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Address

DIAGNOSIS IN ITS RELATION TO THE LABORATORY AND THE BEDSIDE *

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In describing a visit to this country, Dr. Rolleston¹ expresses himself interestingly as to medical teaching and hospitals here. He says that more systematic work is done in the clinical laboratories, but that there is a serious lack of routine ward work in the hospitals. The danger is suggested that the thoroughness in the clinical laboratory examinations may lead to less thoroughness in the routine physical examination of patients. (Specialism is more extreme, he states, than abroad.) I believe that this criticism is fair and just. The not infrequent diagnostic errors of internists and surgeons, even those who have had good educational and clinical advantages, show a lack of thoroughness in examinations and of close observation of clinical phenomena, or at least failure to deduce rational conclusions.

The schools, and the bearing of many leading men in special work, in emphasizing, to an inordinate degree, the importance of pathology and technic, in comparison with other features of the work, are partly responsible for the absence of painstaking observation and scientific analysis of symptoms at the bedside.

Detailed critical study of the history of cases and the meaning of clinical signs, subjective and objective, is, I fear, not the common practice—even of surgeons.

There is too much reliance, even when not necessarily exclusive, on instruments of scientific precision and on laboratory diagnoses, and too little on the training and discipline of one's own faculties in one's accustomed work. The result is a few expert diagnosticians in certain departments, and a general decadence in diagnostic skill and acumen.

In proportion to the better facilities for teaching and improved educational advantages generally, we should expect equal progress in the ability to observe and understand the causes and the conditions of disease, and we ought to have more, and not fewer, diagnosticians. Even in large communities, it seems to be accepted as a satisfactory condition if there are one or two men only who deserve this distinction.

It requires closer study, more time to analyze and elucidate—in order to interpret symptoms and conditions more rationally—than most men seem willing to give to the subject. It seems strange that competent men should commit errors in diagnosis that could be avoided if well-known resources were employed in the

solution of problems common to our experience. The surgeon has deified aseptic and operative technic—the former the common knowledge of the profession, the latter the individual, and, in considerable degree, varying attribute of each operator. Excellent in these respects, and often in pathologic lore, the surgeon trusts the rest to the laboratory, seeming to overlook or underestimate the fact that the thorough, competent surgeon is not only a skilful operator and an intelligent pathologist, but an observer and respecter of many other important and necessary facts in the equipment of an equally skilful diagnostician.

Sound judgment in the many phases of our work is the growth of natural fitness, education, close observation and the knowledge of laws and facts governing specific and general diseases. A great surgeon is not a mere mechanic; he is a good physician and a trained clinician as well. It must be admitted that errors of diagnosis are often due to careless and indifferent examinations, to insufficient time and want of due consideration of all the evidence that might be obtained, and too much reliance on the probability or certainty of the laboratory expert, if one is convenient and available.

An exploratory operation is often a short, and sometimes unnecessary, cut to the solution of the difficulty. Being generally a safe procedure, under favored conditions, it is a ready and quick resort whether an emergency exists or not.

May I cite a few recent suggestive cases of diagnostic interest? A man of 67, of previous excellent health, except a brief but significant history of evidence of gallstones ten years before, had suffered for eight or ten months from slight indigestion and intermittent diarrhea. He was examined by two first-class physicians and three or four surgeons of equal distinction. A tumor of the epigastrium of considerable dimensions was noted, and a globular swelling, the size of a coconut, to the right of the umbilicus, and below the edge of the liver, was also recognized. The patient never vomited, though eating solid food, and at no time was there evidence of pyloric stenosis. A test meal was given and absence of hydrochloric acid was shown. The diagnosis was cancer of the pylorus. With such a history, should it have been necessary for a postmortem six months later to determine the presence of cancer of the gall bladder with gallstones, secondary involvement of the liver, and no disease of the stomach?

Again, a woman of 65 had uterine hemorrhage, an acrid, offensive discharge, and other clinical evidences of cancer. A surgeon advised hysterectomy. A consultation was held, curettage was performed and the scrapings sent to a distant pathologist to determine the existence or non-existence of cancer. Was this, for obvious reasons, a wise surgical procedure?

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1. Brit. Med. Jour., Dec. 28, 1907.

A young woman of 20 fell from the steps of a street car in motion, striking on her abdomen; was laid up for several weeks, and a swelling to the left of the umbilicus gradually developed. It was explored and a large quantity of pus evacuated. A fistula remained, from which there was discharge, including urine, for a year. Physicians and surgeons were in doubt as to the source of the trouble. Should an x-ray examination, revealing renal calculi, have been necessary to determine the source and nature of the abscess (pyonephrosis)?

Would an experienced surgeon wait for the demonstration of 20,000 white corpuscles to the cubic millimeter before recognizing a case of postoperative ileus? Would he rest on the opsonic index to determine, as a rule, his course of action in operative work?

