

OUR PRIZE COMPETITION.

WHAT ARE THE SYMPTOMS OF SHOCK AND OF COLLAPSE? MENTION SOME OF THE CAUSES OF THESE CONDITIONS. GIVE NURSING AND TREATMENT.

We have pleasure in awarding the prize this month to Miss K. M. Hawkins S.R.N., 2, Trafalgar Road, Twickenham, Middlesex.

PRIZE PAPER.

Shock.—A condition of general prostration and loss of vitality, due to the effect on the nervous system of severe physical or mental strain, as that following an accident or operation.

Collapse.—A condition of similar pathology, symptoms and treatment, occurring during an illness.

The essential clinical condition is fall of blood-pressure due to diminished quantity of blood in the circulation. Recent investigations show that, if not actually lost by hæmorrhage, the blood is held up in the capillaries, causing an insufficient supply of blood to the nerve-centres to keep them functioning.

During the late War the causes and treatment of shock and collapse were much studied, clinically and in the laboratory, and valuable information and experience were gained.

SYMPTOMS.

(a) *Early* (occurring usually within a few hours after operation or accident). 1. Pallor; apathy. 2. Rapid, feeble pulse. 3. Shallow, sighing respiration. 4. Sub-normal temperature. 5. Cold, clammy skin; cold extremities. 6. Fall of blood-pressure. 7. Faintness; syncope. 8. Thirst.

(b) *Later*. Restlessness, nausea and vomiting (showing return of vitality to nerve-centres); delirium (especially in alcoholics). Recovery or death usually occur within 24 hours.

CAUSES.

(a) *Predisposing*. Old age; extreme youth; those in weak or poorly-nourished condition, or with highly-impressionable nervous system; fatigue; hardship; pain, mental worry, anxiety; poisoning by drugs or alcohol.

(b) *Actual*. (1) Violent emotion, especially fear (depressing nervous system). (2) Great pain—e.g., burns, injuries; before or after operations. (3) Operations or injuries, accompanied by long exposure and loss of heat. (4) Rough handling of tissues and viscera during operation. (5) Severe hæmorrhage or nerve injury caused by accidents or operations. (6) Extensive wounds.

TREATMENT.

(a) *Preventive*. Prevention by anticipation is very important. (1) *Accidents and injuries*. Prompt treatment, no delay; patient put immediately to bed with well-protected hot water bottles, or in any case, kept warm and made to lie down with the head low; quiet enforced; injuries quickly and carefully attended to; unnecessary hæmorrhage avoided; warm drinks, unless contra-indicated; stimulants; narcotics often ordered.

(2) *Burns*. Shock is always expected, and treated immediately as above.

(3) *Operations* (i) *before*. Patient must be in best possible physical and mental condition; gentle and tactful treatment and encouragement on the part of

the doctor and nurse are important; warmth and comfort, and careful preparation for the operation are necessary.

(ii) *During*. Warm theatre, at least 65°; patient well clothed (long stockings, warm gown, &c.), and all unnecessary exposure avoided; kept well under anæsthetic throughout; speedy operating, clean cutting, gentle handling, viscera protected with hot saline pads, no avoidable hæmorrhage, and perfect hæmostasis are all-important.

(iii) *After*. Rectal or subcutaneous saline and morphia are often given on the table; patient returned immediately to a warmed bed, head kept low; absolute quiet; no visitors for at least 24 hours; pulse is noted frequently, and hæmorrhage at once reported.

4. *Crile's Method* of guarding against shock; a method developed by Dr. Crile, and used by many surgeons with success. The theory is that shock is due to exhaustion of the brain-cells, owing to their giving off energy in response to stimuli associated with operations; this was demonstrated microscopically. These stimuli are of two kinds, psychic (fear of operation, &c.) and traumatic (due to actual cutting, handling, &c.), and their exclusion is aimed at. In addition to the ordinary precautions of shock-prevention (as above), hyp. inj. morphiin gr. $\frac{1}{40}$ c scopolamine gr. $\frac{1}{150}$ is given two hours before operation (except in case of old people and children), rendering the patient drowsy, and less conscious of the coming ordeal. Impulses from the tissues to the nerve-centres during operation are excluded by blocking the wound-site by means of novocain infiltration. Nitrous oxide is used as anæsthetic instead of ether, as it has been found to cause less brain exhaustion.

(b) *Curative*. Prompt detection of symptoms and immediate treatment very important; the aim is the return of vitality to the nerve-centres, and the rise of blood-pressure:—(1) Warmth. Well-protected hot water bottles; extra blankets; hot drinks, unless contra-indicated; electric bulbs suspended from cradle; friction under cover to stimulate circulation; hot salines; mustard plaster over heart. (2) Fresh air, oxygen. (3) Head low, foot of bed raised (to induce flow of blood to brain). (4) Absolute quiet, no visitors. (5) Coffee; stimulants often ordered, brandy, whisky, ether, atropine, strychnine, camphor; morphia to relieve pain and restlessness. (6) Pituitrin or adrenalin sometimes ordered to raise blood-pressure; most doctors prefer to increase fluids in body by means of—(7) Rectal, subcutaneous or intravenous infusions, either (a) normal saline, (b) saline with gum acacia, to increase viscosity and make retention by tissues easier, (c) saline-glucose, to supply carbohydrate deficiency, (d) saline c soda bicarb., to counteract acidity of toxins produced by shock. (e) Transfusion is sometimes employed.

Convalescence.—Rest in bed; fresh air; light, nourishing diet; narcotics and stimulants often ordered.

HONOURABLE MENTION.

The following competitors receive honourable mention:—Miss Jane McNeillie, Registered Nurse, Miss Lena Innes, Miss M. Ramsay, S.R.N., Miss S. A. Cross, Miss E. A. Noblett, Mrs. Farthing, S.R.N.

QUESTION FOR NEXT MONTH.

Describe the principal symptoms of smallpox, the course of the disease, and the nursing care. How may it be prevented or modified?

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