

so profuse that it necessitated her wearing a napkin. On several occasions she complained of dull dragging pain in the left side. On the basis of a history of intermittent pain relieved by the appearance of a vaginal discharge, a diagnosis of hydrops tubae profluens was made, and the patient was transferred to the gynecologic ward for operation.

Operation.—This was performed Jan. 5, 1916, by Dr. B. M. Anspach, and revealed that the left tube had already been removed, the left ovary was transformed into a follicular cyst about the size of a peach, the right tube was enlarged and contained fluid, while the right ovary seemed to be in good condition. The operation consisted of a supravaginal hysterectomy, right salpingectomy and left oophorocystectomy. On examination of the pathologic specimen after the operation was completed, it was found that when gentle pressure was made on the tube, there was a flow of clear, watery fluid from the tubal ostium at the uterine cornu, proving that the diagnosis was correct. The patient made a good and uneventful operative recovery.

It seems to us that in this case trauma may have played an active part in the precipitation of the symptoms, inasmuch as the patient dated the beginning of her trouble from the time when she stepped from the curb to the street, which, in a woman of her size, requires considerable muscular effort.

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INTERLOBAR EMPYEMA TREATED BY ARTIFICIAL PNEUMOTHORAX

REPORT OF A CASE

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The web of observation and experience has in the past few years gradually closed around the indications for the use of artificial pneumothorax in pulmonary diseases. Clinicians are well enough agreed as to the proper cases in which to use the method in pulmonary tuberculosis. The case which I report was one of acute interlobar empyema, which was draining through the bronchus, treated by artificial pneumothorax by nitrogen gas.

A boy, aged 5, American, whose family and past history could not be ascertained, was brought into the Faith Home suffering from stomatitis. May 11, 1915, he developed pneumonia which ran a nine days' course, with temperature as high as 107, and on the ninth day terminated by crisis. Following this the temperature was normal for about thirty-six hours and the youngster seemed to feel well. The next day he developed a little rise of temperature, the maximum reading being 100. The maximum temperature for the next three days was 101, and on the next day the temperature fell to 99 and then rose to 103 degrees. During this period the boy developed a constant cough with free expectoration of purulent material, and his breath was very foul. This rise of temperature continued for three days, fluctuating from 101 to 102. At this time I saw him in consultation with Drs. Segura, Thorning and Stokes. The symptoms were dyspnea and cough. On the right side, in the area at the fissure between the upper and middle lobes, the lung showed an area of dullness, over which the breast sounds were absent. Above and below this area were areas of tubular breathing, and no râles were heard in these areas. Below this area downward over the lower lobe the breath sounds were diminished, and tactile fremitus, although present, was diminished; a needle introduced into the right pleural cavity showed no free fluid or pus. Roentgenoscopy corroborated our diagnosis of interlobar empyema. At this time it was decided to perform an artificial pneumothorax, and the first injection was made. The temperature was 101.2.

Into the right pleural cavity were injected 300 c.c. nitrogen gas, attaining a pressure of -4 cm. water. Following this injection the temperature rose (five hours later) to 103.6 at 2 p. m.; 102.2 at 5 p. m.; 102 at 9 p. m.; 100.4 at midnight, and 98.6 at 6 a. m.; the temperature after this time remained low. In the course of an hour the patient began to cough a great deal, and during the next twenty-four hours coughed up a great deal of pus. This expectoration gradually decreased. June 1, I injected 500 c.c. of nitrogen gas into the right pleural cavity. There was no reaction following this injection. The coughing now ceased and the boy improved rapidly. June 4, I injected 500 c.c. of nitrogen gas into the right pleural cavity, attaining an intrapleural pressure of -1 cm. water. There was no expectoration following this injection. The subsequent recovery was uneventful. Within a few days the boy was sitting up in a chair. He was discharged from the hospital June 9, 1915. There were no further symptoms, and four months later the boy was perfectly well.

