and during his stay in the army he was taken ill with what was diagnosed as kidney trouble by the army physician. He was sent to the baths for two weeks, after which time he went back to the army and completed his service. There is a doubtful history of his having passed gravel during this illness. He has never had any subjective symptoms referable to the left kidney or to the left ureter.

Physical Examination.—This was completely negative with the exception of tenderness over the right kidney elicited by palpation and percussion. Cystoscopically the bladder and the ureteral orifices were negative. In double ureteral catheterization the catheters easily entered both ureters and passed, without meeting any obstruction, all the way into the pelves of the kidneys. The urine collected by the catheters showed the following:

Skiagram showing a small shadow in the pelvis on the right side. The arrow points to the shadow, which is to one side of the catheter.

Right Kidney: Three c.c. of urine, clear; albumin +++; neutral reaction; no casts; few pus-cells.

Left Kidney: Fifteen c.c. of urine, clear; albumin ++; no casts; no pus cells.

Phenolsulphonaphthalein Functional Test: Right kidney: Dye appeared in three minutes; excretion 55 per cent. Left kidney: dye appeared in three minutes; excretion 6 per cent.

Skiagraphic examination showed a shadow in the region of the left kidney about the size of a dime. The right kidney was negative. A week later a second set of pictures was made. This showed, in addition to the previously mentioned shadow in the left kidney, the presence of a small shadow, about the size of a pea, in the pelvis on the right side. In order to determine the origin of this shadow-producing body, a shadow-graph catheter was passed and the accompanying skiagram was taken with the catheter *in situ*. This shows the catheter passing along the side of the previously mentioned shadow.

Diagnosis, stone in the right ureter, pelvic portion; stone in left kidney.

Operation.—Ether anesthesia, assisted by Dr. L. E. Schmidt. It was decided first to remove the stone from the ureter. An incision about 5 inches long was made on the right side in the lower quadrant of the abdomen. The incision was carried down through skin and musculature to the peritoneum. The peritoneum was pushed forward and the ureter isolated. Previous to beginning the operation, a shadowgraph catheter, black in color, had been passed into the ureter to aid in locating the ureter during the operation. The stone was found about an inch from the bladder. An incision an inch long was made into the ureter and the stone removed with a pair of artery forceps. The ureter was allowed to fall back into place without suturing. A cigaret drain was passed down to the ureter and the wound closed with interrupted catgut sutures. A left-sided nephrectomy was then carried out. The usual oblique incision was made and the kidney exposed. This proved to be a mere shell with only a thin layer of secreting tissue. In one of the large dilatations were found many small stones which had produced the shadow in the skiagram. From the above-mentioned functional findings we had no hesitation in removing this badly diseased kidney.

Postoperative Course.—The drain in the ureteral wound was removed in thirty-six hours, and for forty-eight hours urine leaked through the wound. This closed and has given no further trouble. On the right side the wound remained open for six weeks on account of a slight catgut infection.

2218 Clifton Avenue.

THE OCCASIONAL CLINICAL RESEMBLANCE OF BLASTOMYCOSIS AND SYPHILIS TO SPOROTRICHOSIS

RICHARD L. SUTTON, M.D.

KANSAS CITY, MO.

Prior to the publication of the classical studies of Schenck and Smith¹ in 1898, the cutaneous lesions of sporotrichosis were usually ascribed to syphilis, tuberculosis or coccic cellulitis, and even at this time the true nature of the condition often is not recognized.

Blastomycetic dermatitis seldom simulates either sporotrichosis or syphilis, although its resemblance to tuberculosis verrucosus cutis is often so close as to require cultural differentiation.

Of the following histories, that of sporotrichal infection is quite typical, and the one of syphilis fairly so; but the distribution and character of the lesions in the case of blastomycosis are somewhat unusual, and the entire clinical picture rather a puzzling one.

CASE 1.—E. W., housewife, colored, aged 46, was admitted to the skin clinic of the University of Kansas in November, 1911. The cutaneous history of the family was negative. The patient was a native of Alabama, and a resident of Kansas City. Her health had always been good. Nine months prior to the time of consultation, while raking some straw and other litter in her dooryard, she sustained a slight punctured wound of the forefinger of the right hand. Little attention was paid to the injury, and only household remedies were applied, although the wound did not heal for several weeks. In the meantime, a chain of hard, pea-sized, oval nodules developed on the dorsal surface of the hand and wrist, and on the outer side of the forearm and arm. In the course of four or five months, the majority of these tumors became soft and fluctuant, although the overlying skin remained unbroken. The lesions, which were violaceous in color, were painless, and there was no involvement of the epitrochlear or axillary lymph-nodes. One of the abscesses was aspirated with a sterile syringe, and Dr. C. C. Dennie, of the Department of Pathology,

1. Schenck and Smith: Bull. Johns Hopkins Hosp., 1898, p. 286.

secured pure cultures of the *Sporothrix schenckii* from the brownish, syrupy contents. Under the routine potassium iodid treatment, the patient made a gradual but complete recovery.

