OUR PRIZE COMPETITION.

WHAT DO YOU UNDERSTAND BY SHOCK? WHAT ARE THE PRINCIPAL CAUSES, AND HOW WOULD YOU DEAL WITH THIS CONDITION TILL MEDICAL HELP ARRIVES?

We have pleasure in awarding the prize this month to Miss Gladys M. Poskitt, S.R.N., Eastern Hospital, Homerton, E.9.

PRIZE PAPER.

Shock is a condition in which the nutritive fluid—the blood—is not being supplied to the tripod of life—the brain, heart and lungs—in sufficient amount.

The blood has a twofold action. Firstly, it supplies those vital organs with fresh oxygenated blood. Secondly, it acts as a scavenger and washes out the cell tissues, carrying away waste products.

In the mammal, the heart receives its blood supply through the coronary arteries, along which blood is flowing, during both systole and diastole. If the supply of oxygen and nutrient material to the heart becomes inadequate for its needs, the nutrition of the muscle fibres is impaired and the contractile power of the heart is diminished.

This condition of shock affects the lungs, inasmuch as the heart has not a sufficient amount of blood to send out at each beat to the lungs for oxygenation. This produces an oxygen want in the body and the condition known as air hunger is produced. The brain is extremely sensitive to this lack of blood and oxygen, and the motor centres which control the chief mechanisms of the body—namely, heart, circulation and respiration—begin to fail. The respiratory centre begins to lag, an example of which may be seen in the feeble sighing respirations. The quick, feeble pulse is an indication of the failing contractile power of the heart. It may be seen that the heart, lungs and brain work together and this condition of shock reacts on all three.

The condition of shock is produced and is called primary when it is caused by a temporary failure in the central nervous system, in the control of the circulatory system. The vasomotor centre is temporarily paralysed. The arterioles dilate, blood pressure falls and cerebral anæmia results. This is the sequence of events when a person faints.

Shock is secondary when it is caused by the absorption of histamine. Histamine is a chemical entity which is poured out wherever tissues are injured in any way. This has the effect of dilating capillaries, so that blood rushes out into all the wide open capillary paths. The condition of histamine shock may be a simple one, as in herpes on the lip; the lip feels huge, due to all the capillaries being wide open and the blood rushing in.

Another dangerous condition of shock will take place where there is extensive burning or laceration of the tissues. There will be a production of histamine, with a dilatation of all the capillaries. The blood will leave all the vital organs, with a resulting low blood pressure and the condition of shock.

There are several conditions which cause shock.

It may result from severe hæmorrhage, diarrhœa, thirst, long-continued bacterial infections as in typhoid and malaria, cold, extensive burns and scalds, and as a result of poisoning. The symptoms are: Thin, feeble pulse (rapid). Subnormal temperature. Blanching of the face, patient may wear an anxious expression. Feeble sighing respirations. Skin cold, clammy, and the muscles are toneless.

The patient may be conscious, but may make no voluntary movements. On the other hand he may be restless as in severe hæmorrhage.

The treatment pending the arrival of the doctor would be to raise the feet to a level higher than the head, to keep the brain supplied with blood. Next bandage the limbs, beginning from the feet and continuing up, bandaging tightly. Warmth would be applied in the form of hot blankets and hot water bottles. The bottles should be placed at the patient's feet and around his body, protected by covers, to prevent him from being burned. Warm drinks may be given, hot coffee is very stimulating. Hot milk. Brandy may not be given in some cases, for instance in shock as a result of hæmorrhage. Oxygen must be given. All doors and windows must be open, so that the patient may have as much fresh air as possible. Hot flannels or fomentations may be applied over the heart region. If it is a case of shock resulting from hæmorrhage externally, then dressings must be applied over the wound. If there is an operation dressing and secondary hæmorrhage is taking place, then aseptic padding must be applied over this. Pressure of some sort may be applied to the nearest artery, betweeen the heart and wound, in the form of pad and bandage, or digital pressure. If in hospital then a hypodermic injection may be got ready for the doctor, pituitrin or adrenalin or whatever he may prefer. A rectal saline or a subcutaneous saline would also be prepared so that it could be given at once if ordered.

If the condition of shock were due to burns and the patient a child, then he would be placed in a bath of water at 100° F., dried quickly and placed in warm blankets and treatment as above for shock.

HONOURABLE MENTION.

Honourable mention is accorded to Miss Amy Phipps, F.B.C.N., who was precluded from obtaining another prize this year, but sent a very excellent paper, and Miss Daisy Evelyn Lee, S.R.N. Miss Phipps writes:—

"In dealing with the condition of shock, it is of the utmost importance that the earliest symptoms should be noted and treated without delay, and in an intelligent manner, medical aid being urgently summoned. In post-operative shock, the wishes of the particular surgeon should have been ascertained beforehand as to treatment should this condition arise: the symptoms may be influenced by care in the preparation of the patient for operation; for this reason, prolonged fasting and drastic purgation has been abandoned by many surgeons, and in selected cases, prophylactic measures include the administration of saline solution both before and during operation.

"The Nurse may do much to minimise shock by reassuring the patient, helping to keep his mind off the operation, and taking care that he shall see as little as possible of the preparations for such things."

QUESTION FOR NEXT MONTH.

What do you understand by the terms "suppression" and "retention" of urine? Under what circumstances may these complications occur? Mention what nursing measures may be ordered in their treatment, and describe their application.

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