Clinical and other Notes

on the eighteenth day of the disease was sterile. She was given 500 cubic centimetres citrated blood on the twentieth day and the temperature fell to normal on the twenty-third day and remained so for the rest of the convalescence.

Blood transfusion is recognised as a method of treatment of sepsis, and it was this fact that prompted its use in the two cases described. Whether or not the method has been tried before and found wanting, I cannot tell, as I have no reference library at my disposal; but at any rate it can do no harm!

In conclusion I have to thank Lieutenant-Colonel A. D. Fraser, D.S.O., M.C., R.A.M.C., Commanding British Military Hospital, Rawalpindi; and Major C. McQueen, M.C., R.A.M.C., Commanding British Military Hospital, Murree, for permission to forward these notes, which though admittedly sketchy in character are intended more in the nature of a petite causerie than as a serious contribution to surgical literature. I must also acknowledge my indebtedness to the surgical team: Major L. Handy, R.A.M.C., Specialist in Anaesthetics, Miss M. Bremner, Q.A.I.M.N.S., Sister-in-charge, and Corporal J. Duffy, R.A.M.C., operating room attendant.

RÉSUMÉ OF AN ANALYSIS OF "EFFECTS OF HEAT" CASE SHEETS FOR 1932.

By Captain J. S. McMILLAN,
Indian Medical Service.

For convenience, and not because there is any hard and fast dividing line, cases in this analysis were classified into four groups, of which the principal symptoms (as recorded on the year's case sheets) are tabulated.

I. Cases with no pyrexia. Total cases ninety-one. Deaths nil. Thirty-one cases with less than two years' service. These are the "heat exhaustion" type of case.

<table>
<thead>
<tr>
<th>Skin Cold</th>
<th>Vomiting</th>
<th>Nausea</th>
<th>Headache</th>
<th>Giddiness</th>
<th>Abdominal pain</th>
<th>Cramp in limbs</th>
<th>Semi-conscious</th>
<th>Un-conscious</th>
<th>Drowsy</th>
<th>Excited</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>25</td>
<td>4</td>
<td>30</td>
<td>25</td>
<td>45</td>
<td>25</td>
<td>25</td>
<td>4</td>
<td>2</td>
<td>8</td>
</tr>
</tbody>
</table>

In this class thirteen cases which were really severe had the following symptoms:

<table>
<thead>
<tr>
<th>Skin cold and clammy</th>
<th>Vomiting</th>
<th>Nausea</th>
<th>Headache</th>
<th>Giddiness</th>
<th>Cramp in limbs</th>
<th>Semi-conscious</th>
<th>Un-conscious</th>
<th>Excited</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>92</td>
<td>92</td>
<td>23</td>
<td>62</td>
<td>23</td>
<td>69</td>
<td>8</td>
<td>31</td>
</tr>
</tbody>
</table>

The condition of the patient is one of shock and collapse, with considerable gastric irritation.
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II. Cases with moderate pyrexia throughout. Number of cases fifty-three. Deaths nil. Pyrexia ranged from 99.6°F to 104°F.
The principal symptoms were as follows:

<table>
<thead>
<tr>
<th></th>
<th>Skin dry</th>
<th>Vomiting</th>
<th>Nausea</th>
<th>Headache</th>
<th>Giddiness</th>
<th>Cramp in limbs</th>
<th>Semi-conscious</th>
<th>Mental symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>66</td>
<td>25</td>
<td>13</td>
<td>75</td>
<td>21</td>
<td>21</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

Gastric irritation was not so severe in this type of case. The patient was frequently indefinite as to his symptoms. The possibility of an underlying cause for the condition other than "effects of heat" should not be overlooked.

III. Cases at first apyrexial which after a definite illness develop pyrexia.
From the practical point of view, this was a very important group. Sixteen such cases occurred, of whom nine died.
A tabular analysis of symptoms has not been made, but the following points are noted.

Apyrexial Period.
(a) Condition of the Skin.—Textbooks frequently cite absence of sweating with a hot dry skin as an important prodromal sign. As far as the case sheets under review were concerned, it was not specially noted that the skin was hot and dry, or cold and clammy.
(b) Gastric Symptoms.—Constant and distressing vomiting was a striking symptom which was absent in only one of the sixteen cases.
(c) Mental Symptoms.—These were marked and characteristic. The patients were very dull, or very irritable and restless. Many showed a "disrespectful" or even insubordinate attitude, and on reliable authority were said to be quite unlike their normal selves.
(d) Cramps in the limbs and muscular twitchings occurred in some cases.
(e) Giddiness was also frequently present.

