calcareous. It produces considerable diminution of the lumen. Between these two rings rests an aneurysmal sac about 3 cm. in diameter. The wall of the sac is thin, fibrous, and shows at one place a small area of fibro-calcareous change, within which there is a small irregular crevice about 4 mm. long, which extends through the wall into the region of the blood clot. The artery beyond the aneurysm is very tortuous and capacious, but shows only a slight amount of fibrous sclerosis. The sac contains a small amount of blood and blood clot."

COMMENT.

This case is interesting on account of the extreme rarity of the lesion, but especially so on account of the dramatic ending; the rupture occurring simultaneously with the simple procedure of abdominal paracentesis. The reason for the rupture at this particular moment can only be conjectured. The excitement of moving the patient and performing the tap might have temporarily increased the blood pressure to the aneurysm's bursting point, or the withdrawal of a liter of fluid from the abdomen might have caused a relative drop in the pressure of the structures surrounding the aneurysm. It is hard to believe that the rupture was due to a simple coincidence. Direct trauma from the trochar was shown at autopsy to have been quite impossible.

In over 4100 autopsies at the Massachusetts General Hospital, aneurysm of the splenic artery has been found three times. The author has found 17 cases mentioned in the literature the most recent of which, reported by Högler,* is said to have been diagnosticated during life.

* Högler: Aneurysm of Splenic Artery. *Wien. Arch. für in. Med.* August, 1920, p. 543.

A CASE OF CONGENITAL CYSTIC KIDNEYS AND OTHER CONGENITAL ANOMALIES.

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THE following case with its autopsy report is of interest chiefly because of the multiplicity of the congenital anomalies, the most striking of which are the twisted, thickened, hydropic ureters and the almost microscopic cystic kidneys. A plate illustrating this feature of the case is appended. Any theorizing concerning the possible etiology of such marked anatomical variations might well be regarded as super-

fluous. This report is intended merely as a record of fact, and whatever embryological speculation it may arouse is left forthwith to the reader.

Both the clinical history and the pathological report are abbreviated as much as is consistent with presenting the essential features of the case. The baby was admitted to the service of Dr. Paul W. Emerson, to whom I am deeply indebted for the clinical notes.

Clinical History—Joseph G., Hospital No. 3457, aged, 2 months, August 4, 1920. Family History—The father (aged 28 years), mother (aged 27 years), and three children (aged 6, 4 and 2 years, respectively) living and well. The mother had a miscarriage in her first pregnancy and another in her fifth. No history of syphilis was obtained. Past History—The baby was probably premature, weighing about three pounds at birth, June 3, 1920. Normal labor. He has been breast-fed since birth at 2½-hour intervals. He is said to have had a hernia since birth. Present Illness—Two weeks ago baby had a severe crying spell, during which mother noticed baby was somewhat blue. Following this, his breathing became labored, "heavy," and this difficult, rapid respiration has been more or less persistent since that time. The mother has noticed the cyanosis—"blueness"—at intervals ever since the baby's birth, but merely thought that the baby was cold. The attack two weeks ago was sudden in onset and more severe than the earlier ones. There has been no marked cyanosis since. Three doctors saw the baby and diagnosticated the condition variously as a leaky valve, a cold on the chest, and stomach and bowel disorder. The mother was not satisfied and finally came to The Boston Floating Hospital. The chief complaints are the peculiar breathing, the cyanosis and an appearance of prostration. There has been no fever, no vomiting, no diarrhea (3-5 yellowish, smooth stools a day). Appetite good; seems satisfied after nursing. He sleeps poorly and is very restless; at times he has seemed prostrated; has had no convulsions; has difficulty in breathing, and has had a slight cough, but no nasal discharge.

