

ried out by blunt dissection, being careful to preserve the spermatic arteries to testicle. This is followed by the same improvement in lesions of the prostate and seminal vesicles, evident by examination and by lessening of such symptoms as follow early castration. The advantages of epididymectomy over castration are preservation of the testicle, which continues to supply its internal secretion, although sterile. The second testicle may later become involved and castration there be necessary. The statistics of Reclus show the infection to be a descending epithelial one, extending from the prostate or seminal vesicles to the epididymis rather than through the blood.

In acute cases, which usually involve both epididymis and testicle and which usually end in suppurative testicular disintegration, early castration is advisable. As in other cases in which the testicle is involved, it is important to remove the vas deferens as high up as it can be dissected free to complete the operation.

Cancer of the Genito-Urinary Organs is discussed by M. Legueu,¹ who points out that in all lumbar nephrectomies for renal cancer, but one cancer recurred within 24 months; whilst of two incomplete lumbar nephrectomies in which diseased glands were detected at the time of operation, but were left in place, one survived 18 months and another more than 3 years. Recurrence is generally local. In one instance it was noted in the skin. Commonly it occurs in the fatty capsule which has been left. Recurrence was seen when the fatty capsule and neighboring involved glands had been removed. Of 6 transperitoneal nephrectomies, 4 recurred within 2 years; two could be traced for only 11 and 15 months respectively. Twice there was recurrence at a distance, in one instance secondary to a hypernephroma, death occurring 2 years later with pulmonary metastasis, and in another case death occurred 8 months after operation, with profound cachectic symptoms, the point of recurrence not being determined.

Eiselberg states that of 13 cases subject to nephrectomy, 8 died from 2 to 34 months after operation. Of the remainder, one reached the fifth-year limit. Of 400 cases cited by Forgue, 29 remained well for 4 years after opera-

tion. Four of these were children. Should probation be raised to 5 years this figure drops to 18. Discouraging though these figures seem, 18 apparently cured cases must be considered. Early diagnosis and massive removal is the essential surgical basis. By massive removal is meant kidney and fatty capsule extirpation with removal of associated lymphatic glands, and the suprarenal body. Legueu prefers the Gregoire incision. The patient is placed in the flexed dorsolateral position, incision is made from above the middle of Poupart's ligament toward the anterior superior iliac spine and vertically upward to the costal border, and backward along this for a distance of 5 or 6 centimeters. This cut is carried down to the peritoneum, and the latter is stripped from the posterior abdominal muscles of the iliac and the lumbar fossæ. The perirenal fibrous capsule is cut in its outer border and the fatty capsule is stripped from its anterior and posterior attachments without being cut or torn, until the vascular pedicle of the kidney is reached. This, if the tumor be voluminous, is ligated, after which the ganglia are ablated. If the tumor be small the ganglia are taken with it in one mass, including the suprarenal capsule. The involved glands will be found in the right side around or behind the vena cava; in the left side in contact with the aorta, between the celiac axis and the inferior mesenteric vessel. In Paris two such operations have been performed, one for hypernephroma without ganglia, and the other because of a cancer with involvement of the ganglia. Neither recurred.

In bladder cancer, carcinoma and sarcoma, Legueu reports the same tendency to recurrence as in renal cancer, which he attributes to late diagnosis and incomplete removal. Remote metastases are late and rare. Recurrence occurs at the point from which the cancer is removed. This is due to the fact that the cancer cells are not all removed. Hence the necessity of early diagnosis, and then wide removal, including all the thicknesses of the bladder walls. This is perfectly practicable and usually simple, excepting when neoplasms involve the bladder near the ureteral orifices.

Cystectomy for bladder cancer is rarely justifiable. The

(1) Ann. de Mal. des Org. Genito-Ur., No. 28, 1908.

immediate mortality is high. Of the 31 cases reported, but 2 were alive at the end of the first year.

Concerning malignant prostate disease enucleation by the perineal route is the most practicable, the technic perfected by Young being the best, though the prognosis as to recurrence is gloomy. Urethral cancer has recurred even after total emasculation.

Operation for penis cancer with the exception of that for sarcoma is fairly satisfactory. Amputation is a better operation than total ablation, and should be accompanied by extirpation of the inguinal glands.

