

BRIEF COMMUNICATIONS AND CASE REPORTS

PARATHYROID TUMOR

REPORT OF TWO CASES

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Case 1.—M. C., female, age 46, married, born in Poland, was admitted to Bellevue Hospital October 28, 1932, and was discharged November 10, 1932, with a diagnosis of nodular goiter (adenoma of the thyroid).

Chief Complaint.—Swelling on the outer aspect of neck. *Family History.*—Negative as far as goiter was concerned. *Present History.*—This dated back 12 years, when patient noted difficulty in swallowing following childbirth. Five years later she noticed a swelling in the right side of her neck which gradually increased in size. It regularly became enlarged during menstrual periods. There was no tachycardia, no difficulty in swallowing, no nervousness or tremor. Patient had taken iodine off and on for the past year. B. M. R. was within normal limits. Menstrual history was negative. Patient had nine children, seven of whom are living.

Physical Examination.—Well nourished woman of 46; good color; weight, 140 pounds; pulse averaged 80; blood pressure, 140/80; lungs, negative; heart, normal in rate and rhythm corresponding with pulse, sounds of good quality, soft systolic murmur at the base. In the region of the right lobe of the thyroid there was a swelling about the size of an orange, somewhat nodular, which moved with swallowing. There was a high pitched bruit heard on the upper surface of the neck. There were no tremors. Urine negative. Wassermann negative.

Operation.—November 1, 1932: Under gas-oxygen-ether anesthesia, what was thought to be the right lobe of the thyroid was found involved by a degenerated nodular mass, which was covered by many large veins. It was, however, removed without difficulty. The left lobe of the thyroid was found to be normal. The postoperative diagnosis was nodular goiter. The wound healed by primary union and the patient was discharged from the hospital on the ninth day postoperative.

Pathologic Examination.—Doctors Slaughter, Rottino and Symmers: The gross specimen consisted of a mass of tissue 9x6 cm. (Fig. 1). There was a thin transparent capsule, the underlying tissue having a pink color. There were many prominent veins. On section the surface was smooth and homogeneous. Microscopically, the mass was found to be composed almost entirely of oxyphil cells (Fig. 2). *Pathologic Diagnosis.*—Parathyroid adenoma.

The patient was later readmitted to the hospital where roentgenograms of the bones of the skeleton were found to be normal. Blood calcium determination of 10.2 and blood phosphorus determination of 4.2 were within normal limits. Phosphatase was not determined.

Since operation, this patient has remained in excellent health. There has been no recurrence of the tumor. A recent examination showed normal values for calcium, phosphorus and phosphatase.

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The majority of parathyroid tumors reported in the literature have been associated with bone and blood changes. Also, most of the tumors reported are of the clear cell type rather than the oxyphil type as shown in this case.

The case is presented to illustrate a parathyroid adenoma made up almost wholly of oxyphil cells, in whom both the bones and blood chemistry were normal.

Case 2.—A. S. C., female, age 53, single, was first examined in July, 1935, at which time a swelling was noted involving the right thyroid region. This had first been noted by the patient two years previously and had been increasing slowly. There was a history of nervousness and fatigue over a period of several years. There had been no loss in weight or any complaint of cardiac disturbance.

FIG. 1.

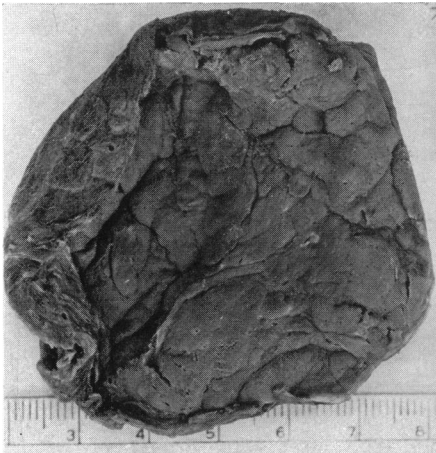


FIG. 2.

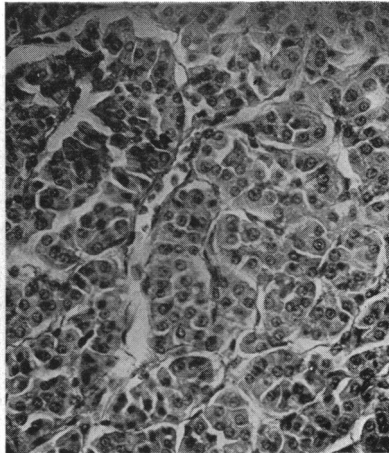


FIG. 1.—Case 1: Photograph of the gross specimen. Note the capsule in left marginal area.
FIG. 2.—Case 1: Photomicrograph of a section of the parathyroid tumor showing the cells well outlined, and the cytoplasm granular and oxyphilic. Note the absence of clear or chief cells.