Physical Examination—A small, fairly well nourished infant, extremely dyspnoeic, somewhat prostrated and slightly cyanosed generally. The skin is dry. Reflexes—Normal. Pupils equal and react to light. Neck not stiff. No Kernig, ankle clonus or Babinski. Kneejerks normal. Head—Fontanelle slightly depressed; measures 4½ x 5 cm. Eyes, ears, nose and throat are negative, except the tonsils are hypertrophied. Thorax—Normal in shape; no evidence of rachitis. Heart—The apex beat is at the nipple, has fair force, a rate of 140, and marked sinus arrhythmia. A2 is greater than P2. There is a systolic murmur over the base transmitted to the back. Lungs—Both

lungs are hyper-resonant. d'Espine sign to third thoracic vertebra. There are no râles and the breath sounds are normal. Abdomen—The liver edge is palpable, 1 cm. below costal margin. There is an inguinal hernia present on each side, admitting the tip of the little finger, and having a definite impulse.

Clinical Diagnosis—(?) Thymus. (?) Congenital heart. Bilateral inguinal hernia. Anhydremia.

Laboratory Data: Urine—Acid, cloudy, large trace of albumin, no sugar or acetone. Sediment was negative in the only specimen obtained. Stool—Acid, aromatic, few small fat curds; no fatty acids, soaps or starch. Blood Hemoglobin, 55%; white cells, 18,000; red cells, 2,400,000. Differential Count—Polymorphs, 57%; lymphocytes, 38%; transitionals, 5%. Smear:—Marked anisocytosis, poikilocytosis and achromia. Von Pirquet—Negative. Wassermann—Negative (post mortem)

Subsequent History: Admitted with subnormal temperature and marked dyspnoea. Put in premature jacket, given caffeine gr. $\frac{1}{4}$ in brandy M VIII subcutaneously q. 3 hr. p. r. n. as pulse was very poor. Took food well first night. Had almost continuous convulsions the next day and food had to be given with tube. Condition about the same for next 24 hours, when he suddenly went bad and stopped breathing. Discharged, dead, August 6, 1920.

Pathological Report: Body—The body is that of a well developed and well nourished infant measuring 51 cm. in length. The skin is clear. There is a moderate post-mortem lividity. There is a moderate layer of subcutaneous fat which is somewhat oedematous, especially in the dependent portions and pits slightly on pressure. The inguinal rings on each side admit the tip of the little finger and are obviously potential herniae. Peritoneal Cavity—The peritoneal cavity contains about 50 c.c. of pale straw-colored fluid which smells strongly of urine. There is no other evidence of peritonitis. The sigmoid is redundant with a complete extra loop, which is free, floating on the fluid in the abdomen. The colon is tremendously dilated as far as the sigmoid, where it becomes sharply constricted, remaining so through the rest of its length. The ileum shows two small diverticuli about midway. These measure over 2 cm. in length and 0.5 cm. in diameter. A striking feature of the abdominal contents is the dilated ureters which are easily confused in appearance with the ileum. These will be described in greater detail later. Lungs—Pleural and pericardial cavities show no abnormalities. Both lungs show a moderate hypostatic congestion. There is a recent terminal broncho-pneumonia present in the right base, of not over 24 hours' duration. (This condition, while a contributing factor in causing death, has no bearing on the discussion and can be dismissed at once, therefore). Heart—Weighs

19 gms. It is a normal appearing organ externally, small and contracted. On opening the auricles, however, there is seen a widely patent foramen ovale with no suggestion of a closing membrane. The ductus arteriosus is likewise patent. The other common cardiac defects are not present in this heart, however,—pulmonic stenosis and patent interventricular septum. Abdomen—The gastrointestinal tract, beyond the congenital abnormalities already noted, is normal. The liver, spleen, pancreas, gall-bladder and ducts show no gross pathology. The suprarenal capsules are normal in size. They appear relatively hypertrophied because of the diminutive size of the kidneys which they overlie and nearly obscure.

PLATE I.—Posterior view of bladder, ureters, kidneys and suprarenal glands. Two-thirds actual size.

