

HOSPITAL CLINICS AND MEDICAL PROGRESS.

A CASE OF PYOMETRA DUE TO PLUGGING OF THE CERVIX BY A FIBROID POLYPUS.

By WHEELTON HIND, M.D., B.S., F.R.C.S.,
Surgeon, North Staffordshire Infirmary.

PYOMETRA is a somewhat rare condition generally consequent on metritis, with either stricture or occlusion of the os uteri, so that septic discharges cannot drain away. The condition may also arise from the presence of a foreign body such as a portion of a tent, or other article, introduced and accidentally left in the uterus which, while setting up irritation, acts as a cup and ball valve, preventing free drainage. By pyometra may be understood a dilated uterus containing septic matter, as distinguished from metritis, where the interior of the uterus may be septically infected, but there is no damming back of pus. Pyometra may be due to one other condition, which I have not seen mentioned, and that is the presence of a firm uterine polypus which acts as a plug and prevents drainage, of which the following case is a good example.

Mrs. —, aged 36, admitted to hospital under me on October 31, 1903. She states that she has had a foul copious discharge of pus, which has been increasing in quantity during the last nine months. It has been intermittent in flow, and has become more and more offensive of late. She has had violent metrorrhagia, the periods extending over three weeks. On examination the patient was well nourished and fairly healthy looking, pulse 88 per minute, temperature 100° F. Urine 32 oz. in first 24 hours, sp. gr. 1.010. No albumen. On palpating the abdomen there was a firm, elastic, rounded tumour, reaching up to the umbilicus, which gave a sensation of heat to the hand, and was pyriform in shape; pressure caused an exudation of pus from the vagina. Per vaginam a large polypoid mass was felt, round which the finger could be swept, much offensive pus coming away on manipulation. The tumour rapidly diminished during the night, and when placed on the operating table next day was not easily felt through the abdominal wall. The patient was placed in the lithotomy position, and at once the trouble was found to be due to a large submucous fibroid which, though protruding into the vagina, was tightly grasped above by the cervix. Copious irrigation was carried on for some time, the uterine cavity being thoroughly washed out till all pus was evacuated, then the tumour was removed. Great difficulty was experienced in delivering the growth from the vagina, on account of its size, but once delivered, the pedicle was cut through with scissors. On exploration of the uterus the cavity was found much dilated and the pedicle very short, a condition which no doubt caused the damming back of menstrual hæmorrhage, which, becoming septic, gave rise to the pus. Convalescence was retarded by an attack of pelvic cellulitis, which gave rise to very little general disturbance and cleared up with rest and hot antiseptic douches. All discharge stopped in a few days after the operation, and the uterus soon attained its normal proportions.

Uterine polypi are common enough, but it is very rare that they completely block the cervix, and give rise to pyometra.

PRESERVATION OF PATHOLOGICAL OR OTHER SPECIMENS.

THE practitioner very often wishes to preserve a specimen of some diseased organ or tissue, either for museum purposes, or for reference, or to show at societies. The two most useful methods available for this purpose are (1) The spirit method, and (2) the formalin method. The first one, which held the field until recent years, has now been almost given up in preference for the second. The disadvantage of using methylated spirit for the preservation of museum specimens is that the original colours, as seen in the recent condition, after a short time fade, and, therefore, much of the usefulness of the specimen is lost. The advantage of the spirit method is that it is fairly cheap and much less troublesome than the formalin method. It is generally recognised now, however, that the latter is the best and most satisfactory in spite of the extra trouble and expense which it entails, for the results are excellent, and, with a little care and attention to details, very useful and pleasing specimens may be prepared. A short description of the method employed in using spirit is, however, appended, in addition to a fuller account of the formalin process.

Spirit Method.—Wash the specimen well in a large quantity of water—running water is best if available—to get rid of as much blood as possible; then place it in a vessel containing a mixture of ordinary methylated spirit and water in equal parts. Cotton-wool may be used to keep the specimen off the bottom of the jar and from touching the sides, and, if it is a hollow organ, it is better to stuff the specimen lightly with wool. By this means the natural shape of the specimen is preserved. As a rule there is much discoloration of the spirit by the escape of blood from the specimen at the end of 24 hours, so it is advisable to stir up the bottom layer of fluid, or better still, replace it by a fresh solution. A specimen preserved in this way will keep indefinitely with an occasional change of spirit.

Formalin Method.—The following are the solutions required and directions for carrying out the process:—

A. Formalin solution :	Pure formalin	150 cc.
	Pot. nitrate	15 grm.
	Pot. acetate	30 grm.
	Tap water	1,000 cc.
B. Methylated spirit (strong).		
C. Glycerin solution :	Glycerin	1,000 cc.
	Pot. acetate	30 grm.
	Distilled water	1,200 cc.
	Pure formalin	20 cc.