Physical Examination showed a two-inch nodule with a small area of what was thought to be calcification along the inner border, involving what appeared to be the right lobe of the thyroid gland. The weight at this time was 109 pounds (no loss); pulse, 80, and regular; blood pressure, 110/80; B. M. R., -14, which might be considered a low normal. *Diagnosis.*—Nodular thyroid (or adenoma).

A diagnosis of nodular thyroid (or adenoma) was made, and operation for excision of this tumor was undertaken August 24, 1935.

Operation.—August 24, 1935: An encapsulated tumor the size of a golf ball, and firmly adherent to the trachea, was found, which apparently involved the right lobe of the thyroid gland. In order to facilitate the removal of the tumor, it was necessary to excise the entire thyroid lobe. On section, the well developed capsule was strongly adherent to the tumor tissue, which was of the consistency of liver and had a yellowish-gray appearance. It was quite evident that the tumor was not a simple thyroid nodule (or adenoma).

Pathologic Examination.—Dr. H. R. Muller. *Gross.*—“A spherical mass, about the size of a golf ball. It is covered with a thin fibrous capsule. The consistency is rubbery, but not very hard. The cut surfaces are homogeneously pinkish-gray. In one portion is some calcified material. *Microscopic.*—The tumor is composed chiefly of very

FIG. 4.

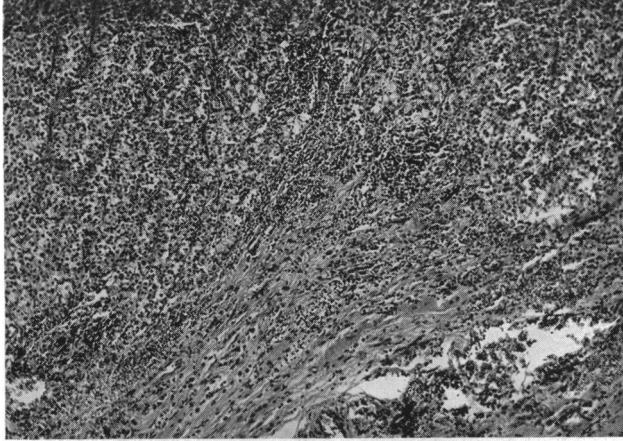


FIG. 3B.

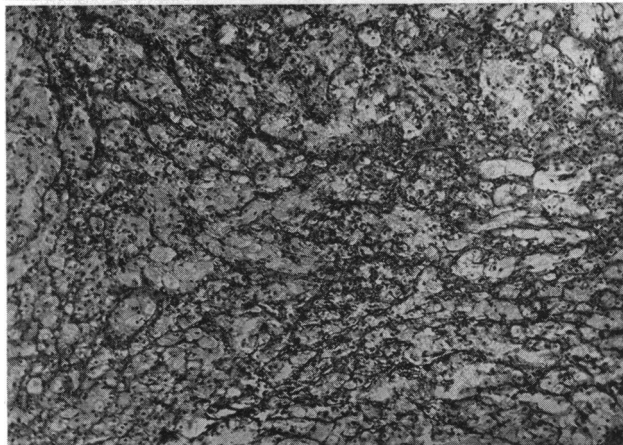


FIG. 3A.

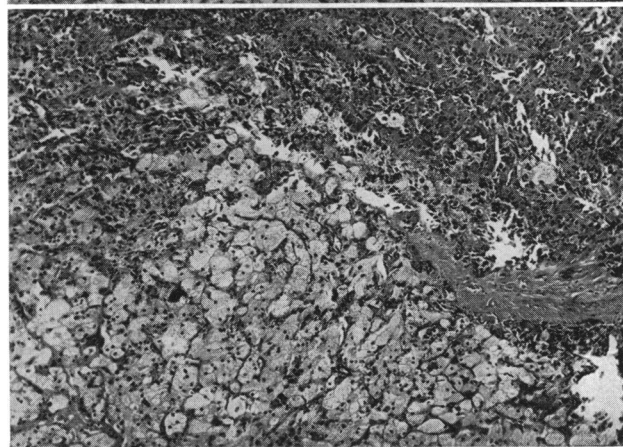


FIG. 3.—Case 2: (A) Showing the lawless arrangement of cells. Note the predominance of clear cells with small nuclei. The darker stained cells are oxyphilic. (B) Note the predominance of clear cells.
 FIG. 4.—Case 2: Section of the metastatic nodule attached to the external jugular vein. Note the presence of both clear and oxyphilic cells; also invasion of the capsule.

