

and makes possible at a glance a comparison between the various provinces.

The following extract from a case, apart from the intrinsic interest it has as an account of a human sacrifice, will show how a negative serological finding may be compatible with conviction:—

Sessions case No. 49 of 1936

Salem Division, Madras

Prisoner—Chinna Chetti *alias* Munippan.

Offence—Section 302, I. P. C.—murder.

'On the night of the 31st December, 1935, he intentionally killed his son, Hanumadu.

The deceased, a suckling babe at the time of his death, was the youngest of his three children by his wife (P. W. 7), who lived with him at Bennangur about 25 yards from the Karaga Mariamman Temple. About three weeks before the occurrence, he proposed to her the sacrifice of one of their children to the Mariamman goddess, as an effective method of getting access to hidden treasure buried in a forest and becoming wealthy; but she did not take him seriously. After taking his supper with toddy and fowl curry at about 10 p.m. on the day of occurrence, he left the house saying that he had to go to the village, and, returning about a quarter of an hour later, went to bed. Some time after this, as she was just getting sleep, she saw him stand for a while near the bamboo cradle where the deceased slept, and abruptly go out of the house closing the door behind him. When she woke up shortly afterwards to suckle the child, she found it missing from the cradle. Thereupon she came out, and, seeing light at that untimely hour in the temple, ran there, when to her great horror she saw her husband place the severed head of the child in a mud bowl, used as a lid for a mud pot, containing two karagams (sacred pots) secured in a pit which served as an altar in front of the idol. He next covered the bowl with a granite slab. P. W. 7 set up a yell at this ghastly sight, but the accused encouragingly asked her not to cry saying that the goddess will perform a miracle and restore the child; and pushing her away carried the trunk of the infant towards the burial ground about a furlong away.....

..... In the lower court, P. W. 7 posing as an eye-witness deposed that she found her husband put his foot on the child's chest and sever its head from the trunk with M. O. 1, their bill-hook. But neither here nor before the village headman did she claim to have actually witnessed the deed. It is not unlikely that when P. W. 15 noticing some stains on her sari (certified by the chemical examiner not to be of blood) questioned her about them, she developed the story of having been an eye-witness to the commission of the crime by her husband and produced M. O. 1 in proof of her assertion. The Imperial Serologist could discover only the blood of a bird (probably a fowl) on this weapon..... These circumstances seem to suggest that P. W. 7 was at first probably a consenting party to the child's sacrifice and possibly believed that such an act of apparent religious merit might even redeem its life. So grotesquely superstitious and credulous are some of the village folk..... One fact emerges from her inconsistent statements, namely, that she cannot be trusted in all that she says..... The accused's plea of alibi stands unproved, and I find not the slightest reason for disbelieving the neighbours who saw him that night in his house and were told by him that P. W. 7 was weeping for nothing.....

The assessors' unanimous opinion that the accused is not guilty is based solely on the untrustworthiness of P. W. 7's testimony..... Disagreeing therefore from the assessors, I find him guilty as charged. Only one sentence is possible..... till he is dead'.

The bill-hook, evidently, figured in the fowl curry and not in the decapitation of the infant.

A CASE OF HÆMOGLOBINURIA CAUSED BY PLASMOCHIN TAKEN AS A PROPHYLACTIC AGAINST MALARIA

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As far as I could make out from limited references no case has been recorded in which plasmochin, taken as a prophylactic against malaria, has resulted in hæmoglobinuria. The interest in the following case lies in the fact that hæmoglobinuria could be definitely attributable to the taking of plasmochin.

The patient, an Indian sepoy (J. S.), aged 20 years, was one of the party of men from the 1/17th Dogra Regiment engaged on a flag march in the jungle in Tharawaddy district in Lower Burma, between the 31st October and 5th November, 1932. Each man was being given 0.04 gramme plasmochin daily as a prophylactic against malaria. After the end of the fourth day's march (i.e., on 3rd November), he reported sick and was transferred to Mingaladon by train. His complaints then were being feverish, general abdominal discomfort and pain without nausea or vomiting. He was admitted into the British Military Hospital (I. W.), Mingaladon, on 5th November for the following complaints:—

Pain in the left upper quadrant of the abdomen, and fever. The pain was mild and temperature was 99.5°F. in the morning and 100°F. in the evening. There was no previous history of malaria. Physical examination was negative. There was no superficial nor deep tenderness. Spleen was not enlarged. No malarial parasites were found in the blood smear. Next morning he was reported to have had a 'fainting fit'. The sub-assistant surgeon who saw him first found him in a state of shock with cold extremities, covered with sweat. The pulse was weak and thready. He recovered soon after and was treated for collapse. I saw him a little while later when he complained of pain in the left loin. The patient explained that he had an acute attack of abdominal pain limited to the left side which was so severe that it doubled him up and that he had lost consciousness.

The patient was found to be markedly jaundiced and in a state of collapse with cold and cyanosed extremities. Temperature was normal; pulse was soft but regular and of normal rate. Hæmic murmur was heard in the pulmonary area. Pain was complained of just below the last rib on the left side on bimanual pressure and on deep inspiration. The kidneys were not palpable. There was slight œdema of the feet.

