OUR PRIZE COMPETITION.

WHAT DO YOU UNDERSTAND BY HYPERPYREXIA? STATE IN FULL THE DIFFERENT METHODS WHICH MIGHT BE ADOPTED TO CONTROL IT.

We have pleasure in awarding the prize this week to Miss Henrietta Ballard, Garrett Anderson Hospital, Euston Road, N.W.

PRIZE PAPER.

The mechanism concerned in the regulation of the body heat is liable to disorder when either the heat-forming or heat-losing organs are diseased or injured, and elevation of the temperature of the body is rarely absent, but there may be an abnormal fall if very exhausting conditions arise.

Abnormal elevation of temperature, 105° F. or over, is known as hyperpyrexia, and is usually a fatal symptom in brain and spinal cord affections, but frequently occurs in some fevers and septic infections.

This elevation of body heat is due to :—

1. *Disease of Heat Centres,* such as injury to the nervous system, especially the cervical or dorsal region of the spinal cord, and increased heat production is being carried on unchecked in the tissues by paralysis of some part of the nervous system having resulted.

2. *Exposure to Excessive Heat.*—In tropical countries slight exposure to the sun's rays will result in sunstroke, and may cause hyperpyrexia.

3. *Sepsis.*—A local infection by micro-organisms may produce increased production of heat at the original centre, and unless their action is speedily checked, general septicæmia of the body will ensue, with hyperpyrexia and fatal result.

4. *Disease.*—Some diseases are attended with hyperpyrexia in quite moderate attacks, such as rheumatic fever, tuberculosis in very active disease, enteric and sometimes scarlet fever and other infectious fevers, but it is a grave complication of the latter.

Treatment.—1. *Preventative.*—Under this heading one can only place drugs, quinine and salicylic acid being the most useful, and elevation of temperature may be prevented by their continuous use for a few days at the onset of some affections, rheumatism being treated with salicylic acid, and quinine has a specific action on malaria.

Remedial.—In injury or disease of the nervous system, in which hyperpyrexia has resulted, little can be done except applications of ice to the head, either in ice-bags, the ice broken very small and put into a rubber bag used for that purpose, or by Leiter's tubes, coils of tubes fitting on the top of the head through which iced water flows continuously.

2. *After excessive heat exposure a cool* atmosphere and similar application to head as above, together with cold sponging, may aid in reducing the hyperpyrexia.

3. *Local septic infection* needs surgical treatment before general infection has time to result, but if such does happen, to save life the amputation of a limb or the removal of an organ may be considered necessary by the medical attendant to reduce the hyperpyrexia caused by the micro-organisms and their toxins.

4. *Diseases.*—Rheumatic fever with hyperpyrexia is often treated by cold baths, the patient being swung into a bath T. 80° F., and the temperature gradually lowered to 50° F., the patient then dried and put back to bed, but collapse must be watched for by heart failure resulting.

Tuberculosis.—Hyperpyrexia in this disease is a symptom of very active disease, usually towards the end of disease; cold spongings, with vinegar or alcohol added to the water, are very refreshing, but if the disease remains active nothing will be of much avail.

Fevers complicated with this abnormal rise of temperature are treated by cold wet packs, cold baths, and spongings. On the other hand, sometimes the giving of hot alcoholic or stimulating drinks and brisk purgatives do more to lower the temperature than the refrigerating methods, as they stimulate the secretions of the skin, and by inducing perspiration get rid of a large amount of excess of heat, and a warm bath after may have a very soothing effect.

HONOURABLE MENTION.

The following competitors receive honourable mention :—Miss M. Wilkinson, Miss K. James, Miss P. Thomson, Miss J. Robinson.

Miss M. Wilkinson advocates the use of tepid baths in the treatment of hyperpyrexia, as being less of a shock than cold baths. The temperature should be about 90° F. in the first instance, and slowly reduced to 70° F. by the addition of cold water. It must be remembered that the temperature of the patient will continue to fall after his removal from the bath.

QUESTION FOR NEXT WEEK.

What varieties of immunity have you heard of? In what ways can an individual be protected against an infectious disease?

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