large cells, with clear, slightly foamy cytoplasm and with a single small round compact nucleus. The outlines of the cells are distinct. Many cells show an area of pinkish material occupying a portion of the cell. A delicate connective tissue reticulum, bearing capillaries, runs around small groups of these cells or acts as a supporting structure. In some portions the cells are small and very acidophilic, but with the same histologic structure. There are also areas of necrosis. The capsule around the tumor varies in thickness, being very thin in places. Outside of the capsule, in one section, is some thyroid tissue consisting of moderately dilated acini filled with colloid and having a low cuboidal epithelium. The structure of this tumor is unusual and suggests an adenoma of the parathyroid. (Fig. 3A and B.) *Pathologic Diagnosis*.—Adenoma of parathyroid."

Calcium and phosphorus determinations, as well as skeletal roentgenograms, were then made and found to be normal.

Subsequent Course.—The patient made a good recovery; gained weight; made no complaints, except for occasional painful joints, until August 27, 1937, two years following operation, at which time there appeared a slight fullness in the right side of the neck, and the presence of a small, hard nodule, apparently involving the skin and subcutaneous tissue adjacent to the right external jugular vein on a level with the thyroid cartilage. Physical findings were otherwise negative. There was no loss of weight.

On September 10, 1937, this small nodule was excised under novocain. It was found attached to the external jugular vein. The tissue was friable and gray in appearance.

Pathologic Examination.—Dr. E. S. L'Esperance. *Gross*.—"Specimen is an irregular, ragged mass of yellow and grey soft tissue, two centimeters in greatest diameter. *Microscopically*, the sections show a partially encapsulated tumor composed of cells resembling those of the adrenal cortex. The cells, for the most part, are large with round or oval vesicular nuclei. A few have opaque eosinophilic cytoplasm. There is a tendency to glandular arrangement (Fig. 4). *Pathologic Diagnosis*.—This is probably an adenoma of the large cells of the parathyroid. It does not appear to be highly malignant."

Subsequent Course.—On December 11, 1937, after roentgenotherapy (four treatments) there was not only a recurrence of the nodule at the site of excision, but there was found another small nodule on a slightly higher level and nearer the median line of the neck, apparently lying superficially in skin and subcutaneous tissue.

On December 31, 1937, roentgenologic examination of the complete skeleton was found to be normal, as was a recent determination of calcium (10.7), phosphorus (3.3), and phosphatase (2.7).

This case is presented as an instance of a malignant tumor of the parathyroid gland; the malignancy based on metastasis rather than on individual cell characteristics. There were no abnormal bone or blood chemistry findings in association with this tumor, which is contrary to some of the reported cases.

DISCUSSION.—DR. EMIL GOETSCH (Brooklyn) felt that Doctor McQuillan's cases represented another confusing syndrome. Here parathyroid tumors were found but there were no associated changes in the bones such as one might be led to expect. The great size of the parathyroid tumors was certainly unusual, the first being about the size of an orange, the second of a golf ball. Doctor Goetsch cited a personal experience he had many years ago with a parathyroid tumor, at least it was so considered after careful studies, as large as a grapefruit, which caused paroxysms of coughing due to tracheal compression. Calcium studies were not made at that time.

In Doctor McQuillan's first case, the histologic section resembled very much the appearance of a thyroid adenoma. In the second case, the tissue

was clearly that of a parathyroid gland. The failure to find incidental bone changes is usually important, and may point to a differentiation in the function of the two main types of cells occurring in the parathyroid gland.

DR. HENRY L. JAFFE (New York) said that a number of tumors, similar to those found in Doctor McQuillan's first case, had been described during the last few years: namely, enormous oxyphil cell adenomata of the parathyroid. The fact that the cytoplasm of the adenoma cells is oxyphilic is offered as the explanation of why these tumors do not demineralize the skeleton; that is, they apparently do not secrete parathormone. It would be of great importance to assay such tumors for the presence of parathormone. One really does not know whether these tumors are parathyroid tumors or not.

DR. ARTHUR S. MCQUILLAN (New York) closing said, in connection with his first case, which Doctor Jaffe discussed, that Keynra, in the British Journal of Surgery, October, 1936, described a case essentially similar, which was made up almost entirely of oxyphil cells, and which evidenced no signs or symptoms of hyperparathyroidism. Keynra cited four other somewhat similar cases and suggested, as did Doctor Jaffe, that possibly these cells are inactive, with low function of secretion and, therefore, one should not expect bone changes.