Genito-Urinary Tract: Kidneys—The kidneys are small, weighing about 7 gms. together (they were not separated from the ureters, so the absolute weight cannot be given). Their capsules are thin, filmy, fibrous affairs which strip very easily. The surface of each kidney is studded with several small, thin-walled, bleb-like cysts varying in size from 1.0 mm. to 6.0 mm. On section, the kidney parenchyma contains likewise innumerable small cysts,—chiefly

in the cortical region. The normal architecture of the kidney can be made out readily, however, and the normal relation of cortex to medulla persists. The calyces and pyramids are somewhat distorted, especially in the left kidney. The pelvis of the left kidney is markedly dilated and the picture is definitely one of hydronephrosis. In the case of the right kidney, however, this condition is much less marked,—there being a constriction of the ureter with considerable thickening of its muscular coat for a distance of 1 cm. below the pelvis, which is itself but very slightly dilated. Ureters—The ureters present a twisted, thickened, distended appearance with several constricting fibrous bands, especially along the course of the left ureter. They measure in diameter approximately 1 cm. on the average, in places exceeding this by nearly as much again. The left one presents a fibrous constriction at the point of entry into the bladder wall, and the lumen of the ureter at this point will admit only the finest probe. This constriction is not so marked in the case of the right ureter. Bladder—The bladder shows marked hypertrophy of its walls with a thickening of its mucous membranes. This is the only pathological feature noted in regard to this organ. Prostate and Urethra—There is marked constriction in the lumen of the urethra in its prostatic portion. This will not admit the finest probe. There is obviously a congenital stricture of the urethra at this point. This suggests a mechanical cause for the pathology of the genito-urinary tract. Testes—The right testis is normal in size and appearance. The epididymis on this side occurs apparently as a separate organ superimposed upon the testes and connected with it only by a fibrous cord containing a duct. The left testis is not descended and is found just above the internal inguinal ring. It is distinctly smaller than that of the right side. The epididymis of this side appears similarly diminutive but normal otherwise. The ducti deferentes are somewhat thickened.

Microscopic Examination—The microscopic examination of the tissues contributes nothing additional of interest or of value in discussing the case, and will therefore be omitted.

DISCUSSION.

As I have said in introduction, the interest in this case is in its multiplicity of congenital anomalies. These include:

1. Congenital cystic kidneys and hydronephrosis.
2. Congenital hydropic ureters.
3. Congenital hypertrophy of bladder.
4. Congenital stricture of the urethra.
5. Congenital undescended testicle (left).
6. Congenital abnormality of epididymis (right).

7. Congenital bilateral inguinal herniae.
8. Congenital diverticula of ileum.
9. Congenital redundancy of sigmoid.
10. Congenital heart.
 - a. Patent foramen ovale.
 - b. Patent ductus arteriosus.

In discussing the case, the only point I wish to make is that which was raised at the time of the autopsy, of the possible mechanical origin of the hydro-ureters and hydronephrosis because of the urethral stricture. There does not seem to me sufficient evidence that this condition is merely a damming back of the kidney products, for mechanics alone would explain with difficulty the diminutive size of the kidneys and the fibrous bands around the ureters of the trigone on the left and at the pelvis of the kidney on the right. It seems much more readily explained by considering the several features of the case as all due to congenital defects.

That such an imposing array of defects should occur in an individual seems sufficiently unusual to warrant the reporting of the case.

Book Review.

Medical Service in Modern War. LIEUTENANT-COLONELS P. S. BOND and C. F. MARTIN, U.S.A. Wisconsin: George Banta Publishing Company. 1920.

"Medical Service in Modern War" presents a well-arranged and coördinated account of the functions and practice of our Medical Department during the World War. The forty thousand American physicians and surgeons who served in the United States Army had little conception, on entering service, of the methods employed by the Medical Department for the conservation of man power in war time; in the interest of National Defense, every physician should be familiar with the information on this subject contained in this book. The authors have outlined briefly the facts which the medical service should understand about army organization, and have described in detail the general functions of the Medical Department, medical equipment of division, corps, and army, methods of managing the evacuation and treatment of sick and wounded, and medical service in open warfare. As the book is based on the experiences of the Medical Department during the war, it is practical, and indispensable to those who might be called upon to serve in the capacity of medical officers in time of need. A summary of health and casualty statistics of the World War is included in the Appendix.