BIOPSIES AND THE COMPLETION OF CERTAIN SURGICAL PROCEDURES*

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THE findings in a small but interesting collection of certain tissues removed for examination from living patients, seemed to warrant the presentation of a short paper with the heading of "Biopsies." The failure on my part to insist upon the procuring of a small slice of kidney during an operation for the removal of renal calculi, made me realize that even clinicians may have a responsibility in certain surgical procedures, and may be guilty of sins of omission.

Biopsies are a regular part of many surgical operations; the frozen section technique has proven itself invaluable; we have some, though fewer opportunities, to make such examinations in a medical service; opportunities are usually associated with glandular enlargements easily accessible and at times giving information of the highest import. Other biopsies, of more purely medical interest are the examinations of tissue fragments frequently to be found in bowel movements, in the washings from stomach or bladder, or in the fluids aspirated from chest or abdomen; without question, in many instances, a diagnostic detail is carelessly thrown away; a detail which would perhaps settle a doubtful point.

Of the glandular enlargements much has been said and written; much has also been discarded; enlarged and isolated glands in unusual positions demand excision and examination, and a case of generalized tumefaction in the glandular system will not escape our observation without leaving at least one gland for section; if it does, valuable clinical information may be lost and the final determination as to whether we are dealing with a Hodgkin's disease, a tuberculous infection, a lymphosarcoma, a leukaemia or a condition of metastasis may be quite impossible. Of the enlargement of glands in isolated positions and of their removal for examination a few words may be said. Metastases of malignancy may appear anywhere, but from new growths hidden in the body metastases to the supra-clavicular glands occur more frequently than to any other gland group on the surface. Proof of this may be seen in the rather varied nomenclature which an enlarged supra-clavicular gland may acquire,—Virchow's gland, Cabot's gland, Osler's gland, the Sentinel gland": no other of the superficial glands has been so honoured.

A few words only need be said upon the question of the completion of certain surgical procedures. A kidney can always suffer the loss of a millimetre of substance; the upper surface of an enlarged liver, away from intestinal contact, might spare a sliver; a unique observation is recorded by Umber[1] in 1912; while removing the spleen from a case of Banti's disease he was induced to take a small specimen from the much enlarged liver; the liver later returned to a normal size; the specimen had shown a distinct peri-lobular infiltration. A case of Dr. J. E. Elliott and H. A. Bruce is of equal interest: it is reported below.

It might well be questioned whether one should touch the pancreas unless a part of the gland has been actually exposed: a recently appearing article speaks strongly against such a procedure.[2]

Some lantern slides of tissues procured under various conditions may be better arguments in favour of biopsies than many words, and the following cases may be described and illustrated in support of the above statements.

Case 1. Plate 1.—Tissue found in stomach washings from a case of obstruction of the pylorus; referred by Dr. C. N. Mooney. On inspection the material resembled a piece of bacon fat but there had been no meat of any sort eaten for days. The history of the case is

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that of ulcer of the stomach of twenty-five years standing; of late symptoms of obstruction with vomiting and rapid loss of weight, and the picture of the x-ray, have been in evidence. There was rapid improvement with gain of weight as a result of gastric lavage, and free Hcl was always present in large amounts in the stomach contents. The tissue, under the micro- suggests a fragment of a myxoma. There is

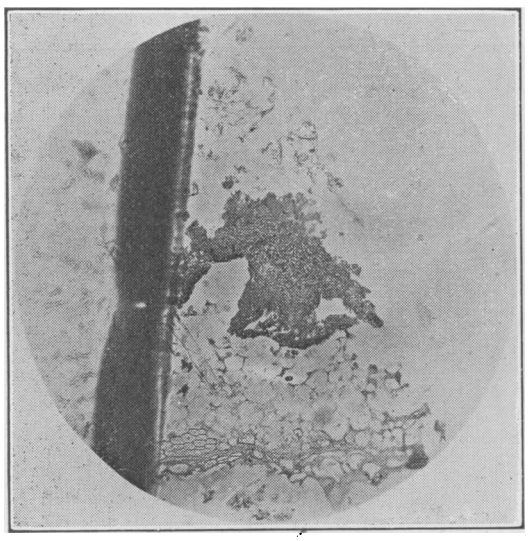

PLATE 1.