With regard to malignant tumors of the parathyroid gland, Doctor McQuillan said he had searched the literature and could find only 19 cases of proven malignancy of the parathyroid gland and not all of these were proved by metastases. Diagnosis in some was made on the cell morphology, which is considered difficult, as is the tissue diagnosis of carcinoma of the thyroid gland. All of the 19 cases, except two, did not show any changes in the bones or blood chemistry. The Mayos reported a case, in 1929, of malignancy of the parathyroid gland associated with bone and blood changes. They later reported a case, in 1934, showing the same changes, and in both cases the diagnosis of malignancy was made on cell morphology and not on the presence of metastasis.

THE TREATMENT OF ACTINOMYCOSIS WITH THYMOL *

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IN REVIEWING the literature relative to the incidence and methods of treatment of actinomycosis, the following was found: An analysis of 500 cases showed the distribution of the lesions to be: head and neck, 55 per cent; thorax, 20 per cent; abdomen, 20 per cent; and it had occurred in the lower jaw incident to caries of the teeth. Actinomycosis produced the following types of lesions in the region of the appendix: (1) Painful tumor; (2) gangrenous appendix; (3) perforation of the cecum.

Actinomycosis is thought to be contracted from chewing straw, wheat or rye. Various treatments have been tried: Potassium iodide in doses up to 120 gr. or more; wet dressings of copper sulphate $\frac{1}{2}$ to 2 per cent solution; deep

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roentgenotherapy has been of advantage in some instances. Gautier, in France, has developed an electrotechnical method of therapy. He inserts two platinum needles into the infected areas which act as poles between a constant current of 50 milliamperes, and at the same time 10 per cent potassium iodide is injected continuously by the drop method into the mass. The current decomposes this solution into nascent iodine and potassium.

In the present instance, roentgenotherapy was finally decided upon. This had not been considered before because of the possibility of adding sterilization to the other troubles of the patient. Just before the treatment was to be instituted, Dr. H. B. Myers,¹ of Portland, Oregon, published an article describing the use of thymol as a specific for actinomycosis in which he advised adequate surgical drainage of the local lesions and a packing of 10 to 25 per cent thymol in olive oil and tolerance doses of the crystals by mouth to prevent the spread of the disease to other parts of the body.

Case Report.—Hospital Chart No. 61057: A. F., white, female, age 20, was admitted to the City Hospital, New York, complaining of discomfort in the right lower abdominal quadrant and the presence of a persistent sinus which opened into the scar of the previous appendicectomy wound.

Previous History.—In 1933, the patient, age 15, had been operated upon at the Wyckoff Heights Hospital, Brooklyn, N. Y., for acute appendicitis, but the wound never healed.

Postoperative Diagnosis.—Gangrenous appendicitis with local peritonitis. It has not been possible to obtain a pathologic report of the appendix.

Subsequent Course.—In December 28, 1936, she was again operated upon at the City Hospital, N. Y., by Dr. Ward Renfrew, and the sinus tract dissected out and an ovarian cyst removed. The wound healed, but one year later, December 28, 1937, she was readmitted with a preoperative diagnosis of acute osteomyelitis of the crest of the ilium. This area was incised and drained. Pathologic examination of tissue removed showed actinomycosis. The wound continued to drain and the patient was given large doses of potassium iodide—up to 120 gr. a day. On March 30, 1937, an abscess in the abdominal wall, in the region of the McBurney incision, was opened, but never healed.

She was first seen by our service on April 1, 1937.

Physical Examination.—The patient was thin and emaciated, lying in bed with her right knee drawn up and the right thigh flexed on the abdomen. Weight 70 pounds. She was very apprehensive and frightened. A draining sinus was present at the lower end of her appendix scar, with marked tenderness and induration around it. Over the crest of the ilium there was a broad wound covered with sluggish granulations.

Operation.—April 16, 1937: Following a transfusion, the sinus tract leading downward from the lower end of the scar of the McBurney incision was explored. Boggy, granulation tissue was found throughout and the femoral vessels were embedded in it. The tissues bled very freely and the hemorrhage was hard to control. She was subsequently transfused twice because of a severe hemorrhage which occurred at the time of the primary dressing. No improvement followed.

