoscope. X-ray showed the opaque fluid flowing up the left ureter (fig. 3). It is not clearly understood why the dye entered only the left ureter but it is probably due to the presence of the catheter. Sodium iodide was then injected into the ureter but did not rise above the constricted segment (fig. 4). A single catheter cystoscope only was available.

The majority of these cases are believed to die in childhood. The patient under review has reached adult life and does not appear to suffer from any severe renal damage.

Our thanks are due to Colonel Langford for permission to forward this case.

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## POLIOMYELITIS IN SINGAPORE.

(A precis of a report by Dr. A. M. MacFarlan of the Medical Research Council made to D.M.S., Medical Division, SACSEA. Forwarded April 4, 1946.)

WHEN the Allies re-entered Singapore in September, 1945, they found gross insanitary conditions but little destruction of the city. During the next three months the civilian population increased by some 2,000 a week due to immigration. In January, 1946, five unconnected cases of poliomyelitis were reported in Chinese children on the Island and the possibility of an epidemic was recognized. Prompt measures in the way of propaganda, search for early cases and improvement of sanitation were undertaken. In spite of this over 180 cases of poliomyelitis with 18 deaths occurred from December 23, 1945, to March 23, 1946.

## INCUBATION PERIOD AND CLINICAL FEATURES.

The incubation period was probably between 8 and 14 days. An analysis of 106 civilian cases showed the type of paralysis to be as follows:—

Lower and upper limbs	..	24	per cent
Lower limbs only	.. ..	48	" "
Upper limbs only	.. ..	15	" "
Bulbar type	.. ..	13	" "

Many civilian cases showed signs of meningitis at the onset and the higher incidence of bulbar paralysis in Singapore than in Mauritius (13 per cent versus 2 per cent) suggested that the virus had frequently entered the body by the tonsils or pharynx. In 10 out of 24 Service cases there was involvement of the medulla and cervical enlargement of the spinal cord and in only 14 Service cases were the lower limbs involved.

## EPIDEMIOLOGY.

(a) *Attack and Fatality Rates.*—In an estimated civil population of 889,000 there were 137 cases (0.15 per thousand) with 6 deaths (4.5 per cent). In children under 10 years of age, the attack rate was 0.51 per thousand (126 cases in 247,000 children). Thus, attack rates were lower than the two or three per thousand recorded in other epidemics, suggesting that the population was relatively immune. There were 50 cases in Service personnel (about 0.3 per thousand) with 12 deaths (25 per cent).

(b) *Age Incidence.*—In civilians 90 per cent of the cases were in children under 5 and only 1.5 per cent in persons over 15 years, which suggested the outbreak was a flare-up of an epidemic disease. The high incidence among adults in the Services is even more striking when compared with this low incidence in adult civilians.

(c) *Racial Incidence.*—Civilian cases occurred among all races, roughly in proportion to their numbers in the population at risk. All the Service cases were Europeans. Indian troops, though as numerous, were not affected.

(d) *Sex Incidence.*—Among civilian cases males were twice as numerous as females. In the Services, the incidence was higher in females than in males.

(e) *Course of the Epidemic.*

TABLE I.—NUMBER OF CASES WITH ONSET IN EACH WEEK.

	Dec.	Week ending											
		January				February				March			
	29	5	12	19	26	2	9	16	23	2	9	16	23
Civilians ..	1	5	3	12	16	22	24	21	13	14	1	4	1
Services ..	—	—	1	2	3	11	9	5	3	5	7	3	1

This table shows the course of the epidemic in civilian and Service personnel. The main part of the epidemic occupied seven weeks from January 13 to March 2.

(f) *Origin of Epidemic.*—Following a cold spell at the end of 1945, upper respiratory infections were common, both in civilian and Service personnel, but no undue prevalence of diarrhoeal disease occurred. It appeared probable that an endemic "Singapore strain" of poliomyelitis virus became more virulent as a result of passage from throat to throat and that the civilian epidemic was the result of the interaction of this more virulent strain with a

relatively highly immune community. The Service cases were probably a "spill over" from the civilian epidemic.

(g) *Mode of Spread.*—The symmetry of the epidemic curve in civilians suggested a spread by contact rather than a mass infection by contamination of water or by a common article of diet. Though cases occurred throughout the Island, the main incidence amongst civilians was in the thickly populated part of the city. Almost all the Service cases occurred in different units and principally in those located in the town of Singapore. These factors further suggested a spread by contact and many carriers must have been concerned. Direct case to case contact was rare, however, and the evidence favoured a spread from secretions rather than from fæces. There was no evidence that flies played a part.

## A CASE HISTORY OF EXFOLIATIVE DERMATITIS WITH COMPLICATIONS.

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THE following case of exfoliative dermatitis with complications occurred in a P.o.W. Hospital in Singapore, and is thought worthy of record on account of the grossness of the lesions and as displaying the tenacity and resiliency of the human frame; the successful conclusion was entirely dependent upon the extreme "will-to-live" of the patient, and the enthusiasm and care on the part of the Orderlies.

The patient was a man aged 46.

20.10.43: Transferred from Medical Ward to the Skin Ward today, when I saw this case for the first time; placed on D.I. list.

*History.*—Admitted to Medical Ward March 13, 1943, with "Debility." Had lost four and a half stone in weight in three months. Developed scabies. Treated in the Medical Ward with derris root solution; had twenty applications on and off, last one on May 25. Developed dermatitis of abdomen and thighs after this. Then developed pustular condition of hands during June and July. Skin gradually became eczematized.

Two months ago, eczematized skin started to flake off gradually, in thin flakes, and flexures began to crack. Much desquamation. Two weeks ago, the present gross and massed, matted, scaly condition started.

One week ago, pressure sore of coccyx. Pressure sore both ankles, and a lesion on scrotum.

*PAST HISTORY.*—Malaria as a child. No beri-beri. No dysentery. No diphtheria. No previous skin trouble. No arsenical injections.

*Symptoms.*—Feels very ill. Cold. No paræsthesiæ. No itching. Unable to move any joints of upper and lower limbs. Completely immobilized, owing to splinting by the very thick plating of scales.

*ON EXAMINATION.*—(1) General condition. Very wasted, drowsy, very weak, cannot roll over, dreadful odour. Throat and nose, N.A.D. Teeth, good. No glossitis. No stomatitis. Lower lip, superficial ulceration and impetiginization.