From the clinical symptoms, physical findings and the corroborative report of the roentgenologist, Dr. B. T. Van Zant, we felt that our diagnosis as to the opening of the abscesses into the bronchus was correct. This point was of the greatest importance; had not the opening for drainage been present, the result might have been wholly different. A roentgenogram taken four months after the last injection showed that the lung had returned to its normal condition, and, incidentally, that the compression had not exerted any harmful effect on the structure of the lung. The physical examination at this time was negative.

A CASE OF MERCURIAL POISONING WITH RECOVERY*

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In the great majority of cases of mercurial poisoning, the period of life, after the ingestion of the poison, is relatively a brief one, and thorough studies are therefore impossible, owing to the severity of the condition, and early death. Our patient recovered, and permitted a thorough laboratory study of her condition.

CASE REPORT

History.—F. W., woman, aged 28, was admitted to the German Hospital, Nov. 28, 1915, in a semicomatose condition and very irrational, with the diagnosis of acute mercuric chlorid poisoning. According to the mother, five days previous to admission to the hospital, the patient had swallowed half a tumblerful of water in which two tablets of mercuric chlorid had been dissolved. On further inquiry it was learned that there was almost complete suppression of urine, at least twenty-four hours prior to admission.

The past history was unimportant except for the fact that the patient has always been delicate, and at times despondent. The latter condition became more marked after a herniotomy performed two years before, since which time the patient has been unable to work. She was retiring, and had never made many friends.

Physical Examination.—The only positive findings were erosions on the under surface of the tongue, varying in size from one-quarter to one-half inch, and epigastric tenderness.

Treatment and Course.—The following treatment, suggested by Lambert and Patterson,¹ was administered on admission:

* From the Laboratory of Pathological Chemistry and the Department of Medicine, service of Dr. Caille, German Hospital and Dispensary.

1. Lambert, S. W., and Patterson, H. S.: Poisoning by Mercuric Chlorid and Its Treatment, Arch. Int. Med., November, 1915, p. 865.

(1) colonic irrigation, gastric lavage and hot packs, twice daily; (2) continuous Murphy drips containing potassium acetate, 1 dram to 1 pint of water.

The patient was given by mouth 8 ounces of the following solution every hour, alternating with the same quantity of milk:

Potassium bitartrate.....	1 dram
Sucrose	1 dram
Lactose	½ ounce
Lemon juice.....	1 ounce
Boiled water.....	16 ounces

On the first day, November 28, the patient's condition was the same as on admission. On catheterization, 75 c.c. of urine were obtained which, on analysis, showed a very large amount of albumin, a specific gravity of 1.020, and many coarsely granular and hyaline casts. The patient vomited continuously, and was unable to retain even small amounts of fluid, and refused nourishment. The systolic blood pressure was 136, and diastolic blood pressure 100 mm. of mercury. The leukocyte count was 11,000, of which 74 per cent. were polymorphonuclears, and 26 per cent. lymphocytes.

From November 28 to December 2, the patient began to eliminate greater quantities of urine; her condition seemed better, except that she complained of burning pain along the entire gastro-intestinal tract. The restlessness subsided, and she appeared brighter, but continued to refuse food. Gavage and duodenal feeding were resorted to, but because of marked irritability of the esophagus and stomach, had to be discontinued. Hypodermoclyses were then attempted, but soon discontinued because of the excessive pain they gave the patient.

The urine elimination during this period rose from 200 to 700 c.c., and the urine showed albumin, pus and hyaline and granular casts in moderate amounts.

Stomach washings, colonic irrigations, urine and feces, were examined in the laboratory for mercury. The Vogel² test was employed, a positive reaction being indicated by formation of an amalgam of the mercury with gold, in a sealed tube. On the first day the urine and feces gave a positive mercury reaction, on the second day the lavage and feces were positive, and on the third day the urine, feces and gastric contents all responded to the test for mercury.

November 30, a chemical examination was made of the blood, which showed the following interesting figures:

	Mg. per 100 c.c. of Blood	
Nonprotein nitrogen	152	} 73 per cent. elimination
Urea	100	
Uric acid	7.65	
Creatinin	9.3	

The phenolsulphonephthalein test on this day showed an elimination of 22 per cent. for two hours. These figures for the nonprotein nitrogen and urea are somewhat lower than those reported by Foster,³ and Myers and Fine.⁴ No study of chlorid or nitrogen metabolism was attempted, since ingestion of food was made uncertain by vomiting.

