Did the small bowel gain a covering from the mesentery of the hind-gut during this second stage? Is it a remnant of the vitelline sac? Opinions on these points would be welcome.

I should like to express my thanks to Brigadier Orenstein, D.M.S., U.D.F., for permission to forward this paper to the R.A.M.C. Journal.

REFERENCES.
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CASE REPORT OF PSYCHOSIS FOLLOWING HEAT STROKE.

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The following case seems sufficiently clear as regards the aetiological relationship between an attack of heat stroke and ensuing psychosis to merit publication.

The patient, M. M., aged 20, has a family history free from neuropathic features and, prior to the present illness, appears to have been free himself from nervous complaint.

On 18.7.42 he was admitted to a military hospital suffering from heat stroke. He complained that day of giddiness and malaise, commenced to twitch and vomit and, soon after admission to hospital, he had convulsions and became unconscious.

His temperature on admission was 109° F. in the axilla. He was immediately placed on emergency treatment for hyperpyrexia with ice water. A blood smear was found to be negative for malarial parasites. A blood urea estimation gave a result of 60 mg. per cent.

Treatment was continued with ice water sponging and ice water enemata and he was given intravenous quinine, and morphia and hyoscine hypodermically.

On 20.7.42 his morning temperature was 102.6° F., he was only slightly confused and stated that he felt better. The same day he gradually became more confused and was inclined to violence and, at 5 p.m., his temperature rose to 106° F. and he again became unconscious and had to be treated in the heat stroke centre.

On 21.7.42 the morning temperature was 109° F., he appeared more rational but was slightly jaundiced.

On 22.7.42 the morning temperature was normal, he was still rather confused, blood urea 45 mg. per cent, Van den Bergh negative, direct and indirect. His general condition was worse in the evening and he was deluded, confused and incontinent.

Between 22.7.42 and 25.7.42 his temperature gradually subsided but his mental condition steadily deteriorated and, being extremely confused and disorientated, he was transferred to the neuropsychiatric centre.

On arrival at the neuropsychiatric centre his mental state was characterized by confusion and disorientation and he was apparently experiencing visual and auditory hallucinations.

He was, however, able to give a general account of the details surrounding his illness.

His physical state was poor, his temperature was 100° F. in the axilla. Urine normal.

On 26.7.42 his temperature was 101° F., muscular twitchings had re-asserted themselves and he was considered to be dangerously ill. A blood smear was again negative for malarial parasites.

On 27.7.42 his temperature was 103° F., and during 25-26-27.7.42 he continued to require ice water treatment. He was again given intravenous quinine followed by quinine by mouth as a routine.

On 29.7.42 his condition appeared to be improving but he was still pyrexial with muscle twitchings and albumin was present in the urine.

On 1.8.42 his condition had commenced to deteriorate once more, his pulse was irregular and of poor volume and his temperature was 104° F. His mental state was characterized by terrifying visual and auditory hallucinations.
He continued to receive tepid sponging with occasional ice water treatment and his temperature now began to settle so that by 6.8.42 it had subsided to normal and remained normal thereafter. His physical condition commenced steadily to improve from 6.8.42, and thereafter never gave any further cause for anxiety.

His mental state continued to show marked abnormality and on 6.8.42 showed restlessness, agitation and confusion. His habits were filthy and degraded. He expressed nihilistic delusions such as that he was dead and rotting away. He commenced, however to show periods of relative lucidity lasting two to three hours during which he was able to give a reasonable account of himself.

On 28.8.42 he was transferred to a military neuropathic hospital. He was ambulant and, on a routine examination of the various bodily systems, showed no abnormality save a rather rapid pulse. The urine was normal.

**Psychiatric Examination.**—He was restless in a general sort of way but was amenable to nursing supervision. He gave a sketchy but correct account of his illness. He was disciplined and obeyed simple commands and knew that he was a sick soldier. He was unable to sustain a conversation but sustained a questionnaire. In spite of these facts he was disorientated for time and place.

He appeared dazed, puzzled, bewildered and worried about his condition. The setting of his worry was reminiscent of one who felt unworthy to live. He was not hallucinated nor could the term delusion be applied to any of the ideas he expressed. There were no ideas of reference. He was neither elated nor depressed and his mood was best described as one of bewildered anxiety.

His spontaneous speech was somewhat staccato, fragmentary and occasionally fatuous and the superficial appearance of clowning resembled a type of stage lunatic. He expressed suicidal ideas and occasionally seemed a trifle bizarre and manneristic, as for instance when he stood at attention for an hour. He was distractable but if left to himself would pursue a train of thought with appropriate remarks at random.

The following is an example of his spontaneous talk on 13.8.42, the medical officer sitting writing in the room as if not taking any notice of him.

"How far am I away from England, Sir?" paused for two minutes. "Can I have a book on history?"—he gets up from his chair and picks up a book on history belonging to a nurse. Another pause—"When will I be fit to travel?" another pause, "I think I had better leave the room, Sir." On attempting to converse with him he yielded the following:

**M.O.**: "How are you?"
**Reply:** "I think I've rather spoiled the food, Sir."

**M.O.**: "How?"
**Reply:** "I haven't had an action since yesterday."

**M.O.**: "Where are you?"
**Reply:** "Sitting in this chair, Sir—a long way from England."

**M.O.**: "Yes, but where?"
**Reply:** "I am not clear about that—I've got to make up for my misdeed—I've spoilt the food—tripping up on the floor."

**M.O.**: "Are you ill?"
**Reply:** "Yes Sir."

**M.O.**: "What is wrong with you?"
**Reply:** "I'd like to have a medical inspection—would you test me, Sir? I think I've damaged the food—I've spoilt it for the others—it's difficult to explain—I suppose it's this broken back—curious it feels bad."