The probable source of infection in this instance is of particular interest, inasmuch as de Beurmann² has recently shown that the organism is encountered in a saprophytic state in nature in the French Alps. Vegetables frequently serve as a medium of contagion, a sporotrichum having been found on the salad sold by a market woman who was the subject of the disease.

CASE 2.—G. S., male, single, laborer, aged 26, was admitted to the skin clinic of the University of Kansas in December, 1911. The family and personal cutaneous histories were nega-

The patient was found to be a well-nourished, muscular individual, apparently physically normal in every respect except for the lesions on his arms. The epitrochlear and axillary glands were palpable. The buccal mucosa was normal. A Wassermann test gave a negative result. The right forearm was the seat of four subcutaneous abscesses, three of which communicated with the surface by means of tortuous sinuses. The cavity nearest the elbow drained through the old incision made at the first operation. The limb was considerably swollen and quite tender. The middle portion of the left arm (the upper half of the forearm and the lower half of the upper arm)

Fig. 1.—Case 1. Sporotrichosis of the right arm and hand.

Fig. 2.—Case 2. Blastomycosis affecting both arms.

Fig. 3.—Case 2. Blastomycosis of forearm, after ten weeks of treatment.

tive. The patient was a Bulgarian, and had been in America since May, 1909. With the exception of the present illness, his health had always been excellent. In April, 1911, he first noticed a small carbuncular growth on the posterior surface of his right forearm. The affected part was swollen and the seat of considerable pain. At about this time the patient was transferred from Toledo, Ohio, where he had been working on section, to Watertown, N. Y., and, in June, 1911, a local surgeon excised the affected area. A few days later a second lesion, similar to the first, appeared on the left elbow. The patient was sent back to Toledo, and there underwent another operation. The condition recurred, however, on both limbs, and since that time the diseased area has gradually extended, despite treatment.

Fig. 4.—Case 2. Blastomycosis of forearm, after ten weeks of treatment.

Fig. 5.—Case 3. Ulcers on forearm (tertiary syphilis).

Fig. 6.—Case 3. Ulcer on upper arm (tertiary syphilis).

was the seat of numerous abscesses and sinuses, together with the depressed scars of healed lesions. The edges of some of the operation wounds were everted and inflamed, and considerable quantities of pus could be squeezed from the openings. The borders of the lesions were purplish red, but the characteristic papillary, wart-like growths of blastomycotic dermatitis were absent, and the skin appeared to be much less affected than the deeper structures. Examination of fresh material from both the abscesses and the ulcerated cutaneous margins failed to reveal the presence of a fungus, but cultures on agar and glucose-agar, planted by Professor W. K. Trimble and Dr. Dennie, showed abundant numbers of blastomycetes. Sections made from tissue which was excised from the edges of the lesions on the right wrist and the left elbow exhibited the characteristic pathologic picture of the disease.

2. De Beurmann: Brit. Jour. Dermat., 1912, p. 333.

The condition did not prove very amenable to treatment, probably because of the patient's carelessness in following out the instructions given him. Potassium iodid, in gradually increased doses, was given internally, and moist dressings of copper sulphate and of a soluble iodine preparation were applied locally. At first, x-ray treatments also were employed, but the patient failed to report regularly, and these were discontinued. The patient was under observation for about three months, a portion of the time being in the Bell Memorial Hospital, in Rosedale. When last seen, the condition of both limbs appeared to be greatly improved, although not all of the lesions were completely healed.

CASE 3.—R. M., male, single, clerk, aged 38, was referred to me by Dr. E. L. Stewart of this city. The family and personal cutaneous histories were negative. Two years prior to the time of consultation, a large ulcer developed on the radial side of the left forearm, and persisted, despite treatment, for several months. Finally it gradually disappeared under the use of a popular "blood purifier" and antiseptic dressings, leaving a soft, pliable, slightly depressed, white scar. Eighteen months afterward three new ulcers appeared, each following a localized induration of the skin which developed without apparent cause. On examination, no scars or lesions of any kind were to be found on parts other than the left upper limb. There was no perceptible adenopathy. On the anterior surface of the left forearm were two irregularly oval, sharply outlined ulcers, with concave walls and soft margins, and on the outer side of the upper arm was a third similar lesion.

A Wassermann serum test, performed by Dr. Stewart, proved positive, and healing was prompt and complete under the usual antisyphilitic treatment.