In tumors of the testicle the prognosis can be outlined by histologic examination. Mixed tumors which do not present evidence of malignant degeneration do not recur. Those which present but few degenerative points may remain permanently well. Those which are frankly malignant almost inevitably recur.

Operation in Total Genital Tuberculosis. M. Pauchet¹ reports 5 cases of total genital tuberculosis (prostate, seminal vesicles, vas deferens, epididymis and sometimes the testicle) treated by extirpation. He advises operation when touch reveals large seemingly suppurating vesicles. The nodules felt in the prostate correspond to the ejaculatory orifices and should be excised. The operation is not dangerous or difficult for those who have done perineal prostatectomy. It has two stages. The first is an inguinal stage when the subject should be placed on an inclined plane and an incision made like that of inguinal hernia but longer. The vas deferens should be dissected to the bladder. The peritoneum is not opened. The vas deferens should be severed by the thermocautery between two ligatures. In the perineal stage a transverse incision should be made before the anus. The rectum and urethra should be stripped off as well as the bladder base. The seminal vesicles and vas deferens should be dissected from above downward. A corner of the prostate should be excised. The perineal wound should be brought together without suture. The inguinal wound should be sutured without drainage and collodionized. For 8 months after a urinary fistula usually persists. Relapses have as yet not resulted.

(1) *Gaz. des Hôp.*, June 22, 1909.

Bladder Implantation Cancer. S. Suzuki¹ reports the case of a man, 43 years of age, who died with the clinical diagnosis of tumor of the left kidney. On autopsy it was found that he had a neoplasm of the left suprarenal gland which had penetrated into the kidney and secondary deposits in the liver and in the mucous membrane of the bladder.

Prostate Cancer in its early symptoms mimics, according to D. Loree,² senile hypertrophy. Cases with an infiltration predominating from the first have certain characteristics evidenced by cystoscopic examination of the bladder base and digital examination of the seminal vesicles, after the invasion has gone beyond the capsule, and can hardly be regarded as early in the disease. Whether malignancy is suspected or not, the hemolytic action of the blood should be studied in all cases. Under certain conditions, when an extensive pathologic examination can not be made immediately, or a more thorough subsequent search reveals cancer, the operation may be performed at two sittings. In those cases in which the lobes enucleate easily with the finger, if a malignant process exists, it will be confined to the interior of the lobe or lobes and the necessity of a more radical operation will not be apparent.

Testicle Hemorrhage. V. W. Low³ reports two cases of testicle hemorrhage in a paper before the London (Eng.) Medical Society. April 17, 1907, a 19-year-old boy complained that 2 days previously his left testicle became swollen and painful. He attributed this to his trousers being too tightly braced up. When this was remedied the pain ceased. There was no evidence of gonorrhoeal infection. Provisional diagnosis was made of gonorrhoeal epididymo-orchitis. A week later he was seen again. The pain, tenderness and testicle swelling persisted. Careful examination failed to discover urethral infection. The scrotum on the left side was red and edematous; the testicle and epididymis were enlarged. It was difficult through the edematous scrotum to distinguish one from the other. The vas was normal. Nothing abnormal could be felt in

(1) *Berliner Klin. Woch.*, Feb. 15, 1909.
 (2) *Jour. Am. Med. Assoc.*, July 24, 1909.
 (3) *Clinical Journal*, March 31, 1909.

the prostate and vesiculæ seminales. There had been no history of mumps. He presented no evidences nor was there family history of tubercle. The case was considered to be one of testicle and epididymis tuberculosis. Removal of the organ was advised. This was done on May 7. The patient made an uneventful recovery.

The testicle was of a gray-black color. There had been considerable hemorrhage into the substance. The attachments were normal. No evidences of torsion could be found. No traces of tubercle were present. The testis and epididymis were enlarged. The digital fossa was well marked; there was no displacement of the epididymis on the body of the testis. On section the body of the testis was firm and dry and had a uniform gray color. In the region of the rete testis were several small ill-defined hemorrhages. In the epididymis and cord were dilated blood-vessels, but no hemorrhages were here present and no indication of cord torsion.

