equal to their normal average. Although in our puerperal series the average percentage eliminated is greater in the first than in the second hour, the relative difference is not so great as is observed in non-obstetrical patients, and in several instances the figures for the second hour are higher than for the first. At the same time the total amount eliminated corresponds fairly well with Rountree and Geraghty's normal low limit, as the average was 61.0 per cent. with extremes of 48.2 and 76.9 per cent., while in six instances the readings fell within their normal limits.

Comparison of the results obtained in these two series of cases seems to indicate that several important points of difference exist in the renal activity of pregnant and puerperal women, which may be summarized as follows:

1. The average time elapsing before the appearance of the drug is shorter in the puerperium than in pregnancy, thus indicating diminished renal activity in the latter state.
2. In puerperal women the average amount of drug eliminated in the first hour is greater than in pregnant women, while in the second hour it is approximately identical in both groups.
3. The average total elimination is greater in the puerperium than in pregnancy. This is well exemplified in Table 3, which shows the results obtained in five women whose urine was examined both before and after delivery, and forcibly accentuates these points.

TABLE 3.—RESULTS OF TEST BOTH BEFORE AND AFTER DELIVERY

Obst. No.	—PREGNANCY—		Total Percent- age.	—PUERPERIUM—		Total Percent- age.
	First Hour Percent- age.	Second Hour Percent- age.		First Hour Percent- age.	Second Hour Percent- age.	
4485	39.0	18.5	57.5	49.6	27.3	76.9
4497	24.3	32.2	56.5	20.2	35.2	55.4
4441	25.2	24.3	49.5	27.1	30.3	57.4
4489	12.7	23.3	36.0	51.7	11.1	62.8
4498	32.6	27.0	59.6	29.5	25.0	54.5
Average....	26.70	25.06	51.82	35.62	25.78	61.4

Notwithstanding the small number of cases studied, we consider that our findings show that pregnant and puerperal women react so differently to the phenolsulphonephthalein test, as compared with other non-pregnant individuals, as to indicate the existence of some radical change in the functional activity of the kidneys in the former. This being the case, great caution should be exercised in drawing conclusions from this test in toxic conditions. We regret that we are unable to make definite statements in this regard. Unfortunately, neither of us, for the present at least, will be able to continue the work; but at the same time we feel that the results already obtained are sufficiently interesting to justify publication.

CONCLUSIONS

As the result of our investigations we feel that the following conclusions may be tentatively drawn:

1. Normal obstetrical patients eliminate phenolsulphonephthalein more slowly than normal non-pregnant individuals. Whether this is connected with the ordinary changes in metabolism observed at that time or is due to some other factor, we are at present unable to state.
2. In the last month of normal pregnancy the power to eliminate this drug may be very low, and falls far below the limits set for non-pregnant individuals.
3. Until more extensive observations are at hand we feel that this test should be applied with great caution in toxic cases, although it is possible that further study will show that it may afford valuable diagnostic and prognostic information.

OBSTRUCTION OF BOWEL—DIETL'S CRISIS

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Patient.—Early Dec. 14, 1909, I was called to see Mrs. H. W. B. During the previous evening she had been stricken with intense abdominal pain, of sudden onset, the pain continuing with increasingly severe crampy exacerbations at intervals until I saw her. She had vomited twice within six hours.

Examination.—This revealed an extremely tender lump to the right of umbilicus. It was hard and seemed about the size of a tangerine orange. The patient said that the lump had appeared within the last two hours, and she was positive such condition had never existed before. The right rectus was very rigid and the right lumbar region was also on guard and sensitive. Bowels had moved previous to onset of pain, but not since. Pulse was 106, and weak volume; temperature 98.8 F. There were no urinary symptoms. The patient was frail, and had been a partial invalid for many years, suffering from a chronic phthisis pulmonalis. She had been under care of various physicians for abdominal and pelvic ailments, which at operation was found to be a general enteroptosis. The patient was hurried to Cottage Hospital and operation performed at once.