Dissolve the potassium acetate in some of the distilled water and filter it, then mix the whole of the ingredients together and the solution is ready for use. Place the organ or tissue to be preserved into a large jar or basin containing some of the solution A, taking care to arrange the specimen in its natural position or shape, after first rinsing any

loose blood off its surface. Ordinary absorbent cotton wool is the best material to use for supporting and packing round the specimen; this keeps the latter from touching the sides or bottom of the jar and so being flattened out of shape by pressure. In the case of a hollow viscus such as the stomach or a piece of intestine, it is better, when possible, to distend the specimen with formalin solution and tie the ends; this is best done while the specimen is half immersed in the fluid in the jar. The specimen may also be supported by threads passing from it to the sides of the vessel. As formalin hardens the skin of the hands very quickly, it is as well to use a pair of indiarubber gloves if these are available, and in any case forceps will save the hands a good deal. After soaking in the formalin solution for a short time, it will be noticed that the colour of the specimen changes to a dirty grey; this, however, does not matter, because most of the colour will return in the next solutions. The specimen soon becomes hard and fixed, so that the "shaping" of the parts with the wool packing should be done as quickly as possible. The length of time which it is necessary to leave specimens in the formalin solution varies according to their size and consistence. A small and delicate specimen, as for instance a piece of intestine should only be left in for about 15-20 hours, whereas a thick piece of liver or lung will require 48 hours, and it will not harm then if left in for a longer period. The specimen is next transferred to solution B; here, if the specimen is small and delicate about 10 to 20 minutes is quite long enough to leave it in the spirit, and it will be noticed that within a few minutes the original colour begins to return; as soon as there is any signs of the colour fading while the specimen is in the spirit it must be at once taken out. Large specimens may be left in the spirit for an hour or so.

The next step is the placing of the specimen in the last solution, solution C., where it will be found that the colour will return, in most cases to what it was in the fresh condition of the specimen. It takes some time for a solid specimen like a piece of liver or kidney to sink in the glycerin solution, so that it is as well to place some cotton wool lightly on its surface to keep it moist. Lung and fatty tissues will not sink and so must be weighted if it is intended to mount the specimens. Specimens may be kept permanently in the glycerin solution, the only precautions necessary being the occasional addition of a small quantity of formalin to prevent growth of moulds, and if the solution become much discoloured it must be changed. Some form of covering is necessary for the vessels used, either a glass sheet or stopper.

ALBUMINURIA IN THE APPARENTLY HEALTHY.

DR. SAMUEL WEST,¹ discussing this subject at the West London Medico-Chirurgical Society, spoke of the difficulty of assuring oneself that a patient who is apparently healthy is actually so, except for the passage of albumen in the urine. Albuminuria is rare in health. If a large quantity of normal urine be evaporated, concentrated, and the residue dissolved, a tiny trace of albumen may be demonstrated by delicate tests. This is the only true

physiological albuminuria. In the strict sense of the term, albuminuria is never physiological, always pathological, though the person may be apparently healthy.

Causes of albuminuria fall into three groups:— (1) The accidental, normally secreted urine contaminated on its way out; (2) the renal, where there is more or less obvious cause in the kidney itself; (3) the pre-renal group, in which the cause is some general or local pathological condition as morbus cordis fever, or blood disorders. Functional albuminuria may be described as albuminuria in which the cause is not obvious. The diagnosis has to be made by exclusion. Accidental contamination is combated by the use of a catheter, but transient albuminuria may be caused by oxalates or uric acid gravel in the pelvis of the kidney. In the pre-renal group it is probable that toxins absorbed from the intestinal tract or generated within the body itself, play an important part. Transient albuminuria may follow the ingestion of certain articles of food, and appears to be due to elimination of a poison. Occasional, intermittent, remittent, cyclical, postural and dietetic albuminuria are names given to this form of urinary complaint, but the conditions to which these terms refer may be met with in convalescence from acute nephritis, and therefore are no proof that the kidneys are sound.

Functional albuminuria frequently occurs in infants and has little significance. Boys at school show it in a proportion of one in five. There are two classes, the pale and the florid, probably presenting differences in pathology, prognosis and treatment. As a rule the boy's health does not suffer if he is left at school, and the symptom eventually disappears. In the young adult there is a risk that the albuminuria may not clear up, so that an insurance office is justified in declining to take the risk, but as most of these cases recover entirely it seems unfair that lads so suffering should be debarred from appointments in business houses and banks. At the age period of 25 to 30 frequency of albuminuria is at its lowest. After the age of 30 it rises with every year of life, and with that rise the gravity also increases.

In granular kidney all the features of functional albuminuria may be reproduced; the albumen may be small in amount, not be always present, and vary with posture and diet. But if with albuminuria there be associated arterial thickening, there must be grave arterial or kidney disease, and the patient is not suffering from functional albuminuria alone. Insurance companies should refuse all cases of albuminuria over 40 years of age, load heavily those between 30 and 40, make an addition between 25 and 30, postpone and watch all between 18 and 25, reject at every age those who also have arterial thickening. Dr. West summed up by stating his conviction that albuminuria is never truly physiological, though it may be due to other than renal causes.

¹ West London Med. Jour., April, 1904.

PHYSICAL CHARACTERS AND MORBID PROCLIVITIES.

In the recently-issued volume of *St. Bartholomew's Hospital Reports*, is a paper by Dr. F. C. Shruballs, in which an attempt is made to substantiate a corre-