**M.O.**: "What month is it?"
**Reply:** "Couldn't tell you, Sir—Summer."

**M.O.**: "Where are you now?"
**Reply:** "I've no idea—far away—I wish I was in England—a broken head—poor state of health."

**M.O.**: "Is there a war on?"
**Reply:** "Yes Sir—Churchill said it would be over in three years—I seem to have bad dreams at night—I never get to sleep—I wish I could be on the high seas—roving instinct—I'd like to travel."
M.O.: "Where to?"
Reply: "All over the world."

A test of his intellectual functions showed the following sample of results: $13 \times 13 = 169$. Five largest towns given correctly. A short story (cowboy) was read to him. He could not repeat a word of it. When asked what the story was about he said, "To get back to England and normal civilized life."

The pervading clinical impression was schizophrenic in type. He expressed several ideas of unworthiness, however, and showed a patchy lowering of consciousness. Some of his intellectual functions were clearly intact. His memory for recent events was in some respects poor and in other respects good.

The following is a controlled questionnaire:

Q.1.—"You told one of the nurses that you were half woman and half man. What do you mean by that?"
A.—"I am not in my right senses, Doctor."

Q.2.—"What makes you say that?"
A.—"I've led a strange life."

Q.3.—"Do you mean in hospital?"
A.—"Yes Sir."

Q.4.—"What did you do that was strange?"
A.—"I don't recollect, Sir; I need to concentrate more."

Q.5.—"Can't you concentrate?"
A.—"No—not easily."

Q.6.—"Have you had an illness?"
A.—"Heat stroke."

Q.7.—"Where did you have that?"
A.—"In ________" (correct).

The above questionnaire was then repeated in a less controlled fashioned six hours later, with the following results. The questions are represented by the numbers:

1. "I feel perfectly fit to go out. I felt dazed at the time."
2. "I didn't understand what was happening."
3. "I wanted to do Orderly's duties as well as anyone else."
4. "I have done some harm. I feel ringing in my ears, Sir, I know the ship (gave its name correctly) reached its destination all right. It's a strange world. I've been crucified."
5. "It's connected with the sanitation of hygiene. My nerves were not very hygienic. I feel all right now though."
6. "Yes, I've had an illness. I've been dazed. I was very wicked. A bad drainage system."

From 3.9.42 to 24.11.42 his condition remained stationary as regards the physical state. Mentally he became more and more the picture of a deteriorating schizophrenic and on 24.11.42 he was evacuated to another hospital pending hospital ship accommodation for U.K. On 24.11.42 he was dull and detached, showed marked fragmentation of speech, thought blocking and clouding of consciousness. His behaviour was bizarre but no definite delusional material could be elicited. He was silly and fatuous and inclined to repeat stereotyped questions. He exhibited no spontaneous conversation. His habits had deteriorated and he required general supervision to keep himself clean. On one occasion, which was not witnessed by the M.O., he injured his forehead by falling but no conclusive interpretation could be formulated respecting the nature of this incident.

**Summary.**

A psychosis following severe heat stroke is recorded. It resembled in general a post-traumatic psychosis but was not quite so faithfully schizophrenic in type and was entirely lacking in paranoid features. Paradoxical patchiness was the dominant impression. Thus he remembered the broad outlines of his illness and clearly knew he was in the M.E., and yet at another moment said that he was in England. Although showing delirious features during the acute febrile stage of terrifying visual and auditory hallucinations, there was
subsequently no evidence whatsoever of content disorder apart from the ideas of guilt with regard to the degraded habits of his acute stage.

I wish to acknowledge the co-operation of Major J. H. Groom, R.A.M.C., and Major Sutton, R.A.M.C., in the collection of the clinical data of this case and under whom all the treatment of the case was carried out. The case was seen by Brigadier G. W. B. James and Brigadier McAlpine. I wish to thank Colonel W. H. Kerr, T.D., for permission to forward the notes of this case for publication.

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M.E.S.H. BATH SET.

BY MAJOR N. BASTER,

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INTENTION.

To produce an easily and quickly made bath set using as its basis the M.E.S.H. two-gallon improvised shower, described in this number of the Journal (Hutchinson, G. R.).

SPECIFICATION.

(1) Time for erection, two men—3 minutes.
(2) Time taken for initial production of hot water—12 to 13 minutes.
(3) Subsequent production—1 gallon of boiling water per minute.
(4) Water consumption—1½ gallons per man.
(5) Fuel consumption—½ gallon of petrol per hour, hydra full on.
(6) Fuel consumption—½ to ¾ gallon of petrol per hour, hydra turned down and using six sprays only.
(7) Portability—can easily be carried by two men in four lifts.
(8) Transportability—4 sets can be carried by one 15-cwt. truck, 14 to 16 sets in one 3-ton truck.

Time per man for bathing—minimum 4 minutes; 5 minutes is the natural average and, allowing each man 5 minutes, 72 men can be bathed in one hour.

The boiler gives adequate water for six sprays each three minutes, enabling 120 men to be bathed in one hour if speed is essential. If six minutes per man is allowed a drum disinfecter can be worked from one half of the boiler unit allowing disinfection to be carried out simultaneously with bathing.

Components and Weights (fig. 1).

(1) Hydra burner .................. 64½ lb.
(2) Boiler unit ........................ 104 lb.
(3) Frame ............................ 137 lb.
(4) Water containers, spray units (M.E.S.H. 2-gallon improvised showers) and measure .................. 53 lb.

Total weight of complete set ....... 358½ lb.

Used as a wood burning wall set (2 and 4 as above and 12 small blocks of wood) ............... 160 lb.