Operation.—Incision was made through the right rectus muscle. On entering the abdominal cavity the right kidney, much enlarged and highly congested, presented through the opening. The kidney was displaced downward, rotated on a longitudinal axis through the mesonephron—the upper pole lay not far from the umbilicus—and was firmly bound along its whole length by old organic adhesions to the ascending colon and hepatic flexure. The ascending colon, proximal to the hepatic flexure, was greatly distended and bluish black in color; the circulation was poor. The hepatic flexure was dragged on, stretched, compressed, rotated and angulated, producing a mechanical obstruction of the bowel. The adhesions between the kidney and the hepatic flexure were severed, the obstruction was relieved and the kidney forced back as high as possible toward its normal bed. The patient's condition on the table was not good, and no attempt was made to anchor the kidney.

Postoperative History.—Convalescence was stormy; an immediate bronchopneumonia developed, and within two or three days appeared the phenomena of general septic invasion, chills, rapid pulse, and alternating high and subnormal temperature. Life was in the balance for two weeks and then convalescence ensued. Patient died five months later from the phthisis, there being no abdominal symptoms in the interval.

Strangulation ileus due to bands of adhesions is not a rare condition; however, in a short search of the available literature I am unable to find a case in which the twisting of a kidney pedicle—Dietl's crisis—has been a factor in causing adhesions to close bowel lumen and blood-current.

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AN EXTRACEREBELLAR TUMOR

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Extracerebellar tumors lie in the cerebello-pontine recess. They apparently arise from the acoustic nerve; usually grow slowly and it may be years before symptoms, produced by pressure on the lateral lobe of cerebellum and pons, to which they are adherent, appear.

This case was referred to me May 23, 1910:

History.—Mr. R. W., aged 58, married, a car-repairer, born in Switzerland, had lived in America thirty years. His health had always been good. There was no specific history. Two years ago he had a discharge from the right ear which continued for about two weeks. He began to complain of deafness in the left ear about three years ago. Two years ago, he was

struck under the right eye by a jack-handle, causing some swelling and discoloration. In February, 1910, he began to complain of being dizzy when he would stoop over. There was headache and a sense of fullness across the frontal region. The dizziness increased and late in April, 1910, he noticed that he began to stagger, the tendency being toward the left side.

Examination.—This revealed marked ataxia of cerebellar type, with tendency to fall to the left, left nerve deafness, partial right deafness (middle ear), slight weakness of left facial nerve, including upper branch; taste not involved; left corneal reflex absent, but no other evidence of fifth nerve involvement; no ocular paralysis. Tendon reflexes were slightly increased on both sides; there was no clonus; no Babinski sign; no sign of paresis of opposite side of body; no optic neuritis, but veins of disks rather full. In the examination of patient I was assisted by Dr. T. Faith, oculist; Dr. H. Kahn, aurist, and Dr. P. Bassoe, neurologist.

Diagnosis.—Tumor at left cerebello-pontine angle, probably a fibroma of the auditory nerve (left-sided deafness preceded vertigo by two or three years), but primary growth in cerebellum or pons, with pressure on auditory and facial nerves possible. At any rate, the growth was subtentorial and on the left side.

Treatment.—While there was nothing in the patient's history, or found on examination, to point to a syphilitic origin of the disease, yet it was thought advisable to put him on specific treatment for a time. He remained in the hospital for two weeks and then returned to his home. The treatment was pushed vigorously until July 4, a period of six weeks, without any effect, the patient growing worse, being now unable to walk without falling, unless assisted.

The patient and his family requested that I operate on him in the hope of obtaining some relief. He was readmitted to the hospital July 4 and prepared for operation.

Operation.—July 6 under ether anesthesia, the usual horse-shoe-shaped incision was made through the soft parts. The skull was opened with Hudson trephine and the opening enlarged by Dahlgren forceps. No growth was found in the cerebellum, but high up, above the root of the cerebellum a dense mass was felt. As it was firmly attached to the pons, it could not be removed or brought into view. The wound was closed without drainage. During operation the anesthetic caused some trouble, the patient taking it badly.

The patient reacted from operation, but on the third day developed pneumonia, resulting in death the fourth day.