CASE 1.—Tissue found in stomach washings showing a myxoma-like structure and fibrin mass with leucocytic infiltration. Cases showing conditions not unlike this have been reported by H. B. Anderson and others. Conditions such as lipomatosis, fibromatosis and polyposis have frequently been met with, and if in the neighbourhood of the pylorus these tumour growths easily produce obstruction. The patient from whom this specimen was removed seems now perfectly well 1 year later, and has regained all of his weight.

also a little mass of fibrin containing leukocytes; there is some suggestive adenomatous structure; one would feel that the fibrin with the leukocytes would rule out any question of the tissue mass having been introduced into the stomach. The possibility of it being a fragment of a colloid carcinoma is to be considered.

Case 2. Plate 2 A.B.C.—Section of a gland tumour mass removed from the back in a case that had presented the symptoms and appearance of Hodgkin's disease. There had been general glandular enlargement reaching an extreme degree and eventually, blocking of the sinuses and naso pharnyx. A diagnosis of Hodgkin's disease affecting the naso-pharnyx had been made by Dr. Perry Goldsmith by whom the case was referred to me. With the remarkable enlargement of all the glands had occurred the picture of myelogenous leukaemia, there being a blood count of 300,000 white blood cells, with 40% myelocytes. The gland removed shows that the condition was neither Hodgkin's disease nor leukaemia, but a lymphosarcoma.

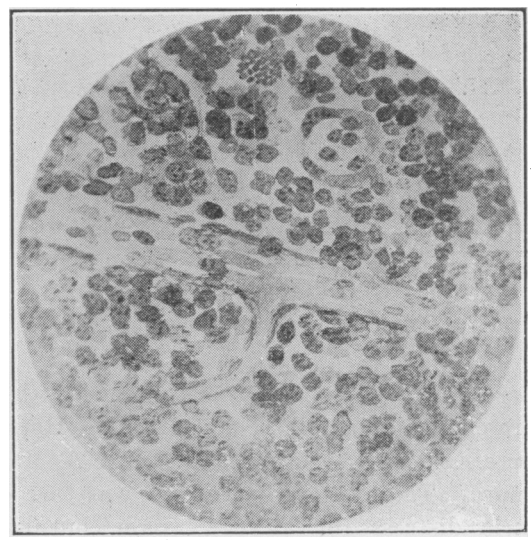

PLATE 2A.

CASE 2.—Section of gland showing complete transformation into lymphosarcomatous tissue.

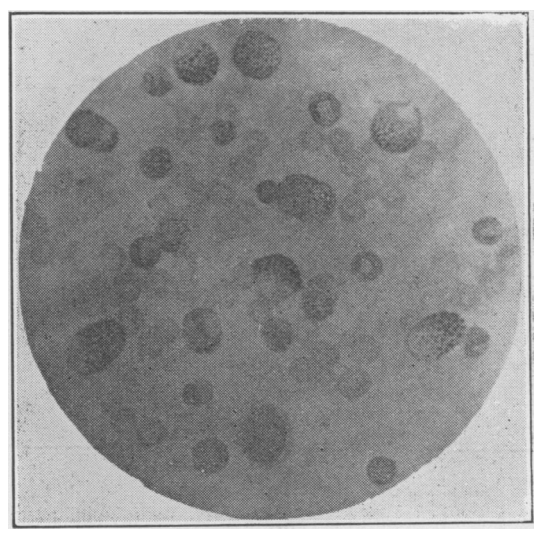

PLATE 2B.

CASE 2.—Myelogenous-leukaemia-like blood picture from the case of generalized lymphosarcoma from which the gland in plate 2A was removed. This is perhaps the only case on record in which a blood picture of this sort has been found in connection with generalized lymphosarcoma.