The patient could not pass urine when asked to do so. Close questioning elicited the fact that the patient had passed dark-coloured urine since the 3rd November, but had not reported this as he has taken no notice of this fact. Treatment was instituted with warmth, and massive doses of alkaline diuretics. At about noon the patient passed about 10 ounces of urine which was port wine in colour. The urine contained bile, blood pigment and albumin. Microscopic examination revealed few red blood cells, and epithelial cells. Glucose and sodium bicarbonate, barley water and soda water were given *ad lib*. There were no malarial parasites in the blood smear.

Subsequent progress:—

There was fever for a few days. Jaundice became very marked and generalized on the next day and the patient complained of giddiness. General condition was fair. Malarial parasites were not found in the blood smears taken on several occasions. The red blood cell count was 3½ millions, and the leucocyte count 7,500 per c.mm. Hæmoglobin was 45 per cent. Urine was still port wine in colour and contained bile, blood pigment, albumin, and a few red blood cells. The total

quantity passed during 24 hours was 60 ounces. Differential count showed polymorphonuclears 67 per cent, lymphocytes 25 per cent, large mononuclears 7 per cent and eosinophiles 1 per cent. Large doses of ferri et ammonii citras were given with a little arsenic.

The condition gradually improved day by day and by the 15th November the jaundice had cleared up, but anæmia was still marked. The pain and tenderness in the loin disappeared in a few days. The patient was discharged cured on the 30th November when red blood cells were $4\frac{1}{2}$ millions and leucocytes were 7,600 per c.m.m. and hæmoglobin 85 per cent.

The following examinations were also done:—Blood and urine culture—negative. Van den Bergh's test—direct reaction was negative and indirect reaction was positive. The patient was examined regularly afterwards but recovery was complete and maintained.

Comment

In spite of widespread interest maintained, the cause of hæmoglobinuria (blackwater fever) has never been satisfactorily determined. Cases have been published where the onset of hæmoglobinuria had occurred under the following conditions:—

(1) Independently in a recognized malarial subject.

(2) During an attack of malarial fever—

(a) when quinine had not been given,

(b) when the patient had been treated with quinine alone or in combination with other drugs, and

(c) when atebriin and plasmochin had been given.

Several authorities are agreed that quinine may start an attack of hæmoglobinuria (blackwater fever). Similarly, cases have been published in which treatment of malaria with plasmochin, with or without atebriin, had resulted in hæmoglobinuria. But there seems to have been no record of hæmoglobinuria occurring as a result of taking plasmochin as a prophylactic, though it has been used extensively for this purpose. During the Burma Rebellion (1930-32) plasmochin was used extensively, side by side with quinine, as a prophylactic against malaria. In the Pegu area where I was in medical charge of the troops, about 300 men received a daily dose of 0.02 gramme plasmochin during November and December 1931. The minimum period of administration was three weeks and the maximum seven weeks. A careful watch was kept for any untoward symptoms but in all there were not more than half a dozen cases in which the symptoms complained of were mild epigastric pain or colic, easily controlled by stopping the administration of the drug and giving gastric sedatives. This is in conformity with the experience of others who have used the drug for a similar purpose. But the case described demonstrated that such a small dose as the total amount given in four days, *i.e.*, 0.16 gramme, could, in susceptible subjects, result in hæmoglobinuria. In this case, either due to defective excretion, to idiosyncrasy, or to both, the drug caused a massive and

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THE DENUDED PENIS AFTER OPERATION FOR ELEPHANTOID SCROTUM

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THE treatment of the penis entirely denuded of skin after operative treatment for elephantoid conditions of the penis and scrotum has never proved satisfactory. Several lines of treatment have been advised.

The application of a Thiersch graft, the usual procedure, results in a penis which is simply tucked down to the pubic region by a tight collar of fibrous tissue, the stretched penis, upon which the grafts have been laid, collapsing inside the bandage, the moment tension ceases, the grafts merely tucking up round its base.

Connell (1932) states that Thiersch's method appears to be unsuitable and that he personally has never used it. His method of dealing with the raw penis is by threading it through a subcutaneous tunnel on the inner aspect of the thigh and liberating it some ten days later by means of a simple flap incision.

This flap, which must be broad when dissected up, gives the penis an abnormally bulky covering of skin and subcutaneous tissue. The result however is not always a happy one, because, unless broad, the flap may become gangrenous, may not fit round the penis without a certain amount of tension, and, as a result, a considerable amount of scar tissue forms on

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sudden hæmolysis with the resulting hæmoglobinuria. From this it may be deduced that in blackwater fever also the toxins of the malarial parasites by themselves or with the help of drugs such as quinine, atebriin or plasmochin might cause massive hæmolysis, hæmoglobinæmia and hæmoglobinuria in susceptible individuals.

I have to thank the Officer Commanding the British Military Hospital (I. W.), Mingaladon, for permission to publish the above case which was under my charge whilst I was a medical officer attached to that hospital.

[Note.—The writer has used synonymously hæmoglobinuria, a symptom, and blackwater fever, a clinical syndrome; this is not in our opinion justifiable.

He refers to the frequent use of plasmochin as a prophylactic in malaria. We are doubtful if it was ever used very extensively as a *personal* prophylactic, as early in 1931 a crucial experiment was performed in which it was shown that a total dose of 0.42 gramme of plasmochin given over a period of a week did not give protection against malarial infection. Such a dose may be expected to cause symptoms in quite a large percentage of the people taking it.

The value of plasmochin lies in its anti-gametocyte powers. A total dose of 0.06 gramme is usually sufficient to clear the blood of gametocytes; in this capacity it is valuable as a *general* prophylactic measure.—

EDITOR, I. M. G.]