Microscopically the cells of the tubules in the body of the testis were found completely necrotic. There was only fragmentary nuclear staining. The same change had occurred in the interstitial tissue, which was everywhere rather wider than normal. The blood-vessels were dilated and many of the veins were occupied by thrombi. In the rete testis necrosis was less advanced, and in places nuclear staining was retained; the interstitial tissue was here infiltrated with red blood-corpuscles, and in places there was infiltration also with polynuclear leucocytes.

The arteries of the testis were everywhere patent. There was no disease of their walls. At the margin of the testis was a hemorrhagic zone, outside which was a wide zone of granulation tissue, showing all stages of organization. In places the granulation tissue extended for a short distance into the interstitial tissue of the body of the testis. The epididymis showed no alteration in structure.

The cord showed dilatation and thrombosis of some of the veins. The degree of necrosis varied in different parts of the testis and appeared to have occurred at different times.

The second case was that of a 21-year-old man seen by

Low in May, 1907. In the early part of April, he had occasion to get out of bed in order to unlock the door of the room for his brother. While moving, a sudden, violent pain occurred in his left testicle, of such severity as to cause him to lie on the floor. The pain partially subsided, but all night his testicle was tender, swollen and aching. The next morning he was seen by his doctor, who found the organ swollen and tender and the scrotum red and edematous. He was kept in bed for a week, and anodyne lotions were applied. The pain and tenderness subsided and he was much better, but the testicle still remained swollen.

Four weeks after the attack the testicle was enlarged and slightly tender. There was no redness nor edema of the scrotum. Both epididymis and testicle appeared to be enlarged. At the time, Low thought the enlargement was more marked in the epididymis, which was hard and seemed to be nodular. There was a general thickening of the cord, but no definite nodule could be felt on the vas. There was no enlargement of the vesiculæ seminales nor of the prostate, nor was there present any vesical pain or irritability. There was not the slightest suggestion or suspicion of gonorrhœa. The patient appeared otherwise perfectly healthy. There was, however, a bad family history, and the patient was one of the 5 survivors of a family of 11, of whom 2 had died of tubercle. Low thought the case was one of tuberculous epididymitis, and advised that the organ should be removed. This was done May 28. The operation presented no feature of interest. Convalescence was uneventful. There were no tubercular deposits in either testicle or epididymis. The anatomic relations of the cord, epididymis and testicle were normal. There was no evidence of recent torsion.

The body of the testicle was not enlarged, the epididymis was slightly enlarged, and the digital fossa was deep; there was no displacement of the epididymis upon the body of the testis. On section, the body of the testis was firm, and had a caseous appearance throughout; there was slight brownish discoloration in the region of the rete testis. The epididymis and cord contained dilated blood-vessels. Microscopically, in the body of the testis all the tissues

were completely necrotic, and both cell-outlines and nuclei were everywhere gone. The interstitial tissue was somewhat widened. At the margin of the necrotic area was a wide zone of granulation tissue, with newly formed fibrous tissue. The granulation tissue in places was invading the interstitial tissue of the body of the testis. Some of the granulation tissue cells were crowded with pigment granules.

In the rete testis were thrombotic veins and a blood-clot almost completely discolored. The arteries of the testis were contracted and empty, but were patent and showed no disease of their walls. There was a little diffuse hemorrhage into the tissue of the cord, and some of the veins were dilated and occupied by thrombi.

In each case there had occurred a sudden hemorrhage into the substance of the testicle, with consequent destruction of its glandular elements, and in neither case was the cause of this hemorrhage at all obvious. Sudden hemorrhage into the testicle, when it is not an accompaniment of a new growth, is almost invariably the result of torsion, either of the cord or of the "mesentery" of the testicle. But in these cases no evidence of such a twist could be discovered, and, what is perhaps of more importance, the testicle and epididymis were normally attached to the back of the tunica vaginalis. In the normal organ the whole length of the posterior border of the testicle and epididymis is bound firmly to the posterior aspect of the tunica vaginalis by a mesentery formed by the reflection of the serous membrane from the viscus to the parietes. The two layers of this mesentery are widely separated from each other by a quantity of fibromuscular tissue, which is continued down to the lowest part of the sac, and represents the remains of the gubernaculum. It is difficult to conceive how, with the normal attachment, there could be torsion of either cord or testicle. In all the recorded cases some abnormality of attachment of the testis to the cord has been found.

