ability to handle it correctly, Dr. Schmidt's criticism to the contrary notwithstanding. With regard to Dr. MacGowan's statement that he would not operate on these cases until they are ready to go to the grave—

DR. MACGOWAN: I didn't say that. I said unless I could circumscribe the growth I did not care to operate.

DR. SQUIER: My criticism of your remark would be the same. I defy you to outline it through the cystoscope.

DR. MACGOWAN: I did not mean through the cystoscope.

DR. SQUIER: What other criterion have you?

DR. MACGOWAN: That was with reference to high frequency and the differentiation of a tumor that was manifestly a papilloma and one suspiciously a cancer. I would use high frequency on all those that clearly appear to be papillomas, and on account of the superficial action of the high-frequency spark I would not tease anything that looked as if it might be a cancer. I would either leave them alone if too extensive or if there were too large a number of them, or operate on them by the galvanocautery.

DR. SQUIER: I am glad Dr. MacGowan has made his meaning clear. With regard to the knife or cautery, one is not cutting the cancer with the knife. Therefore, what is the objection to it? One is cutting the healthy bladder wall. Dr. Lower really voiced what I had in mind. It was not to describe any operation for carcinoma of the bladder which I thought would work in every case. I know in how many of my own cases it will not work, because I have tried it and I know exactly the results it will produce. I merely offered it so that some of us would go home and evolve a technic which would do something. We have sat back long enough and opened bladders and sent the patients home and have not given the patient a chance for his life. He is worse off than before. We have stimulated the cancer and given the patient a suprapubic fistula in many cases, and instead of being only unfortunate we have made him a nuisance to the community by making him smell of urine all the time. Let us do something definite or not do anything. The only criticism I would have is this, that if one is going to do a considerable resection of the bladder and depend on the line of sutures to prevent leakage into the perivesical space and possibly into the peritoneal cavity, the chance of primary union would be infinitely better following the use of the knife than the use of the cautery.

DR. MACGOWAN: One can freshen the edges afterward and then put in the sutures and it will result in perfect union.

DR. SQUIER: I do not question whether it is possible, but whether it would happen often enough to make it desirable.

DR. A. L. CHUTE, Boston: There is little to be said concerning Dr. Rigdon's case. If you are going to give the patient a chance to be permanently well, all the malignant disease locally must be removed, including, in this instance, the bladder outlet. I see nothing to do but to perform a cystectomy, treating the ureters as seems best.

Surplus Energy and Progressive Evolution.—It appears to me that this power of profiting by experience lies at the root of our problem, and that in it we find a chief cause of progressive evolution. Jennings speaks of the principle involved here as the "Law of the readier resolution of physiological states after repetition," and, similarly, I think we must recognize a law of the accumulation of surplus energy as resulting therefrom. Let us look at the case of the accumulation of food-yolk by the egg-cell a little more closely from this point of view. Every cell takes in a certain amount of potential energy in the form of food for its own use. If it leads an active life, either as an independent organism or as a constituent part of an organism, it may expend by far the greater part, possibly even the whole, of that energy upon its own requirements, but usually something is left over to be handed down to its immediate descendants. If, on the other hand, the cell exhibits very little activity and expends very little energy, while placed in an environment in which food is abundant, it will tend to accumulate surplus energy in excess of its own needs.—Arthur Dendy, *Medical Journal of Australia*.

CERTAIN MINUTE CYSTS OF THE METACARPAL BONES FOLLOWING TRAUMA, AND THEIR CLINICAL RECOGNITION

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While cysts of the long bones are not infrequently encountered, yet those involving the short bones of the extremities have received little or no attention. I have recently met two examples of pea-sized cysts situated, respectively, in the head and the base of a metacarpal. Both of these immediately followed trauma (contusion of bone); by reason of persistent pain and "wincing" tenderness both would have passed for subperiosteal fracture, although there was no swelling or ecchymosis; there was no enlargement of the bone, and there were no signs of inflammation. It was only by close scrutiny of the roentgenograms that the faint outline of each cyst was detected. Operation gave immediate and complete relief in both cases.