Second Operation.—May 13, 1937: This same area was dissected out, only more extensively. It was found necessary to ligate and sever the femoral artery and vein above Poupart's ligament in order to eradicate the involved tissue. The wound extended down to the space of Retzius. An area in the thigh, below Poupart's ligament, was also opened and drained. Notwithstanding the ligation of the femoral vessels, there was never any sign of disturbance in the circulation of the leg. She nearly died during the above operative procedure and had to be transfused immediately postoperatively.

Postoperative Course.—The patient became progressively worse. She could not

eat; cried almost constantly from pain; and showed a complete loss of morale. During the last week in May, 1937, her condition had become so serious that roentgenotherapy was considered. However, just at this time the article by Myers¹ appeared, suggesting the employment of thymol. This treatment was immediately instituted, June 2, 1937, and the sinuses were packed with 20 per cent thymol in olive oil. She received 10 gr. of the crystals every other day. Larger or more frequent doses produced a gastroenteritis. On June 20, 1937, and again on September 8, 1937, areas of infection in the outer side of the thigh were opened and packed. At the first operation it was found that the sinus tract at the lower end of the McBurney scar also opened into the posterior vaginal fornix.

Results of Thymol Therapy.—The change in the appearance of the sinus tracts, after packing with thymol, was remarkable. In a very short time they had lost their "drippy," dirty appearance and the granulations became pink, dry and clean. From week to week healing could be seen, especially in the sinus tracts treated with thymol after they had been freshly opened and drained. The temperature dropped immediately. After the operation on June 20, 1937, her progress was very steady. She got up in a wheel chair and then walked with crutches. As soon as she was able, she was sent daily to Occupational-Therapy and allowed out all day in the sun. By September, 1937, the contraction in her knee had disappeared and she walked normally with full range of motion. She has had Alpine light treatments three times a week and transfusions when necessary to keep her hemoglobin within normal range. At present, her sinus tracts are closed except for three. A small one on the anterior surface of the thigh, one on the outer side of the thigh, and the pelvic one which has healed a great deal during the past month. She has a tender, swollen area on the inner side of her thigh which will have to be opened soon, probably an extension of the disease through the obturator foramen along the adductor group of muscles.

The general condition of the patient is good. Her weight is now 107 pounds, a gain of 37 pounds. This new abscess is localized, and certainly the outlook for its eradication by the use of thymol is very much better than it would have been a year ago when her condition was so poor and there seemed to be no prospect of staying the progress of the disease. The red blood count averages about 3,500,000; the hemoglobin between 55 and 75 per cent. The white blood count has averaged about 15,000 with 74 per cent polymorphonuclears. The urine, which during the acute part of her illness showed albumen and casts, has now cleared almost entirely and shows only a faint trace of albumen. This fall, her menstrual periods, which had stopped for seven months, began again and are quite normal.

SUMMARY

(1) In the case herewith reported, great benefit was derived from the use of thymol by mouth and thymol in oil packed into the wounds after adequate surgical drainage has been established.

(2) No benefit has been derived by the excessive doses of potassium iodide.

(3) The immediate drop in temperature after the administration of thymol, and the later gain in weight, have been evidences of the therapeutic value of thymol.

(4) It is obvious that the patient is not cured, but her condition is certainly vastly better than it was before the administration of this agent.

REFERENCE

- ¹ Myers, Harold B.: Thymol Therapy in Actinomycosis. J.A.M.A., 108, 1875, May 29, 1937.

DISCUSSION.—DR. THOMAS H. RUSSELL (New York) cited the following case: A white, Jewish male, age 28, was operated upon in Florida for a ruptured appendix. He felt well for a few weeks, but then his temperature rose and a diagnosis of subphrenic abscess was made and the abscess drained. He improved, but four months later because of a temperature of 102° F. the subphrenic abscess was reopened and drained. Following this his temperature did not come down to normal, and he was admitted to New York Post-Graduate Hospital for reexploration of the subphrenic abscess. At operation, January 20, 1937, the subphrenic area was explored. No pus was found but a moderate amount of necrotic material was removed from the sinus and subphrenic area. Since then there has been a small amount of discharge from the tract. Scrapings from the sinus tract revealed purulent exudate with associated colonies of actinomycosis. Gastro-intestinal roentgenologic studies, February 10, 1938, revealed a rather narrow, constricted terminal ileum, somewhat segmented, suggesting chronic hypertrophic changes in this segment. Roentgenograms of the lung showed subphrenic pathology, moderate lung retraction on the right side with fluid at the right base, and a partial hydropneumothorax. For the past six days the patient has been treated with thymol, taking 2 Gm. daily by mouth, and the sinus being irrigated with 15 per cent thymol solution in olive oil.