Scudder¹ cites a case of Volkmann's in which there was spontaneous gangrene of the testicle with acute hemorrhagic infarction, and in which no twist of the cord was evident.

(1) *Annals of Surgery*, 1901.

This occurred in a 15-year-old boy, who, without apparent cause, was suddenly seized with severe abdominal pain, diarrhea and vomiting. On the next day the left side of the scrotum was found to be swollen and the pain was limited to the left testicle. Three days after the onset the scrotum was swollen with hard inflammatory edema to twice the size of a man's fist. The left side was of a deep red color and was tender and hot.

An incision was made into the tunica vaginalis and the testicle was found to be swollen to four or five times its normal size, and to be blue-black in color. The wound was left open and the testicle and epididymis became necrotic, gradually dried up and dropped off. No mention is made of torsion, but there was a long mesorchium.

Scudder also quotes 2 of English's cases of hemorrhagic infarction of the testicle and epididymis. The first was that of a 16-year-old boy who in the night had a sudden swelling of the left side of the scrotum without any known cause. The testicle and epididymis became enlarged, the infiltration extending in the cord up to the inguinal canal. The parts were tender and the skin was reddened. The symptoms gradually disappeared and no operation was undertaken.

In the second case, a boy of 17 felt a sensation of pressure in the left testicle and some hours afterward experienced a severe pain. The parts were swollen, edematous, reddened and tender, the tenderness extending up to the iliac fossa. At the operation it is stated that the testicle was found to be attached to the posterior wall of the sac by a broad mesorchium. The testicle and epididymis were bluish-black in color. The tunica vaginalis was drained and the testicle and part of the epididymis ultimately sloughed. Nothing is said in the account of the case concerning any torsion, and it is definitely stated that the cause was unknown.

According to Corner, Warren Low's case was a medley of diseases of the testicle. Somewhat similar cases had been recorded under different names, such as gangrene of the testicle, necrosis of the testicle, spontaneous necrosis, thrombosis of the spermatic cord, embolism of the spermatic artery. The real origination of these cases is still

a matter of doubt. The modern trend of ideas had been to regard them as due to torsion of the cord. In one case no torsion of the cord was found, but microscopically there was seen to be edema, and that edema was sharply delineated by a line differing in color which could be seen with the naked eye, and the cause of that was probably torsion. Torsion of the cord which was suddenly undone did not account for all such cases. He had seen cases in which there was definite evidence to the naked eye of extravasations of blood. If there were not such evidences visible to the naked eye, he would tentatively suggest another explanation, namely, one along the lines of acute hemorrhagic pancreatitis. The cases which Low has brought forward might be acute infective necrosis of the testicle, the infecting organism of which is at present unknown, accompanied by small extravasations of blood not visible to the naked eye. As a rule these cases are impossible of diagnosis, although in some one might guess at the condition of things. But there is one clinical point which, if present, helps, namely, if the case is the result of torsion of the spermatic cord and there is a definite hemorrhage obvious to the naked eye, no translucency is found on applying the test of transillumination. If, however, the case is one of epididymo-orchitis, whether tuberculous or gonorrhoeal, often hydrocele is present and transillumination shows it. If it is necrosis of the testicle there is no hydrocele.

According to Kellock there was acute inflammation of the epididymis where there was no apparent cause. Gonorrhoea was suspected in many of them, but possibly the affection which had been mentioned might exist on a mild scale, and with a patient suspected of epididymo-orchitis there might be a small hemorrhage into the testicle.

Barker remembered a healthy man who appeared to have no trace of gonorrhoea. He was walking close to the hospital with a plank on his shoulder when he slipped on a step, and in trying to recover himself kinked his external ring. He entered the hospital within an hour of the accident with a testicle as large as a goose egg, having been very well before. Barker supposed that the man had ruptured a vessel, owing to the pressure of the weight

he was carrying plus the muscular and expiratory effort occurring with the sudden start. The vein had extravasated into the testicle itself. Another case which occurred soon afterward was on all fours with that. He did not think Mr. Low had sufficiently emphasized the amount of strain that such patients suffered from. The rapidity of the inflammation in his cases was very marked.