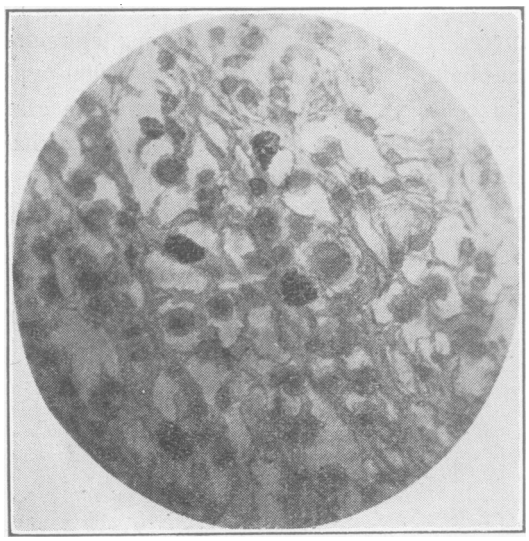

PLATE 2C.

CASE 2.—Gland from case of Hodgkin's disease for comparison.

Case 3. Plate 3.—Section of an enlarged left supra-clavicular gland, removed by Dr. Harris from a case seen with him and Dr. A. A. MacNamara. The history of the case was that of gastric distress for a year, (pain, burning, vomiting) and of late, laryngeal paralysis. Examinations, including x-ray pictures of the

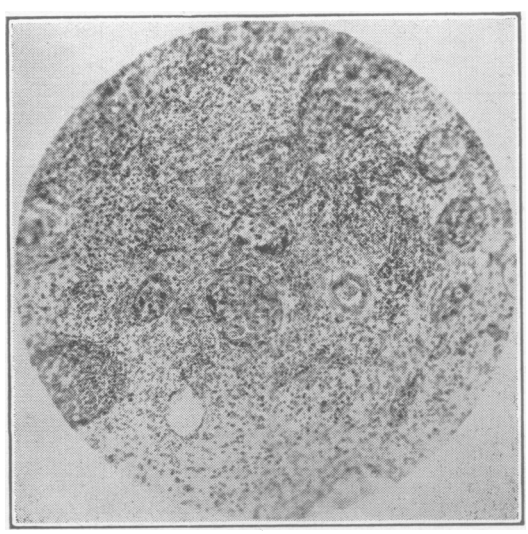

PLATE 3.

CASE 3.—Section of an enlarged supra-clavicular gland showing metastasis of carcinoma. In this case there had been marked gastric symptoms but there had been nothing suggestive seen in the x-ray examination of the gastro intestinal tracts.

gastro-intestinal tracts and of the chest had shown no evident gross lesion. A large supra-clavicular gland had been noticed by the laryngologist, no difficulty was experienced in removing the gland which shows the evidence of metastasis of carcinoma.

Case 4. Plate 4.—Specimen of a small slice of kidney taken during removal of seven stones from that kidney. The patient is still alive after fifteen years, a woman of 68. The specimen shows well the chronic glomerulo-nephritis and arterial change; particularly evident is the thickening of Bowman's capsule. The patient

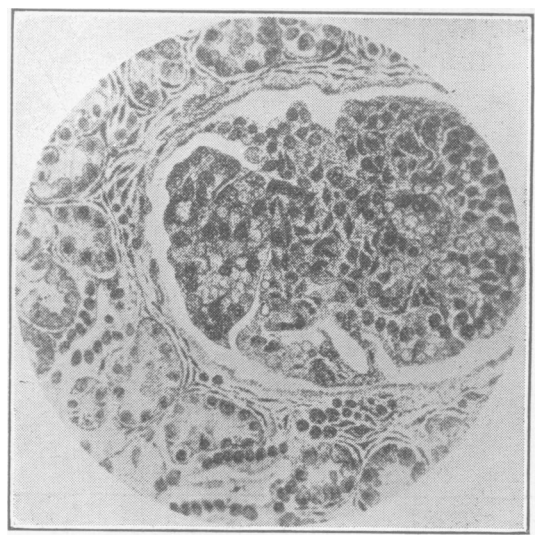

PLATE 4.

CASE 4.—A slice of kidney tissue taken during the removal of seven stones from that kidney. The marked thickening of Bowman's capsule and proliferation of the cells in the glomerular tuft is well shown. Patient, a woman of 68 years of age showing marked arteriosclerosis and a high blood pressure of 230-130 is alive and fairly well after fifteen years

had complained for years of abdominal pain with failing health, the appendix and right ovary had been removed, the right kidney had been stitched up to correct ptosis. There had been developing anginal symptoms; there was marked thickening of the arteries with a blood pressure of 280-160 m.m.; the patient was completely invalided and had given up her profession of medicine. Since the operation there has been slow gradual improvement, and in spite of the arterial condition she enjoys a comfortable existence.

