

increasing the quantity until the vagina is completely filled. A T-bandage is afterward employed to maintain the tampon in position. The tampon should be changed at the end of twenty-four or thirty-six hours.

When the patient desires to micturate, a portion of the plug at the entrance of the vagina must be removed. At this point the plug presses on the urethral canal, and its removal is necessary before the urine can pass through.

## CHAPTER XIX.

### *RETENTION OF URINE.—DISLOCATION OF THE NECK.—INJURIES FROM LIGHTNING.—COLIC.*

**RETENTION OF URINE.**—Retention of urine may arise from spasmodic contraction of the muscular fibres of the neck of the bladder, organic stricture of the urethra, enlarged prostate, stone in the bladder, paralysis of the bladder, abscesses in the perinæum, fracture of the pubic bones, with laceration of the urethra, and injuries to the spinal cord.

Retention which is produced by spasm of the muscular fibres accompanies exposure to cold, or acute inflammation of the urethra. It occurs suddenly, and is not connected with chronic disease of the genitals. There is pain in the perinæum and hypogastric region. If the bladder is distended with urine, a large area of dulness will be found on percussing along the pubes. Febrile excitement is also present if the retention follows inflammation.

The patient is readily relieved by the application of hot fomentations over the hypogastrium and genitals, hot baths, and by the internal administration of opium. Leeches to the perinæum are useful in some cases.

In retention from organic stricture the patient will have

had, for a variable period previous to the attack, great difficulty in micturition, a small, twisted stream of urine, and some degree of pain. An exploration with sounds or bougies will show an obstruction at some point between the meatus and membranous portion of the urethra.

If the stricture cannot be dilated rapidly, and if the condition of the patient will not permit of urethrotomy, the distended bladder may be temporarily relieved by puncturing through the rectum. At the base of the bladder there is a space uncovered by peritonæum, which is bounded on each side by the vesiculæ seminales, behind by the rectovesical fold of the peritonæum and in front by the prostate gland. The operation at this point is performed by inserting the left index-finger into the rectum and carrying it half an inch or an inch beyond the prostate, and then introducing a large, curved trochar (using the finger as a guide) and plunging it into the bladder at that point. The stylet is then removed, and the urine escapes through the canula. If fluctuation cannot be detected by the finger, the operation should not be performed.

Retention from enlarged prostate occurs in advanced life. The hypertrophied gland may be felt by a rectal examination. If the ordinary large curved prostatic catheter cannot be passed over the obstruction, an instrument with a shorter curve may be forced *through* the enlarged lobe into the bladder, or the bladder may be opened through the rectum in the manner previously described.

Habitual distention of the bladder may induce a semi-paralytic condition of the walls of the organ and produce retention. This condition occurs not unfrequently in females whose opportunities for emptying the bladder are often re-

stricted. It is relieved by frequent introduction of the catheter, cold hip-baths, and tonics.

When retention arises from injuries to the spinal cord the bladder should be emptied twice each day by means of a catheter, and thoroughly washed after the urine is evacuated.

DISLOCATION OF THE NECK.—This accident is usually fatal. In death from hanging the transverse ligament is ruptured, the axis is dislocated from the atlas, and the odontoid process of the former bone presses upon the upper portion of the cord. Death in such a case is almost instantaneous.

Partial dislocations of the cervical vertebra lower down are sometimes recovered from. In these cases, the head is turned to one side, and there may be slight paralysis below the point of injury.

*Treatment.*—The surgeon grasps the head of the patient, while an assistant steadies the shoulders. Extension is then carefully made, while the head is rotated toward its normal situation. Perfect rest for a few days is afterward necessary.

INJURIES FROM LIGHTNING.—The effects of lightning on the system vary in character. In some instances death is instantaneous, in others there is more or less extensive charring of the tissues, paralysis of the extremities, loss of sight, speech, and hearing, and hæmorrhage from the mucous canals. Burns produced by lightning are apt to run a protracted course, and are accompanied by extensive suppuration. Paralysis is rarely recovered from. Boudin speaks of cases where persons injured by lightning had images of surrounding objects depicted on the body and

clothes. Similar curious occurrences have been recorded by other observers.

The symptoms presented by a patient suffering from a lightning-stroke are coldness of the extremities, sighing respiration, absence of radial pulse, and insensibility.

After death the ordinary *rigor mortis* is not witnessed, and the blood is said to be more fluid than in death from other causes.

The treatment consists in friction to the surface, artificial respiration, and the administration of stimulants.

COLIC.—Spasmodic contraction of the muscular walls of the intestines is generally attended with great pain. It is occasioned by cold, or over-indulgence in indigestible food. It is characterized by paroxysms of intense pain over the abdomen; vomiting is sometimes associated with it. The pain is distinguished from that accompanying inflammation by the fact that it is relieved on pressure.

An injection of one or two quarts of very warm water and an opiate will cure it. The following prescription answers in many cases:

R. Bismuthi subnitrat̄is . . . . . ʒj.  
 Morphie sulphatis . . . . . gr.ʒ. M.  
 Ft. pulv. x.

One powder should be given every hour until the patient is relieved. Mustard or hot flax-seed poultices may also be applied over the abdomen. (*See Lead Colic.*)

## CHAPTER XX.

### TOXICOLOGY.

#### NARCOTIC POISONS.

Opium, Belladonna, Hyoscyamus, Aconite, Tobacco, Stramonium, Chloroform, Hemlock, Lobelia, Woorara, Ether, Alcohol, etc.

OPIMUM is obtained from the unripe capsules of the *Papaver somniferum*, or poppy. The juice of the capsules is the portion used. The plant is cultivated in India, Persia, Europe, and in this country. It has been employed as a medicine from the time of Hippocrates to the present day, and stands unrivalled as a remedy for the alleviation of pain.

In Turkey and China the drug is habitually smoked and chewed. In the western parts of Europe and in this country the habit of smoking and eating opium is not uncommon. It engenders exaltation of ideas, and general buoyancy of spirits. Some of the brightest lights of the literary world have fallen victims to this vile habit of opium-eating. The well-known case of Fitz-Hugh Ludlow is familiar to most American readers, and in England the celebrated Coleridge and De Quincy were victims to the drug.

The quantity of opium necessary to cause death varies with circumstances. Quantities which would destroy life