

position as regards its long axis, except that it was on the right side.

Further History.—The leukocytes two days after admission numbered 28,400. The continuous type of temperature with evidence of sepsis and occasional slight chills made it necessary, in view of the skiagraphic findings, to consider the possibility of appendiceal abscess on the left side, a suppurating gall-bladder on the left side, a liver abscess or a sub-diaphragmatic abscess likewise on the left side. The patient's greatest pain and tenderness were found to be just below the edge of the ribs, but no mass or tumefaction was present except when in the upright position at which time a slight bulging or prominence was present on the left side in the flank.

The history of previous trauma to this area and other facts finally led to a diagnosis of probable extraperitoneal perineal abscess. An incision was therefore made in the left flank Oct. 14, 1911, by the late Dr. Peter Donnelly under nitrous oxid-oxygen anesthesia and about 6 ounces of pus evacuated from an abscess about the left kidney. Cultures from the pus showed *Staphylococcus pyogenes albus*.

After about three weeks' drainage, the patient's recovery was practically completed.

FATAL PERITONITIS DUE TO INFECTION WITH BACILLUS COLI*

ARTHUR L. GROVER, M.D., IOWA CITY, IOWA

The following case of septic peritonitis is of interest as it was proved to have resulted from infection with *Bacillus coli*, and as infection of the peritoneum with the colon bacillus, through the uterus, is somewhat rare. The material from this case was referred to this laboratory by Paul Reed, M.D., Nov. 7, 1912, with the following history:

History.—Woman, aged 35, married, had a child, aged 4 months, and had menstruated atypically since delivery. She was ill for two days with severe pain in pelvis. Examination on third day showed no fever present but a foul-smelling vaginal discharge, and severe pain in pelvis. Next morning the patient had all signs of general peritonitis which rapidly grew worse. She died during the morning of the next day (fifth day after onset).

The patient denied any attempt at abortion either by herself or by any one else. Her husband admitted that the patient had previously attempted to induce abortion in a former pregnancy. At the time of her childbirth, four months previously, the patient complained of severe pain in the right side, and examination was extremely painful, the patient being prostrated following it.

Necropsy.—After the death of the patient, the uterus was removed by vagina together with some fluid from the peritoneum. The uterus was somewhat enlarged, and the wall was thickened and felt soggy. At the top and just slightly posterior was an area about 2 inches in diameter that was denuded of its peritoneum and was rough and necrotic. In the center of this spot was an opening which led into the uterine cavity. A pencil fitted nicely into this canal. When a cut through the tissues was made, along the pencil, an area of extreme necrosis, brown and extremely fragile and crumbly was found along the course of perforation. The mucosa also was inflamed throughout, was necrotic about this area of perforation and contained a slight amount of debris. Sections were made through the uterine wall at the area of perforation and showed that the process was localized in a marked necrosis of this area, severe enough to be called gangrene. The vessels throughout the uterus were congested, and hemorrhagic exudate was present on the peritoneal surface. Gram-negative bacilli were seen in the tissue about the area of necrosis.

Laboratory Findings.—A bacteriologic examination was made of the fluid removed from the peritoneal cavity. Smears showed an immense number of Gram-negative bacilli which varied somewhat in size. On agar-slants in twenty-four hours we obtained a diffuse white streak with discrete, round, white,

slightly raised colonies at the periphery. A fecal odor was present. Examination showed them to be Gram-negative bacilli resembling those seen in the smears made from the peritoneal fluid.

Further cultures showed that gelatin was not liquefied, that litmus milk was curdled and made acid, that gas was found with all sugars and in fermentation tube with lactose broth and that indol was found in Dunham's peptone solution. The following litmus sugar serum water media were used: dextrose, levulose, galactose, lactose, saccharose, maltose, mannite and dextrin. All were made acid and produced gas except dextrin.

Conclusions.—From the evidence it would seem that the organism in question fulfilled all the requirements of *Bacillus coli*. According to some authorities dextrin also should have been fermented; according to others, it should not.

Cases of peritonitis caused by the colon bacillus are common, and cases of uterine infection with the same organism are common, but this combination of *B. coli* peritonitis through perforation of uterus is not common. As the patient would acknowledge nothing, no light can be thrown on the instrument used or on how such a large perforation could have been made without more shock. It is not known that the perforation was made artificially, but it seems as if no other explanation is possible, since the attending surgeon did nothing more than tampon the cervix to increase dilatation. Of course the four months since last pregnancy is sufficient time in which to become pregnant, yet one would hardly suppose that the patient could have become far enough advanced in pregnancy to be cognizant of the fact. Nevertheless in some manner the uterus became perforated. So far as it is possible to tell one would believe that the lesion was not of long standing. No attempt has been made to go through the literature on this subject.

527 North Linn Street.

BURN OF EYEBALL DUE TO CAUSTIC CONTENTS OF GOLF-BALL

L. W. CRIGLER, M.D., NEW YORK

William J., aged 10, on Aug. 2, 1912, while dissecting a golf-ball, ruptured the small rubber bag in the center of the ball, and the contents spurted into his right eye. This caused immediate, excruciating pain, laceration, photophobia, redness and edema of conjunctiva. The surface of the cornea became opaque. The child was attended by a local physician, who irrigated the conjunctival sac and applied cold compresses. The patient was first seen by me on August 7, five days after the injury. The eye presented the picture of a typical caustic burn of the cornea and conjunctiva. The conjunctiva showed numerous areas of necrosis, some large, some small. The cornea was opaque to the extent of being almost white. The destruction had extended into the substantia propria; the pupillary border of the iris could scarcely be seen, and vision was reduced to shadows. The patient was admitted to the hospital and the usual remedies were applied, with no material alteration of the progress of the case toward cicatrization. The eyeball remained irritable and painful. At one time during the height of the inflammation the tension seemed increased. This was followed by a gradual diminution of tension until the eye became quite soft. It looked as if it were going on to phthisis. After the more aggravated symptoms were relieved, the child was allowed to go home, making subsequent visits to the hospital once a week up to the present. The cornea is becoming slightly more transparent, and the areas of necrosis in the conjunctiva have undergone cicatrization. The palpebral conjunctiva escaped a great deal of the caustic action of the alkali. Vision in the eye is slightly improved, the patient being able to count fingers at one foot.

An analysis of the paste in the center of a golf-ball said to be of similar make to the one causing the accident showed that it consisted of a mixture of barium sulphate, soap and a free alkali (sodium hydroxid, 2.4 per cent.).

40 East Forty-First Street.

* From the Laboratory of Pathology and Bacteriology, State University of Iowa, College of Medicine.