If Low had known exactly what he was going to find he would not have operated. In the second case the testicle was practically fibrotic. There was some granulation tissue which in time would have formed a fibrotic mass. The first case he operated upon earlier, and in that there was definite hemorrhage. The first case was operated upon within a fortnight of the occurrence, and there was definite hemorrhage, which one could see with the naked eye. The testicle was grayish-black. The hemorrhage was chiefly at the junction of the testis with the epididymis. In neither of the cases was there hydrocele. There was no visible hemorrhage into the spermatic cord, but the veins were dilated and probably contained thrombi; at any rate there was blood-clot. With regard to the strain exerted, the boy in this case was in the habit of wearing two different pairs of trousers, one of which was long-waisted and the other short-waisted. He forgot to adjust his braces accordingly, and when he felt the pain he loosened his braces, but the pain did not cease and the testicle swelled. In the other case the patient jumped suddenly out of bed to unlock a door to let his brother in, and he felt pain in his testicle from that moment. In both the cases there was rapid swelling, and in a future case he thought he would rely on that point in making his diagnosis, as it would probably differentiate it from an inflammatory swelling.

Urine Color varies inversely with the quantity, and is markedly affected by the character of diet; thus meat and strong coffee render it dark, while milk and carbohydrates give a lighter hue. Many drugs tend to give deeper color, particularly on standing (becomes alkaline) and oxidizing, or on the addition of some oxidizing agent, such as ferric chlorid. The phenol derivatives (carbolic acid, cresol, sabol, creosote, guaiacol, tannic or gallic acid, arhovin, re-

sorein, naphthalin, uva ursi, arbutin, etc.), owing to their pyrocatechin content, give the urine a smoky brown to greenish-black tint; and much the same color is noted in poisoning with trional or sulphonal (hematoporphyrin) cyanids or arsin. Senna and most vegetable purgatives cause a brown color when urine is acid. In hematuria and hemoglobinuria (malaria, scarlet fever) the urine may be smoky or even black. Alkaptan is probably a derivative of tyrosin, and alkaptanuria is often observed in brothers and sisters. In persistent jaundice and pernicious anemia (pathologic urobilin) the urine may be dark brown. Black urine has also been noted in melanotic sarcoma, marked indicanuria (disappears on precipitating with milk of lime), and in some cases of phthisis (after urine has stood a long time).¹

Uro-Ureter from Calculus. According to Byron Robinson,² a ureteral calculus produces uro-ureter in rare cases. If the ureteral obstruction be instant and complete from the calculus the uro-ureter will be limited in dimension and anuria on the side of the calculus results. If the uro-ureter be due to partial obstruction by the calculus its distension of the ureter may be limited by the capacity of the abdomen only. The ureteral calculus may produce obstruction by means of the calculus itself or by a ureteral stricture resulting from ulceration by the calculus and cicatricial contraction. Ureteral calculus is the most liable to lodge at and obstruct the ureteral isthmuses, viz: proximal, middle, distal. Over 50% of calculi obstruct the proximal ureteral isthmus; however, rarely does the calculus produce complete and occasionally it produces partial obstruction and consequent uro-ureter of the proximal ureteral dilatation—calices and pelvis.

Bladder Calculi and Prostatectomy. L. B. Bangs³ reports a case where 44 uric acid calculi were removed from a patient's bladder. The patient had an enlarged prostate and catheterized himself frequently. A cystoscopic examination showed the presence of 3 stones and a fourth one was suspected. Another physician to whom the patient

(1) Denver Med. Times, January, 1909.
 (2) Wisconsin Med. Jour., May, 1909.
 (3) Medical Record, June 19, 1909.

went after being cystoscoped by Bangs saw 3 stones and was somewhat doubtful of the existence of the fourth. Prostatectomy was done and the number of stones found behind the prostate at the operation simply showed that most of them were hidden from the cystoscope by the upper layer. The patient had no pain whatever and beyond the cystitis and the recent appearance of blood in the urine no symptoms were caused by the calculi.