610 Commerce Building.

THE ROENTGEN RAY IN INTRATHORACIC GOITER AND THYMUS HYPERPLASIA *

ANDRÉ CROTTI, M.D.

Surgeon to Grant Hospital and Children's Hospital

COLUMBUS, OHIO

By an intrathoracic goiter, we understand a goiter that lies within the thorax. It may be totally intrathoracic, or partially so. Theoretically we should call partially intrathoracic any goiter extending below the superior opening of the thorax and lying more or less deeply in the mediastinal space. According to this a goiter whose inferior limits lie behind the incisura sterni would be called an "intrathoracic goiter." Following Kocher, however, we do not call such cases "partially intrathoracic," but "struma profunda" or "deep goiter," and reserve the term of "partially intrathoracic goiter" for goiters whose greater part lies in the mediastinal space, or to goiters with an intrathoracic prolongation large enough to cause symptoms.

These intrathoracic goiters originate in the lower pole of one lobe or in the isthmus, or in an accessory thyroid gland. In the majority of cases, however, the intrathoracic goiter is developed in a preexisting goiter, localized in the isthmus or one or both lobes of the thyroid gland, which has gradually become intrathoracic.

An intrathoracic goiter developed in the isthmus will lie in the middle line and be called a median intrathoracic goiter. A goiter developed in one of the lobes will lie laterally of the middle line and will be called a lateral intrathoracic goiter.

The intrathoracic goiter is located in the superior portion of the mediastinal space, which is limited in

front by the manubrium sterni, clavicle and first three ribs; behind by the first three dorsal vertebrae; laterally by the apices of both lungs, and below by the arch of the aorta and the heart.

With a median goiter, pressure develops anteroposteriorly; with a lateral goiter, pressure develops laterally. If the windpipe is compressed laterally by two nodular goiters situated at about the same level on either side, the compression may be so marked that the two walls of the trachea may come in contact with each other and form the so-called sable-sheath trachea. If the two nodular goiters are at different levels, the trachea assumes an S shape, analogous to scoliosis of the spinal column.

Information of great importance is given by the x-ray examination. Normally in the dorsoventral skiagram the shadow may be divided into three parts: a supraclavicular, an infraclavicular and a cardiac shadow.

In intrathoracic goiter the shadow of the supraclavicular and of the infraclavicular portion is much increased. Laterally the shadow may reach the inner third or half of the clavicle. Downward it may cover entirely the base of the heart, extending to the middle of the manubrium sterni and to the cartilage of the third rib. Upward, when the goiter is partially intrathoracic, it extends and fuses with the shadow of the supraclavicular goiter. The contour of the shadow of the intrathoracic goiter is sharply marked as a rule, because of the contrast with the shadow of the lungs, which is clear. The tone of the shadow, as a rule, is regularly distributed, dark and opaque. Its contour is sharply limited and convex laterally; instead of being regular and convex, however, the contour may be undulated and irregular, indicating in such cases a nodular goiter or a malignant tumor. The shadow of the aorta and of the vena cava may be absolutely covered by the goiter, but often the arch of the aorta is displaced toward the left side and downward.

The shadow of the intrathoracic goiter may be median or lateral. The median intrathoracic goiter lies in the middle of the mediastinal space; its contour is regular and sharp. The trachea is absolutely covered by the goiter and no shadow of the windpipe is seen in the skiagram. In the lateral intrathoracic goiter the shadow may be mostly developed on the right side or on the left side of the mediastinal space, according to the position of the goiter. In that case the shadow is more or less irregular on its inferior portion; the irregularity is then caused by the shadow of the large vessels, the superior vena cava and especially the aorta, which may be displaced toward the left side. The windpipe may be seen, more or less, in its entire course, but is displaced or compressed or both together. In a few instances the trachea may be followed to its bifurcation.

In intrathoracic goiter not only skiagraphy but fluoroscopy is of the utmost importance. A fluoroscopic examination will reveal the pulsation and up-and-down movement of the goiter on inspiration and deglutition. The shadow of the goiter is not infrequently seen pulsating. This pulsation is transmitted by the neighboring large vessels, especially the aorta.

There is an up-and-down movement synchronous with the act of swallowing. This up-and-down movement is pathognomonic of a tumor developed in the thyroid gland. It never fails, except in an abnormally large intrathoracic goiter or in malignant degeneration of a goiter. The goiter is clearly seen rising with the trachea and larynx, but the aorta remains immobile. In a few instances the aorta is seen rising with the goiter. This

* Read by invitation at the National Meeting of the American Roentgen-Ray Society at Niagara Falls, September, 1912. Dr. Bowen, Grant Hospital, Columbus, Ohio, demonstrated the skiagrams, and I am greatly indebted to him for his skillful, technical work.