

OUR PRIZE COMPETITION.

WHAT ARE THE USUAL CAUSES OF GALL-STONES? DESCRIBE THE PREPARATION OF A CASE FOR OPERATION AND THE SUBSEQUENT NURSING.

We have pleasure in awarding the prize this week to Miss A. M. Douglas, University College Hospital, Gower Street, W.C. 1.

PRIZE PAPER.

The chief causes for the formation of gall stones are: (1) Sedentary occupation and over-eating; (2) Pressure (as in wearing of tight clothing, tumours, or pregnancy); (3) Catarrh spreading to bile passages from the intestines; (4) Microbic infection of the bile ducts or gall bladder (*B. Typhosus*, *B. Coli*, and the less virulent forms of streptococcus, &c.

The pressure causes stagnation of bile, and pigments are deposited, round which excessive mucus collects. The mucus changes chemically into cholesterin, a crystalline substance which surrounds the nucleus (either mucus, epithelial, or microbic). The stones may resemble fine gravel, in which case there may be several hundred, moulded so that they fit together; or a single stone even as large as a goose egg may be found.

PREPARATION OF A CASE OF GALL STONES FOR OPERATION.

General.—Second day before operation give purge (castor oil \bar{z} 1); first day before operation, saline aperient mane s.o.s. Light diet. Morning of operation, large soap and water enema. Breakfast (light), beef tea (\bar{z} x), four hours before operation. Hyp. Inj. Atropine sulph. 1-100 grain (to be charted by surgeon) half an hour before.

Skin Preparation.—Thoroughly wash and shave the skin over the liver, paint with Iodine, or apply antiseptic, compress and bandage.

Mouth Preparation.—If possible carious teeth should be previously removed or stopped, and a mouth wash must be given just before the patient is sent to the operating theatre.

If the nurse only reaches the case the day before the operation an enema should take the place of the usual purge.

In case of chronic jaundice the surgeon usually orders subcutaneous injection of Horse serum, 20-30 c.c., or calcium chloride in \bar{z} doses for twenty-four hours before operation; these are continued per rectum for two days afterwards. The object of these injections is to coagulate the blood, as hemorrhage is likely to be a complication.

For the operation the patient should be clothed in a split flannel gown fastened at the back and long woollen stockings. A sand-bag

or "rest" should be placed under the back to raise the liver, and the table is usually raised 35deg. at the head in order to cause the intestines to gravitate away from the wound. The right arm may be placed under the mackintosh or in an arm rest at right angles to the table.

Adrenalin should be near at hand in case of hemorrhage.

When the patient returns to bed he must be placed flat until he recovers consciousness and kept warm by means of hot water bottles; later he is placed in the Fowler's position. It is most important that the knee bolster should be firmly tied, and the patient not allowed to slip down in bed. The after treatment in cholecystectomy (excision of gall bladder), cholecystenterostomy (making a permanent opening between the gall bladder and intestine), may be indicated as follows.

Usually a drain is inserted into the gall bladder or duct, if there is no infection, this may be removed on the third day, and the stitches on the tenth.

If a drainage tube is inserted it is connected by a glass connection to a long piece of tubing which is placed in a bottle tied to the bed in which the bile collects, which is removed on the seventh to tenth day. The bile is measured and a specimen saved. The skin round the wound must be kept covered with an antiseptic ointment, as the bile is very irritating. A drain is also usually inserted into the peritoneal cavity in all cases, and this can be removed on the third day, if there is no infection.

Diet.—Fluids until bowels are open. Then light and nourishing diet, fats being restricted.

Bowels.—Soap-and-water enema morning after operation; second day, calomel, followed by saline aperients.

The temperature, pulse, and respiration should be charted four-hourly while stitches are in. A specimen of urine should be kept daily, and stools reserved for inspection.

Complications.—Hæmorrhage (apply pressure with gauze soaked in adrenalin).

Broncho-Pneumonia and Pleurisy.—To prevent this keep patient in semi-sitting position.

Incisional Hernia.—All fat patients should wear abdominal support for some months.

Biliary Fistula.—Due to obstruction, which will necessitate another operation.

HONOURABLE MENTION.

The following competitors receive honourable mention: Miss P. Thompson, Miss M. Stevens, and Miss J. James.

QUESTION FOR NEXT WEEK.

Flatulence after operation: give causes and treatment.

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