Necropsy Findings.—The specimen removed at the autopsy shows a fibroma about 3 cm. in its longest diameter and 2.5 cm. in its transverse diameter. It was firmly adherent to the side of the pons, its origin apparently being from the auditory nerve.

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Therapeutics

THE THYROID

(Continued from page 1983)

PATHOLOGY OF THE THYROID GLAND

1. The thyroid normally varies in size and in the amount of its secretion with age, sex, locality, and condition; the variations being greater in women than in men.

2. It may be inflamed, or there may be actual abscess formation.

3. It may be enlarged: (a) by an increase of the glandular tissue (hypertrophy); (b) by an increase of the colloid deposit; (c) by the formation of cysts; (d) by a dilatation of the blood-vessels, even to aneurysmal sacs; (e) by connective tissue development; (f) by tumor growth (sarcoma, cancer).

4. It may be decreased in size: (a) by connective tissue displacement of the glandular tissue—a sclerosis; (b) by general atrophy.

5. The gland may be large, and yet under-secrete.

6. The gland may be apparently small, and yet secrete sufficiently, and even hypersecrete.

Thyroid Congestion.—The thyroid probably becomes congested and stimulated with every infection, and Lorand, of Vienna (*Lancet*, London, Nov. 9, 1907) states his belief that the thyroid is an active agent in antagonizing all infections, and that when it is so stimulated, it is one cause of fever and the symptoms of fever, such as thirst, high temperature, sweating, nitrogenous loss, and wasting of the body. He believes that the thyroid is an active agent in fighting tuberculosis, and thinks that after a patient has gone through serious illnesses, or when some chronic depressing disease is present, the thyroid becomes worn out, and that is the time when tuberculosis readily attacks or develops in the patient. Whether or not we accept his conclusions as to the cause, the sequence is certainly a fact, that tuberculosis readily develops after typhoid fever, prolonged infection, prolonged alcoholism, after parturition, after prolonged lactation, and during diabetes. If his conclusions are correct, thyroid in small doses would be indicated in tuberculosis. But if the heart is rapid, as it generally is in this disease, thyroid should be given with care. Whether the iodine of thyroid extract would be a stimulant to the tuberculous process, as is an iodide, is a question that has not yet been decided. An iodide in active tuberculosis or in quiescent tuberculosis is more or less vicious in its action, sometimes stimulating the tuberculous process to activity, much as would tuberculin. In other words, an iodide should probably never be used in tuberculosis, especially of the lungs.

It seems to be a fact that after cured tuberculosis and after typhoid fever, diphtheria, and other serious infections, the thyroid tends to develop a greater amount of connective tissue, even if the glandular tissue does not actually atrophy. This may be one of the reasons that after severe infections arteriosclerosis is likely to occur earlier than in patients who have not suffered these illnesses, insufficient thyroid secretion tending to cause arteriosclerosis. Although congestion of the thyroid frequently occurs with infection or illness, active inflammation is rare, but it is more frequent than once thought. Actual suppuration is exceedingly rare.

Thyroid Hypertrophy.—Ordinarily, when the glandular tissue is hypertrophied, it is hypersecreting; and this may be on account of some necessary function of the body, as menstruation or pregnancy. If there is no such necessity for its hypertrophy and hypersecretion, abnormal symptoms occur, and if the condition progresses, exophthalmic goiter is the result. With this hypertrophy the blood-vessels are always enlarged and may become dilated to a condition of aneurysm. Aneurysm of a thyroid artery may be present without an increased glandular activity of the gland, but the two conditions are generally concomitant.

Increased colloid deposits and the formation of cysts produce an ordinary goiter; i. e., an enlarged thyroid gland is present, but with no signs of its hypersecretion. An enlargement of the thyroid from connective tissue deposit sooner or later means under-secretion of the gland and symptoms indicative of hyposecretion.

If a tumor growth, like sarcoma or cancer, begins in some portion of the thyroid, the part of the gland not affected often becomes irritated to hypersecretion, so that symptoms from such increased secretion may be present as the tumor continues to grow. This is not always the case.

Thyroid Atrophy.—The thyroid normally atrophies after 45, and gradually developing symptoms of insuffi-