

## SERVICE OF THE PATHOLOGICAL LABORATORY OF THE SCHOOL OF TROPICAL MEDICINE

### REPORT FOR THE FIRST SIXTEEN MONTHS\*

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One of the first questions which arose in the organization of the laboratories of the School of Tropical Medicine a little more than a year ago, was the routine service to be offered the physicians and public. That is, we had to decide whether clinical laboratory tests, such as the investigation of blood for malaria, feces for parasites, Wassermans, etc., which had been done in the old Institute of Tropical Medicine, would be continued or not.

For two reasons it was decided that such routine examinations would not be made: (1) The development of the biological laboratory of the Department of Health rendered it unnecessary for another institution to offer the same service; (2) The resources of the School in the way of personnel, space and funds were all needed for teaching and research, the two primary functions of the institution. It was believed that whenever specimens of blood, stools or other material were required for teaching and research they could be easily obtained from the Department of Health or the various hospitals.

In this discussion, however, it was recognized that an exception should be made in the case of examinations of tissue, since neither the Department of Health nor any other institution on the Island was making such examinations. Furthermore, it was clear that pathological specimens would be needed for teaching.

It was therefore decided that the examination of tissues, including both surgical specimens and autopsies, would be made free of charge for any physician or institution in Porto Rico. The only condition insisted upon was that the physician supply the laboratory with clinical data on the cases so as to make the material serviceable for teaching.

Since the training of technicians and the organization of the laboratory for meeting such a public service required time, we purposely made no propaganda to get specimens. Indeed, as we expected, the number sent in without solicitation increased so rapidly during the year that our facilities have been taxed, and it is already evident that additional room and personnel will soon be required if an un-

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\* During the first four months of this period Dr. Costa Mandry was in the service of this laboratory, being transferred later to the bacteriological laboratory.

limited service is to be continued. It is expected, however, that the influence and example of the School will soon lead to the development of other pathological laboratories in the larger hospitals of the Island, thus reducing the material sent to us. Already such a laboratory has been established in Ponce in cooperation with the School of Tropical Medicine.

The following summary of the routine tissue examinations made up to the present date (Sept. 15, 1927) is presented with the especial object of showing the extent to which an educational or research institution may be of direct and immediate value to the medical profession and public. The report will also give some idea of the variety of pathological specimens received, and how widely the physicians of the Island have already taken advantage of the service offered.

It might be explained that we decided some time ago to write this summary when our first thousand miscellaneous specimens had been examined in order to facilitate classification.

The technical work of the laboratory is summarized in the following figures:

Miscellaneous specimens, chiefly surgical.....	1,000
Autopsies .....	76
Total number of paraffin blocks prepared.....	4,317
Total number of sections stained (approx.).....	5,500

The "miscellaneous specimens" may be divided into four groups

The *first*, and largest, comprises tissues removed by surgeons in treatment, or as biopsies for diagnosis. Among the specimens were 48 appendices, 124 tonsils and adenoids, 41 dermatological specimens (mostly biopsies), 88 gynecological specimens, 86 benign tumors and 124 malignant tumors.

The dermatological specimens contained much illustrative material for teaching the pathology of tropical skin infections.

The *second* group includes specimens from experimental animals, coming mostly from other departments of the School or in a few cases from the Biological Laboratory of the Department of Health. Organs from 45 such animals were examined.

In the *third* group we have placed specimens from incomplete autopsies done by physicians in various parts of the Island. We have not wished to include these cases in our regular autopsy series, where complete protocols with clinical histories are required.

The *fourth* group comprises specimens obtained from other institutions outside Porto Rico, representing in a majority of cases material requested for teaching. There were 51 of these specimens, in-

cluding 19 from the United States, 20 from South America, 11 from China and the Far East, and one from Santo Domingo.

The above figures refer to *cases* and not to individual specimens; there are usually several pieces of tissue in each case.

The specimens included in the first, second and third groups, were sent to the laboratory by 103 physicians, representing 22 towns in Porto Rico. These two figures demonstrate well how widely the service has already been used.

Of the 103 doctors, there were fifteen who each sent more than ten specimens during the year.

In the number of specimens sent to the laboratory the following towns stand at the head of the list in the order given: San Juan, Caguas, Ponce, Fajardo and Mayagüez.

*Autopsies* have constituted, from the standpoint of teaching, the most important function of the laboratory. The first 76 cases have provided an unexpectedly wide variety of material, in which most of the prevalent diseases are represented. It is generally recognized now that for both undergraduate and graduate instruction in medicine, the autopsy is indispensable. To teach pathological anatomy without such examinations would be little better than giving a correspondence course in the subject. Upon the organization of the laboratory our efforts were therefore immediately directed toward obtaining *post-mortem* examinations. A discussion of the problems involved in securing autopsies will form the subject of another report. It is sufficient to state here that we have found the problem in Porto Rico not very different from that of other countries in which we have made observations. That *post-mortem* examinations can be made here under various conditions is indicated by the following summary of places where the 76 autopsies done up to the present date have been performed.

Presbyterian Hospital, San Juan.....	37
Municipal Hospital, San Juan.....	11
Quarantine Hospital, San Juan.....	1
Penitentiary, San Juan.....	1
Municipal Hospital, Fajardo.....	16
Municipal Hospital, Guayama.....	2
Municipal Hospital, Humacao.....	1
Leper Colony, Trujillo Alto.....	2
Municipal Hospital, Salinas.....	2
Private houses.....	2
Municipal Hospital, Aguas Buenas.....	1

In studies of the tissues from these 76 autopsies the average number of paraffin blocks made was 26. The protocols include, of course, detailed gross and microscopic descriptions. In the case of both surgical specimens and autopsies a carbon copy of our complete report is sent the physician or hospital if requested. A *diagnosis* is sent in every case.

**Summary.**

A thousand miscellaneous specimens, mostly surgical, have been examined and 76 autopsies performed in the first sixteen months of active service of the pathological laboratory of the School of Tropical Medicine.

The service is free and has been taken advantage of by physicians and hospitals in various parts of the Island.

The material received is of unusual variety and has been adequate for teaching small classes of graduate students. "Tropical diseases" have been well represented in both the surgical specimens and autopsies.