Vesical Calculus in Women. C. Goodman¹ reports a case with a bougie nucleus in a middle aged widow. Examination with the Thompson's searcher elicited the classical signs of stone in the bladder. A cystoscopic examination revealed a moderate sized calculus and a darker object the true character of which could not be definitely determined on account of the marked turbidity of the fluid in the presence of a severe form of cystitis. The patient was obliged to urinate every few minutes day and night. At times she suffered most excruciating lumbar and hypogastric pain.

Goodman made an opening in the bladder through a suprapubic incision and removed this bougie which was covered with phosphatic concretion and terminated at either end in an olive shaped calculus formation. The base of the bladder was covered with calcareous deposit in which the middle portion of the bougie had become quite adherent. After thorough cleansing of the bladder mucosa the bladder wound was entirely closed with two layers of fine chromic gut sutures. The rectus and its sheath as well as the skin were then united and a small rubber tissue drain inserted at the lower angle. The bladder was drained for 3 days by a catheter introduced through the urethra. The patient was out of bed on the sixth day and the wound entirely healed on the tenth day. A few days subsequent to the operation, the patient stated that 8 months previously a midwife had attempted to help her out of some "difficulty" and that since that time she had been suffering more or less from the symptoms referable to the bladder.

No other method could have given a better result than

(1) Amer. Med., February, 1909.

the one pursued. To have attempted to remove this calculus by the urethra would have resulted in serious and possibly permanent urethral injury. The lithotrite would have been, on account of the makeup of the calculus, useless and unsatisfactory. Vaginal section in the presence of such marked cystitis and with the base of the bladder encrusted with calcareous matter could only have resulted in vesicovaginal fistula with all its evil consequences such as incontinence, constant dribbling of urine and excoriation of the tissues. In the discussion of the case, Ladinski reported the case of a young widow who had been suffering from what was supposed to be metrorrhagia, and was treated accordingly by women physicians for over a year. Vaginal examination revealed a mass in the bladder, which was confirmed by the sound as a stone. The urethra was dilated by Kelley's instrument and the stone removed. On introducing the finger into the bladder, it was found that the stone was incrustated around a hairpin, with the open ends embedded in the wall of the bladder, near the urethral opening. This required greater dilatation of the urethra than would have been necessary for the stone, which was of the size of a walnut, and the patient had a long siege of incontinence and dysuria afterward, but finally recovered completely.

As regards route of entry into the bladder, Ladinski thinks each case should be treated on its individual merits, which depend largely on the size and character of the stone. His personal choice is in the following order: (1) Dilatation. (2) Vesicovaginal resection. (3) Suprapubic operation, if the case is complicated, or the size of the stone requires the upper route.

H. N. Vineberg¹ reports a patient with cervicovesical fistula, operated on once or twice by Paul F. Munde, who finally sutured the cervix uteri into the bladder, thus closing the fistula. The menstrual fluid was not diverted into the bladder. Following this she suffered severe dysmenorrhea with vesical irritation. Cystoscopy (Kelly method) revealed a thick calcareous incrustation encroaching upon the trigonum where the cervix projected. Most of this

(1) Medical Record, Feb. 27, 1909.

deposit was removed with forceps, and the patient obtained relief, but only temporarily. April, 1904, Vineberg did a supravaginal hysterectomy to arrest menstruation, so that with its cessation new calcareous incrustations would cease, but the relief was not as anticipated. Examination of the bladder revealed an area the size of a half-dollar, hard as flint, which could not be dislodged. Accordingly the vesical wound was drained. The suprapubic wound closed in about 3 weeks, and for several months the patient was relieved. The symptoms recurred, and cystoscopy disclosed new deposits of calcareous matter at the old site. August 10, 1908, the base of the bladder was found infiltrated with a hard mass the size of a hen's egg. This was everted into the cavity of the bladder, and the projecting circumference was broken off with bone forceps; then the removal of the remainder was comparatively easy. The mucous surface of the bladder exposed was quite smooth and presented a small polypoid fibroid which was snipped off with the scissors. Convalescence was uneventful; the bladder symptoms gradually improved. In about 2 months the patient was practically cured.