Pyrexial Stage.
In the majority of cases attention was directed to the onset of this phase by some strange behaviour on the part of the patients. In all but one case they soon became semi-conscious or unconscious. The temperature at this stage varied from 100.8°F to 109.8°F. The higher temperatures did not indicate a graver prognosis. The skin now was always dry and hot.
The duration of the apyrexial stage prior to the onset of hyperpyrexia affected the prognosis. The longer it lasted, the worse was the outlook.
In general, soldiers with two years' service and under were more severely affected than older soldiers.
The symptoms corresponded to those described in the next class.
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IV. Cases with hyperpyrexia on or shortly after admission:

Twenty-five cases; two deaths. To these must be added four cases which died, two prior to admission and two immediately on admission, which were almost certainly heat-stroke cases.

Of the twenty-five cases, fifteen had less than one year’s service, four had between one and two years’ service and the remainder over two years’ service.

There was no doubt that these cases were similar to those in Class III, but with a negligibly short apyrexial phase.

Such cases had a dry and hot skin with a gritty feel. The face had an anxious expression and there was extreme restlessness. Vomiting (12 per cent), muscle spasm (24 per cent), and muscle cramps (20 per cent) were present in a proportion of cases. Unless treated, they quickly became unconscious with stertorous breathing. The majority of cases were, however, amenable to treatment.

A review of these classes shows clearly that they represent varying degrees of the same condition, there being a preliminary phase during which hyperpyrexia may or may not supervene. The earlier the hyperpyrexia appears, the better the prognosis. A very important practical point is that the “delayed” case gives warning by his severe gastric symptoms and peculiar mental condition.

Ætiology.

The underlying cause of hyperpyrexia in these climatic conditions is failure of the heat regulating mechanism, so that the body becomes heated above normal by the surrounding atmosphere.

Any toxic condition which upsets the heat-regulating mechanism therefore tends to produce hyperpyrexia. The most notorious cause of this nature is of course malaria, the possibility of which should invariably be carefully considered.

The true “effects of heat” case, however, is primarily referable to prolonged exposure to high temperatures without the coexistence of any infective condition.

Constipation, as is well known, is almost constantly present.

It is suggested that the prolonged excessive sweating results in deficient kidney action and an accumulation of waste products which have a toxic action—in other words, in a condition of dehydration. The muscle cramps and twitchings which occur in many cases support this hypothesis. Treatment based on this view has given satisfactory results.

The patient’s bowels should be cleared and as much fluid as possible should be given with a view to stimulating kidney action and getting rid of waste products.

It will be recalled that Class III cases (which show the highest mortality) have persistent vomiting as a predominant symptom, while
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Class IV cases unless treated become unconscious. In these, fluid must be given rectally, subcutaneously or intravenously. Isotonic glucose and saline per rectum in small quantities at frequent intervals (4 to 6 ounces hourly or two hourly) was found to be readily absorbed and acted well in certain cases where it was tried. Quantities up to two pints may be given rectally, but with this volume there is always the danger of reflex rejection, and where these larger quantities are indicated, they are best given subcutaneously or intravenously.

By whatever route administered, fluids should be pushed until evidence of kidney action is given by a distending bladder.

Hyperpyrexia when present should be reduced by sponging, cold baths, etc., but this treatment should not be carried to the point where collapse supervenes, the object being not so much to reduce the temperature per se as to keep it within reasonable limits while treatment to remove the cause is being applied. Gentle cold sponging with steady friction of the skin in the hope of inducing sweating is advocated.

Sedatives are of great value, and bromides per rectum, or morphia and hyoscine hypodermically, have been found to act well. Camphor and strophanthus are useful cardiac stimulants. Chloral hydrate and strychnine are to be avoided.

Venesection and lumbar puncture may relieve the symptoms in certain cases.

NOTES ON A RECENT EPIDEMIC OF MEASLES.

By MAJOR I. H. LLOYD-WILLIAMS, M.C.,
Royal Army Medical Corps (T.A.).

The epidemic occurred at Catterick during the months of December, 1931, and January, 1932. In all one hundred and nine children were seen by me during this period, no cases occurring among adults.

Certain clinical observations were made which are considered worthy of record.

The age incidence was as under:

<table>
<thead>
<tr>
<th>Under 1 year</th>
<th>2</th>
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</thead>
<tbody>
<tr>
<td>1—2 years</td>
<td>12</td>
</tr>
<tr>
<td>2—3</td>
<td>7</td>
</tr>
<tr>
<td>3—4</td>
<td>6</td>
</tr>
<tr>
<td>4—5</td>
<td>6</td>
</tr>
<tr>
<td>5—6</td>
<td>18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Under 6—7 years</th>
<th>17</th>
</tr>
</thead>
<tbody>
<tr>
<td>7—8</td>
<td>13</td>
</tr>
<tr>
<td>8—9</td>
<td>12</td>
</tr>
<tr>
<td>9—10</td>
<td>13</td>
</tr>
<tr>
<td>10—11</td>
<td>2</td>
</tr>
<tr>
<td>11—12</td>
<td>1</td>
</tr>
</tbody>
</table>

It is noticeable from the above that there would appear to be a relative immunity during the first year of life: the youngest case I saw was 5 months old. The second year produces a fair number, followed by a drop and a higher incidence of the first five years of school life attributable to increased risks of infection.