CASE 1.—Miss M. J., aged 61, cook, reported at the Surgical Outpatient Department of the University Hospital (Case Record 40013) March 11, 1914, with the history of an injury, incurred sixteen months previously, to the base of the first metacarpal bone of the right hand. Since then there has been pain, which has gradually increased in severity. Clinically, there was localized tenderness similar to that elicited in fracture, but not quite so severe or "wincing." There were no other signs of inflammation. A roentgenogram revealed a cavity the size of a pea at the ulnar corner of the base of the first metacarpal bone. Under nitrous oxid anesthesia an incision was made along the ulnar border of the base of the metacarpal bone. The tendon of the extensor pollicis longus and the carpometacarpal joint, which were hard by, being carefully avoided, the cavity was readily entered with a narrow chisel, and was curetted. It was packed with iodoform gauze, and a dressing and a splint were applied. On her return the next day the patient stated that she had been free from the boring pain for the first time in sixteen months. On discharge, two weeks later, the wound was all but healed.

CASE 2.—Mr. J. W., aged 33, machinist, reported at the Surgical Outpatient Department of the University Hospital (Case Record 40893) June 18, 1914, with the history of an injury, inflicted five weeks previously, to the head of the third metacarpal bone of the right hand, which had been struck a severe blow against a metal oil-guard. Pain started at the time of the injury, and has persisted. It shoots down to the finger-tips. It is worse when he grips; there is none at night. Clinical examination revealed limitation of motion at the third metacarpophalangeal joint, and "wincing" tenderness at the head of the metacarpal. A roentgenogram revealed no fracture, but on close scrutiny a pea-sized cyst at the radial side of the head of the metacarpal and anteriorly.

Under nitrous oxid anesthesia and Esmarch anemia, an incision was made just to the radial side of the extensor tendon of the middle finger, and the bone was exposed by retracting the capsular ligament. The bone was removed from the proximal and radial portion of the head until the cyst was emptied. It was pea-sized and filled with clear, tenacious mucoid material. The cyst wall was curetted, phenolized and packed with iodoform gauze. The edges of the deep fascia were approximated. Hemostasis was secured and skin edges were approximated. A splint was applied. After the operation the patient stated that immediate relief from the shooting pain was afforded.

A roentgenogram, taken when the wound was entirely healed, shows the remains of the cyst cavity outlined by

iodoform powder, which was inserted into it at a dressing a few days after operation. The cavity is much diminished in size.

A review of recent literature reveals but one case that may be compared with mine. McDill¹ reports a cyst in the distal half of the fifth metacarpal bone. It began three years previously as a small, painless swelling which gradually increased for a year. When it swelled rapidly, became painful, and was opened, giving exit to stringy mucopus, and discharged at intervals for the remaining two years. The roentgenogram shows an oval cyst with one end at the neck of the bone and the other just below the middle of the shaft, of which it occupies two-thirds of the width and one-fifth of the length. The shaft is not expanded. McDill says: "So far no case has been reported in the long bones of the hands or feet." Silver,² in a series of ninety-seven cases of bone cysts, found but one each in a metacarpal and metatarsal bone. Elmslie,³ in an extensive review of the subject, says: "Most of the cysts of the metacarpal and metatarsal bones and of the phalanges have been definitely myxomatous, resulting from degeneration in enchondromata."

Robert Jones⁴ describes three large cysts in the bones of the hand: expansion was present in all. Indeed, perusal of the literature of bone cysts shows that enlargement was almost invariably present. The cysts, colossal in comparison with mine, with the single exception of McDill's case, represent, without doubt, advanced stages of pathology. This, together with the fact that the whole subject of bone cysts is comparatively recent, forces me to the conclusion that my cases represent the earliest stage, the stage in which it is most desirable to recognize any disease. It must be borne in mind that there was no enlargement in either case; that in both there was the history of localized trauma, of persistent but not severe pain, and of localized but not typically "wincing" tenderness. In fact, there was the clinical picture of a "chipping" fracture with lingering signs, because untreated. It was only by close scrutiny of the skiagram in the first case for such a chip that the minute cyst was discovered. In the second case detection of the cyst was facilitated by the memory of the first case, which had preceded it by only three months.