Litholapaxy. According to W. L. Munro,¹ where the stone is not too large nor too hard, where the bladder is not greatly contracted and the condition of the kidneys and bladder is fair, where there is no extensive prostatic disease and the urethra is neither irritable nor strictured, litholapaxy may be performed. It yields the best results in old men under favorable conditions; but if an anesthetic has to be used, as in cowardly patients, it must be remembered that the operation is often greatly prolonged, even to the extent of 2 or 3 hours. Furthermore, the number of operators having sufficient familiarity with the technic is relatively small; hence practitioners of general surgery do well to consider fully the difficulties and dangers attending its performance. Enlarged prostate is not necessarily a contraindication, but might furnish an almost insuperable obstacle to the beginner.

Some of the dangers are: Injury to the bladder walls by being caught between the blades of the lithotrite. Injury

(1) Amer. Jour. of Derm., February, 1909.

to or over-distension of the urethra with resulting incontinence. Rupture of the bladder from rough instrumentation or over-distension. Impaction of fragments in the jaws of the lithorite or in the eye of the evacuator, rendering their withdrawal without injury to the vesical neck and urethra impossible. Failing to dislodge them it would be better to do a cutting operation to free the instruments. Breaking of the jaws of the lithotrite. Owing to the hardness of the stone and the comparatively slender instruments necessary, this occasionally happens and calls for lithotomy. Injury to the bladder from wounds caused by a stone flying forcibly from between the jaws of the lithotrite when they are approximated. The leaving of fragments in the bladder to serve as nuclei for other stones. Inflammation of the various organs in the genitourinary tract and even peritonitis may follow. Most of these dangers are avoided. The patient is about after 2 or 3 days if all goes well.

Bladder Extrophy is discussed by J. Jellinck,¹ who analyzes 177 cases of Maydl's operation, dealing incidentally with the objections thereto. The chief is possible ascending infection. This is counterbalanced by the superior functional results, the high mortality of the non-operated from pyelonephritis or malignant tumors which seem to display a predilection for exposed bladder mucosa, and by the large number of permanently cured patients. The records show 17 cured for over 2 years; 13 for over 3; 7 for over 4; 25 for from 5 to 9 years, and one each for 10, 11 and 12 years. The age at which the operation is performed is an important factor in the outcome; the mortality under 5 was 41%; between 6 and 10, 18%; between 11 and 20, 32.5%; between 21 and 25, 50%; and above this age, 72%. The mortality from pyelonephritis also increased with age from 3 to 9% under 15 to 54% after the age of 25. Sooner or later, 25% of the patients who have been operated on succumbed to this. Careful selection of the cases for operative treatment and improved technic in the means to keep the urine and stools separate will make the outcome still better. In one case the Maydl operation had been done for a tuberculous bladder affec-

(1) Jour. Am. Med. Assoc., Aug. 14, 1909.

tion and the girl married and bore a child later. There are 10 cases on record of pregnancy in women with exstrophy of the bladder, unoperated, as a rule. Other malformations present usually interfere with conception.

Phimosis Calcification appears in a case described by A. McKaig.¹ A 14-year-old boy had the prepuce much thickened and elongated to about 5 inches. Owing to the formation of calcareous material inside, which evidently surrounded the glans, it was difficult exactly to make out its position. The orifice of the prepuce was quite closed and a pin-hole, on the right side of the prepuce about $1\frac{1}{2}$ inches from where the orifice ought to be, was discovered. On micturition the elongated and almost closed prepuce was filled with all the urine of one micturition and this afterward slowly dropped through the pin-hole that has been mentioned. There was some little difficulty in performing an operation, partly caused by the calcareous accumulation and also by an adhesion of the prepuce to the glans. This condition demanded two operations, but the patient was quite well in a few days after the second one which presented the appearance of an ordinary circumcision. A peculiar feature in connection with the case is that, although the condition for which the patient was operated on had lasted 4 years, there appeared to be no bladder trouble of any kind and the deposit of calcareous matter disappeared spontaneously and completely.

(1) Edinburgh Med. Jour., April, 1909.