DR. ALLEN O. WHIPPLE (New York) said that he had had one patient who was proving a very interesting problem, who had a very diffuse distribution of actinomycotic lesions. The difficulty was that he had had a number of therapies instituted, as is so often the case in these desperate lesions, and it was very difficult to determine just which therapy had had the most pronounced effect. Thymol regimen would have been pushed much more vigorously had the patient tolerated it better. Tolerance should be determined, as some patients are quite intolerant to the large doses employed. There are several ways of administering thymol. Taking it by mouth upsets some patients so that they cannot take food. The case just referred to was up and about with a new focus, and he thought the excellent result largely due to the indefatigable and constant attention of the house surgeon who had really done a remarkable piece of work in keeping after the patient. Undoubtedly thymol has a very real place in the therapy directed against this condition.

DR. M. STANLEY-BROWN (closing) said that in Dr. H. B. Meyers' description of the use of thymol there was one case included, in the six reported, which did not turn out favorably because the patient could not tolerate the thymol by mouth. The local lesion cleared up but the patient developed actinomycosis of the lung from which he eventually died. Where the thymol is tolerated it seems to work very well. Doctor Meyers stressed the point that the affected areas must be opened, afforded adequate surgical drainage, and packed with thymol in olive oil to give the best results. The patient presented weighed 70 pounds when first seen, and had been in the hospital for several months with no change. After thymol was instituted she gained weight and her temperature dropped; it would seem to be the effect of the thymol therapy that brought about the improvement. She tolerated 10 Gm. every other day, but if this amount was increased some difficulty was experienced.

REVERSED COLLES' FRACTURE

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THERE is a discussion in the literature, Webb and Sheinfeld,¹ Raymer,² Bettman and Tannenbaum,³ Wood,⁴ Greeley and Hobart,⁵ on the question of whether or not reversed Colles' fracture can be reduced and held, without resort to open operation. It has been of interest to study the photographs published by these authors, in conjunction with the five cases, shown in Figures 1, 2, 3, 4 and 5, from the Episcopal Hospital records.

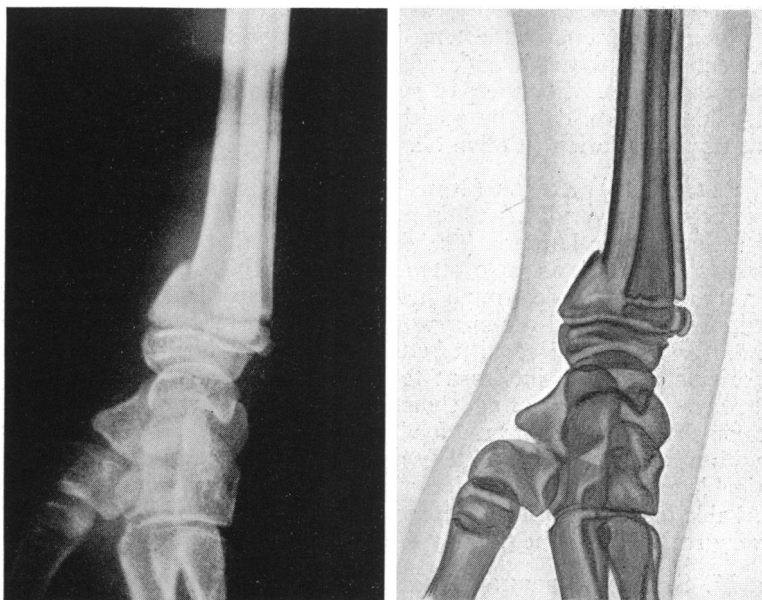


FIG. 1.—B. R., age 11. Greenstick fracture in distal end of diaphysis with slight palmar displacement of fragment. A true reversed type.

It is important for the proper understanding of this lesion to realize that we are dealing with two rather distinct conditions. Some of them are true reversed Colles' fractures; others are anterior fracture-dislocations of the wrist. The true reversed Colles' fracture is very well shown in Greeley's and Hobart's⁵ Figure 7B, in which dislocation is absent, and in which the fragment is displaced at an angle to the shaft. The fracture-dislocation type is equally well shown in their Figure 1, in which the wedge-shaped fragment from the lower lip of the articulating surface of the radius is approximately parallel to the anterior surface of the shaft. It has been forced proximally away from the line of the radiocarpal joint. Comminution of the fragment may produce an intermediate type, as shown in Figure 4.