A woman of 38, married, never pregnant, was examined, three or four years ago, by a surgeon of good character. The symptoms were persistent pain in back over left ileum posteriorly; the diagnosis, tuberculosis of the left hip joint. The patient was treated with extension in bed for six months with marked aggravation of pain and nervousness. The pain extended to the thigh, knee and ankle. Extension was discontinued and the patient went on crutches for a year. A critical examination of the patient at a more recent date by a surgeon and neurologist reveals absolutely no indication or evidence of tuberculosis, past or present, of any part or organ and no family history of same. The joint is perfect. Hemoglobin, 75 per cent. There is a distinct neurotic personal and family history. The patient is anemic and hysterical. The surgical treatment was unnecessary and undoubtedly made worse the neurasthenia from which she has been suffering.

Such patients are not infrequently overtreated, even by the surgeon sometimes.

A young woman of 26 had had acute pleurisy in the left side when 8 years old. At 15, pus from empyema ruptured through the bronchial tubes. For the last eight years the patient had suffered from paralysis of the left leg; she was bedridden for two years, and also had disease of the lower dorsal vertebra with ulceration through the back. Three years ago she was examined by a surgeon of high character, who pronounced the disability of the leg tuberculous periostitis of the femur. Thoracotomy was performed one year ago. The patient was recently examined by a neurologist and the same surgeon who made the examination three years ago, and a diagnosis was made of motor paralysis of leg due to meningomyelitis from the diseased vertebra with no tuberculosis of the femur.

The syphilographer and the surgeon have not often found it difficult to make a diagnosis of hard chancre; but in the future the demonstration of the *Spirocheta pallida* will, I suppose, be necessary to a sure diagnosis, notwithstanding the declaration of Hoffman, Schaudinn's chief assistant, that only an expert who, by familiarity, has acquired intuitive knowledge of the morphology is competent to differentiate the stained forms from other spirochete bodies. Bloodgood, in a recent review of joint surgery, says: "It seems surprising that for years we have concentrated our attention on the joints, or, as physicians, on some changes in metabolism, and not investigated for the source from which the infections flowed."

These statements and criticisms will apply as justly to the work of the laboratory as to the unscientific clinical work at the bedside. The busy physician and surgeon can not do much of the immense amount of lab-

oratory work now required, even if equipped for it, as few are; but laboratory findings are essential to a high degree of diagnostic efficiency and to the most scientific practice of our art. The knowledge of the internist is necessary to the surgeon. He is far from accomplished without it, and it is of the utmost importance to the patient that the physician should know enough of surgery to differentiate between a medical and a surgical condition. The very exclusive specialism which treats these qualifications lightly seems forgetful of its own needs and the full measure of its obligations.

In those fine differential distinctions, especially in the diagnosis of pancreatitis, cholelithiasis and duodenal and stomach ulcers, there are no laboratory tests by which the diagnosis can be made, nor are there any conclusive clinical tests; but both are helpful and necessary to a just conclusion. The Cammidge test, like the test meal, the Widal and other tests, is merely an aid in the scientific solution of the many problems which confront us in the efforts to discover the cause and nature of disease. The microscope, unless directed by a knowing hand, and balanced by a scientific spirit, could not have given renewed distinction to the Paris school of medicine and to the names of Capitan and Professor Cornil, who made the pathologic examinations, and a diagnosis of interstitial nephritis (which is consistent with the clinical history) in the case of Admiral Paul Jones 113 years after his death.

Far be it from me to underestimate in the slightest degree the absolute necessity and the great value of the laboratory to the progress of medicine. It is the very basis of our greatest achievements, and it is the force which has immortalized, among the many, the names of Pasteur and Koch, and which has honored and glorified the profession wherever the science of medicine is known. But the results obtained by the use of instruments of scientific precision are not always accurate and reliable. So much depends on the motive power and genius behind the instrument that we can be content only with real, and not half-baked, experts, in order that our scientific conclusions may rest on a scientific basis, and our efforts have a practical value. With this knowledge and equipment applied at the bedside, and with that common sense which is fortified by observation and experience, we should be able to secure a satisfactory history, to make a more complete and intelligent examination, and to interpret symptoms and signs with more skill and judgment.

Science is not the exclusive property of the expert, nor the necessary product of the laboratory. Our aim should be, not to produce fewer experts in research work, but more scientific clinical experts and diagnosticians. This I believe necessary to the broader culture and usefulness of the profession, as well as to the best welfare of the sick. Surgery, as a study, is not exclusive, though the practice may be. A narrow view of the subject is not conducive to the best education, nor to the most thorough equipment. Personality is of the greatest moment; but great surgeons are not made by imitation, and skill in diagnosis is a protean product that can never be measured by the rod and the plumb.

Slow Pay.—The press reports of a national tailors' convention state: "The tailors say that a whole lot of people seem to think the only bills they are not duly bound to pay are tailors' bills." Some physicians have stated that doctors' bills were so considered. It may help some to know that there is a difference of opinion.