As to the pathology, I am unable to present any observations. The cysts were so minute that it would have been unjustifiable to resect the bones in order to study the cysts. At operation, each cyst had a sharply defined globular wall, and the contents resembled the vitreous body of the eyeball. By correlation, however, I incline to the opinion that the cysts are the result of hemorrhagic osteomyelitis, which has been described by Barrie and Hillman,⁵ who define it thus: "The term hemorrhagic osteomyelitis is meant to embrace a majority of those traumatic, localized, non-infective (so far as we know at present), non-suppurative, low-grade inflammatory lesions that have their onset in spongy bone." The slight trauma in my cases was sufficient to cause fractures of the delicate normal bone trabeculae, producing effusion, hemorrhage, and interference with nutrition, thereby setting up a localized osteomyelitis. The pigments of the blood were absorbed, leaving clear contents, just as occurs in cysts

of soft tissues, notably in pancreatic cysts of hemorrhagic origin.

I have noticed several times minute cysts about the size of the head of a pin in the carpal semilunar in roentgenograms taken for other conditions, but doubt if they were true cysts. A study of trabeculae in roentgenograms shows that cysts may be simulated by certain arrangements of lights and shadows. The best way to avoid error is to correlate clinical findings with those of the roentgenogram.

CONCLUSIONS

1. Cysts of bone should be detected in their incipient stages before extensive destruction of the medulla has taken place.

2. Early operation results in prompt cure, and prevents deformities and extensive bone plastics.

3. A localized trauma followed by persistent but not severe pain, and localized but not true "wincing" tenderness—symptoms and signs of an untreated "chipping" fracture—should arouse clinical suspicion of a minute, early bone cyst, the corroboration of which may be afforded by close scrutiny of a roentgenogram at the site corresponding to that of the localized tenderness.

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SUPRAPUBIC PROSTATECTOMY*

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On account of the mortalities occurring, no one is exactly satisfied with his technic in prostatectomy, except for the present time, but naturally he thinks that just now it cannot be improved on.

The men who do the greatest number of operations do not necessarily have the best technic for general use, for that which is easy for the one who knows how may be impossible for the other man. Then, too, the operator before a clinic may devise an operation for "sight seeing" for the spectators that will aggrandize himself at the expense of the patient.

Gentleness, thoroughness with simplicity is becoming the more fashionable prostatectomy. The time is also present when an operator is more easily divorced from a false opinion than heretofore.

Prostatectomy seems to have reached the stage where the lesser points are deemed essential.

There are possibly four principal reasons for the suprapubic operation to carry the greatest preference at the present time:

1. The danger of the pus-bathed perineal tube forcing infection into the torn open-mouthed veins and thereby producing emboli and thrombi.

2. The greater ease of local anesthesia in the suprapubic region.

3. The avoidance of trauma through the pelvic diaphragm.

4. The comparative ease and simplicity of post-operative treatment.

From the results following non-irrigation for the control of hemorrhage, it would seem that irrigation was a menace rather than a benefit, especially when the preoperative preparation endeavors to improve the

1. McDill: *Ann. Surg.*, 1913, lvii, 533.

2. Silver: *Am. Jour. Orthop. Surg.*, 1912, ix, 563.

3. Elmslie: *Brit. Jour. Surg.*, 1914, ii, 54.

4. Jones, Robert: *Arch. Röntgen Ray*, 1907, xi, 316, 342.

5. Barrie and Hillman: *Surg., Gynec. and Obst.*, 1914, xix, 42.

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