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REVERSED COLLES' FRACTURE

This fracture-dislocation bears some resemblance to fracture of the dorsal lip of the radius. Both of these lesions represent fractures of overhanging bony lips. The difference in the two is to be found in the fact that the dorsal lip of the radius overhangs the radiocarpal joint, while the anterior lip is approximately flush with the articulating surface, but overhangs the anterior surface of the shaft of the radius. These two lips protrude approximately at right angles to each other.

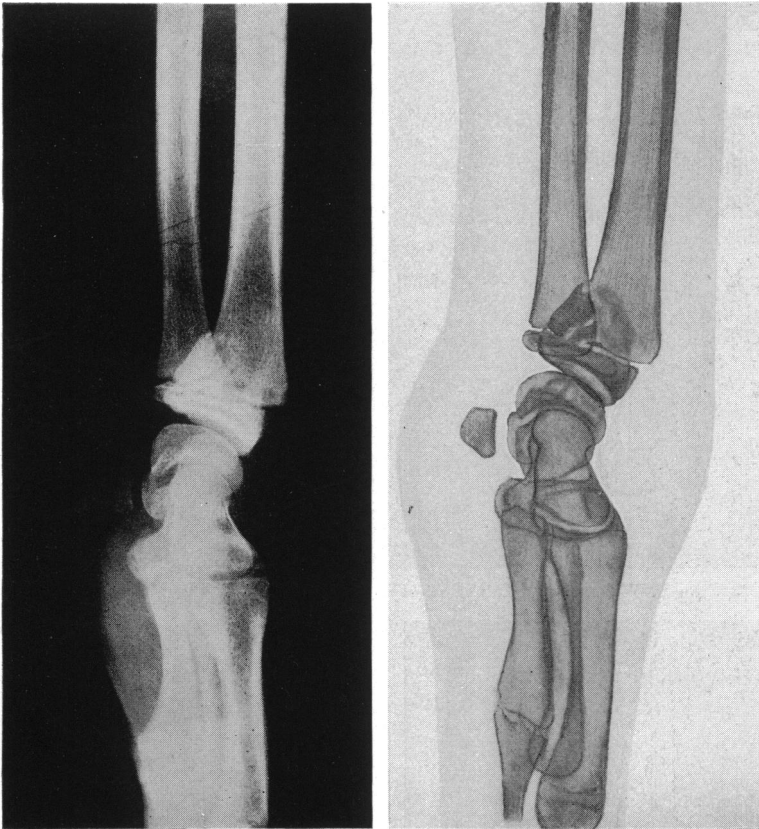


FIG. 2.—D. O., age 13. Epiphyseal separation anteriorly. A true reversed type.

In fracture of the anterior lip, the integrity of the joint is destroyed, and the carpus is easily displaced along the anterior surface of the shaft. In fracture of the dorsal lip, it is rare for dislocation to occur, because of the intimate relationship which the strong flexor tendons bear to the anterior surface of the carpus. These tendons turn sharply about the lower end of the radius in dorsal flexion, and unless the entire lower end of the radius is fractured and displaced, the carpus cannot be forced dorsally while in dorsal flexion. A dislocation of the carpus in dorsal lip (Barton's) fracture would,