From December 2 to December 7, the patient had severe gastric pains, with continued vomiting. The gastric analysis and string test and roentgenoscopy did not indicate the presence of an ulcer. The patient's general condition was improved, with a urine elimination of 700 c.c. in twenty-four hours, showing a decreased amount of albumin, and few casts. No mercury was found in the excretions, with the exception of the feces, which were positive for one day only (December 4). December 6, the blood was again examined, showing a decrease of nonprotein nitrogen to 32 mg. per hundred c.c. of blood, of which the urea nitrogen was 65 per cent., or 21 mg., and an increased phenolsulphonephthalein elimination to 34 per cent.

At the end of this period the vomiting subsided, the patient took more nourishment, and the feces contained no more mercury. The colon irrigations and lavage were then dis-

continued. The blood pressure was lower (systolic 118, diastolic 70 mm. of mercury).

From December 7 to December 11, the patient's mental condition varied considerably. At times she was very irrational, and at other times clear and alert.

December 11, there was a diminution of urine with the appearance of 1.5 per cent. sugar (probably due to excessive ingestion of carbohydrate). The blood analysis, however, showed no hyperglycemia, sugar concentration being 0.64 per cent. There were slight albuminuria, and occasional granular casts.

December 9, the chemical blood analysis revealed:

	Mm. per 100 c.c. of Blood	
Nonprotein nitrogen	30	} 53 per cent. elimination
Urea	16	
Uric acid	5.0	
Creatinin	2.5	

From December 11 to time of discharge, December 31, the patient's general condition steadily improved, with increasing urine elimination (900 c.c. daily, and only traces of albumin, and occasional granular and hyaline casts).

SUMMARY

During the first five days, the condition of the patient seemed somewhat improved, after treatment was instituted. Urine elimination varied from 200 to 700 c.c. daily. All the excretions and stomach washings gave positive tests for mercury; the blood showed a marked retention of nonprotein nitrogenous substances and low phenolsulphonephthalein elimination. The next five days of the disease showed a general improvement in the condition of the patient, and practically all excretions showed the absence of mercury; there was increased urine and phenolsulphonephthalein elimination. The nonprotein nitrogen and urea in the blood were markedly decreased. The only other cases reported, those of Foster, and Myers and Fine, showed a greater retention of nonprotein nitrogenous constituents in the blood than our case did. Their cases never showed a decrease of these substances during the progress of the disease, while in our case the nonprotein nitrogenous substances in the blood were markedly decreased as the patient recovered, which was almost coincident with the disappearance of the mercury. The remainder of her stay in the hospital until her discharge was marked by steady improvement in her general condition; she eliminated about the normal amount of urine, which showed only traces of albumin, with occasional hyaline casts.

PURPURA HEMORRHAGICA TREATED WITH NORMAL HORSE SERUM

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This case of purpura hemorrhagica, in a man aged 28, is instructive in the showing of a prompt response to treatment with normal horse serum.

History.—The patient had measles during childhood. In his eighteenth year he suffered from an illness diagnosed as nephritis, from which he recovered in three weeks. While never robust, he had had no other diseases, and assurance is positive that he was never subject to abnormal bleeding of any kind. There was no knowledge of hemorrhage in any member of his family. The present illness began the middle of December, 1915, with symptoms diagnosed as the grip. The temperature was from 103 to 104, and there were prostration, cough, and a mucopurulent expectoration. Under his physician's care he improved to some extent, when, January 9, he began to bring up large quantities of thin, bloody sputum. Two days later blood appeared in the urine, the latter soon

2. Vogel, K. M., and Lee, O. I.: Detection of Mercury in the Excretions, *THE JOURNAL A. M. A.*, Feb. 14, 1914, p. 532.

3. Foster, N. B.: Mercury Nephritis, *Arch. Int. Med.*, April, 1915, p. 754.

4. Myers, V. C., and Fine, M. S.: *Jour. Biol. Chem.*, 1915, xv, 391.