Case 5. Plate 5.— Piece of tissue taken from a kidney during the performance of decapsulation. Patient had been incapacitated with general oedema which had lasted for nearly a year; there was an enormous amount of albumin in the urine and many casts. After the

operation the oedema disappeared and patient went back to work for seven years though never losing the albuminuria; he died as the result of a spreading cellulitis of the arm. The

PLATE 5.

CASE 5.—Section taken from kidney during the operation of decapsulation for albuminuria and severe general oedema. Complete transformation of glomerulus into amyloid. Patient from whom this specimen was taken lived and worked for seven years after his operation, dying eventually of a cellulitis of the arm. He never lost his albuminuria though the oedema disappeared at once.

specimen shows that the kidney was the seat of extensive amyloid disease, both kidneys had appeared the same at operation, and suggested the large white kidney of chronic glomerulonephritis. It was interesting to note that in spite of the enormous albumin loss, patient kept his weight and showed but a slight anaemia during the seven years in which he was able to resume his occupation.

Case 6. Plate 6.—Reported by the kind permission of Dr. J. E. Elliott and Dr. H. A. Bruce, and to be reported in full elsewhere. A case of unusual interest and value since removal of pieces of liver for examination has been rarely done. In this case there had been some obstructive jaundice which had been relieved for awhile by drainage of the gall bladder. On the return of the jaundice and progressive symptoms a year later, Drs. Elliott and Bruce were persuaded to anastomose the gall-bladder into the stomach since a chronic thickened

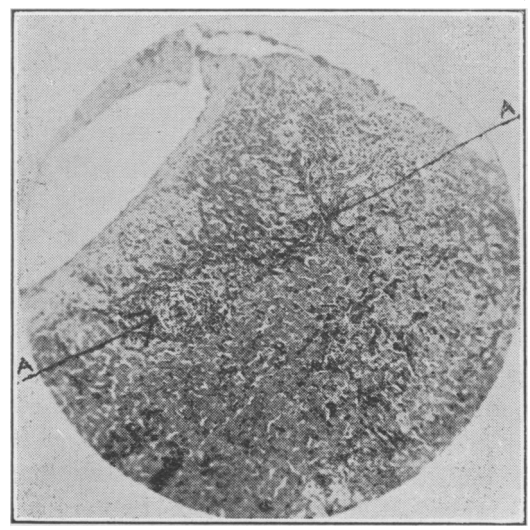

PLATE 6.

CASE 6.—Section of small piece of liver removed at operation of cholecyst-gastrostomy. Case of Dr. J. E. Elliott and Dr. H. A. Bruce detailed above. Perilobular infiltration is evident, and there are thickened areas in which dilated hepatic ducts can be made out as at points A. and A.

pancreas and occlusion of the common bile duct had been found. Before closing the abdomen a small section of liver was removed; following the cholecyst-gastrostomy which is now one year ago, the patient has improved to a remarkable degree. The section of the liver shows that the condition of obstructive biliary cirrhosis had developed as a result of the duct obstruction. The case is one of remarkable interest.

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(1) UMBER—quoted by Pearce, Krumbhar and Frazier, The Spleen and anaemias, *Munch. Med. Woch.*, 1912, LIX, 1473. ZEIT, *für. Klin. Med.*, 1904, LV, 789.
(2) DOWNES, *Journal of American Medical Association*, 10/2/23.

Incontinence of Urine after Childbirth.—Dr. Somerville draws attention to the value of electricity in this condition where the patients are much annoyed by the escape of urine from coughing or laughing or indeed on any sudden movement. After considerable experience of such cases Dr. Somerville commends a continuous current of 3 to 5 milliamperes passed for 3 to 5 minutes through an appropriate copper electrode introduced into the urinary canal and repeated on alternate days over a period of two weeks. The condition occurs also in unmarried women, and the same method of treatment is equally, and even more rapidly successful.—*B. M. J.*, Aug. 25, 1923.