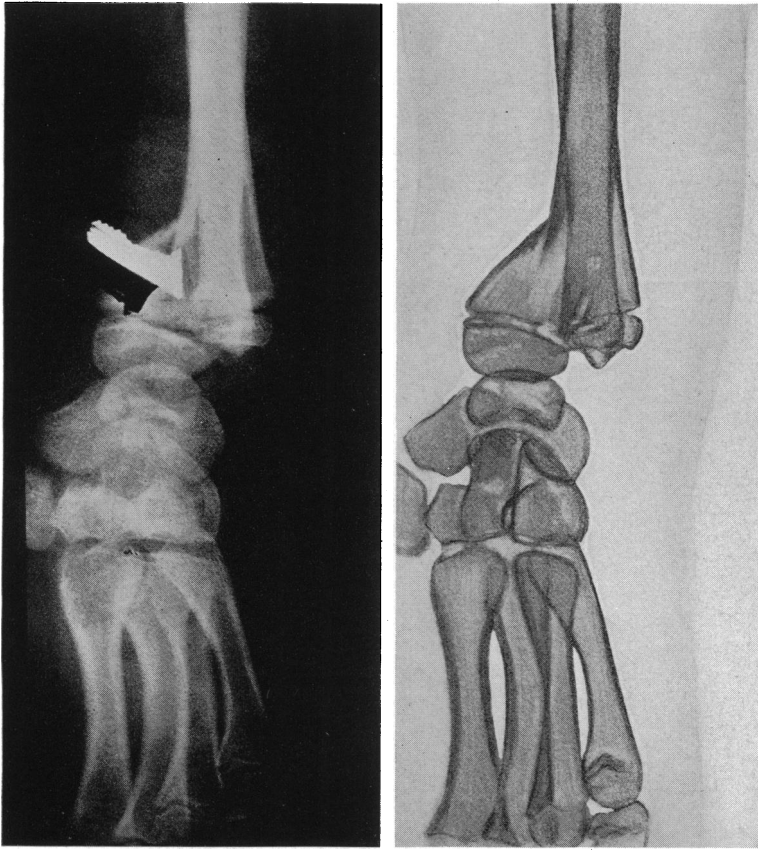


FIG. 3.—E. W., age 13. Epiphyseal separation anteriorly. A true reversed type.

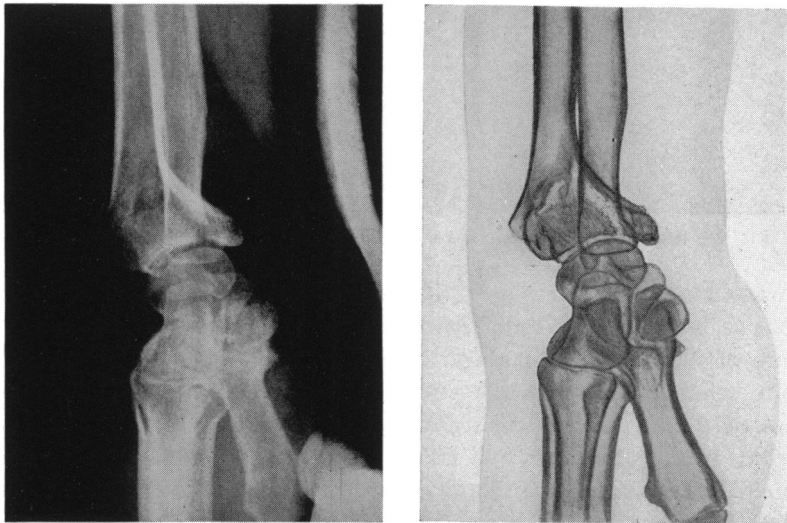


FIG. 4.—I. B., age 67. An intermediate type. The anterior lip of the radius is broken off, but the fracture line also passes completely through to the dorsum. This intermediate type is formed by the comminution present.

REVERSED COLLES' FRACTURE

of necessity, be at a right angle to the tendons. In the anterior fracture-dislocation, the dislocation is in line with the tendons and the fragment can slide along them.

The closed reduction and fixation of fracture-dislocation is conceivably more difficult than it is in the case of the true reversed Colles' fracture.

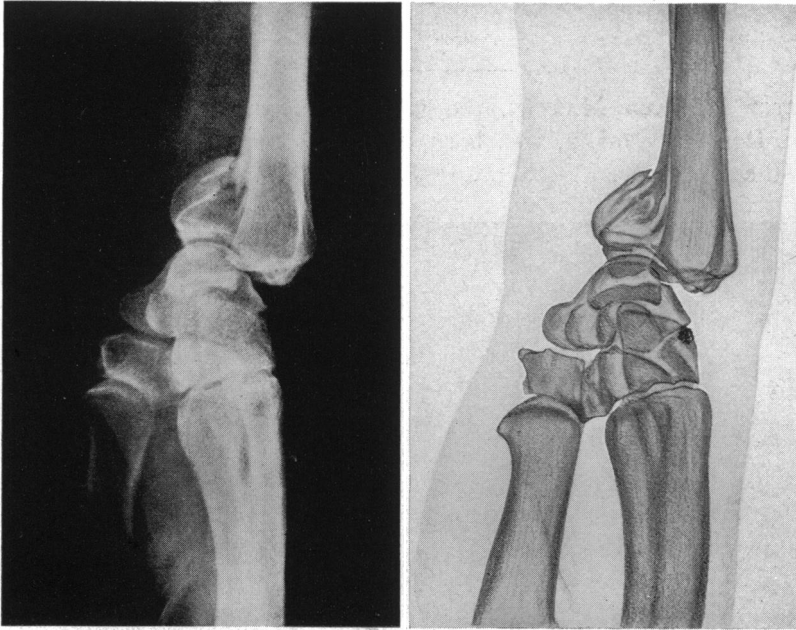


FIG. 5.—M. G., age 45. Anterior fracture-dislocation of the wrist. The fragment is parallel to the shaft of the radius. The anterior lip of the radius is fractured and driven proximally.

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