

Original Articles.

SOME OF THE DIFFICULTIES, PROFESSIONAL AND SOCIAL, OF THE EARLY RECOGNITION OF TUBERCULOSIS, AND SOME SUGGESTIONS AS TO THE REMEDY.*

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THE importance to the community of an early recognition of pulmonary tuberculosis cannot be better expressed than in the following words of the illustrious Grancher:

"Ce diagnostic précoce, si important pour le malade, est au moins aussi important pour la société tout entière; car, au cours de la première de la seconde étape, le malade tousse très peu ou ne tousse pas, et est inoffensif pour son entourage. Traitée et guérie a cette époque la tuberculose cesse d'être contagieuse."¹

If, as Philip, of Edinburgh,² after a thorough study of the subject, has estimated, the ascertained mortality from consumption in any city can safely be multiplied by ten in order to represent approximately the number of persons living already seriously affected, — and even twice that figure, he thinks, would be still below the mark, — then it is apparent that a very considerable number of cases remain undiscovered. Furthermore, a large proportion of the cases of tuberculosis which come under the observation of the physician or apply for entrance into a sanatorium are in a more or less advanced stage of the disease, as, for example, the proportion of rejected applicants at the Boston examining office of the Massachusetts State Sanatorium is about two thirds of all those who apply. It is evident, then, that a very large number of these undiscovered cases must be in the early or incipient stage of the disease, and the problem is, how to discover these hidden, early cases.

In the consummation of this desired end, certain obvious difficulties are encountered.

First: Failure or inability on the part of the physician to make an early diagnosis.

Second: Failure on the part of the public to appreciate the importance of an early diagnosis.

Third: Inadequate facilities for obtaining an authoritative examination of adults and children by means of free dispensaries and other agencies.

Fourth: Fear that tuberculosis may be discovered and, in consequence, one's occupation and, hence, livelihood may be sacrificed.

Fifth: Failure on the part of the nation, state or municipality to recognize its duty in the prevention and control of tuberculosis.

In the first place, the physician must be capable of making an early diagnosis, and so great is the prevalence of tuberculosis, and such the supreme importance of detecting it at the earliest possible moment, that I am convinced that special clinical training should be devoted to the subject in the

medical schools, and my personal experience in teaching this subject for some years has only strengthened this conviction. Even with such special instruction in the medical schools, the practitioner will not become an expert without constant and continued experience, but he will at least be on the alert to *suspect* tuberculosis from such symptoms as are easily discoverable from a painstaking inquiry, and if, after such physical examination as he is able to make, he is still in doubt as to his diagnosis, he can refer the case to the expert.

The recent simplification of the tuberculin test by the cutaneous method of v. Pirquet or the ophthalmic of Wolff-Eisner and Calmette has now placed in the hands of the general practitioner an easy and apparently safe aid to the early recognition of tuberculosis, only, of course, however, to be used when the ordinary methods of examination fail. In many cases I believe the failure of the general practitioner to make an early diagnosis is due quite as much to a neglect of the means which he has at hand and knows how to use as to lack of skill in making a physical examination. When it is remembered that in so many instances the possible case of tuberculosis first consults his family physician, then the possession of reasonable skill in the early diagnosis of the disease and a keen appreciation of suggestive symptoms is not too much to require of any general physician.

The second difficulty is on the part of the public to appreciate the importance of an early diagnosis. How is any person who happens to feel indisposed, perhaps not enough so to seek medical advice, to suspect that his condition may be that of early tuberculosis and seek an examination of his lungs? Or, again, if he has a suspicion that such may be the case, how can he be made to realize the supreme importance of early diagnosis and treatment both to himself and to the public?

The general dissemination of popular tuberculosis knowledge by all the various methods now employed, such as exhibitions, lectures, literature, the public press, the influence of sanatorium graduates, the work of the visiting and school nurses, and the instruction of school children upon the subject now required by law in the public schools of Massachusetts, are all aiding in the solution of this problem. Indeed, it would seem that every individual, from all this reiterated teaching, might learn, or already has learned, the few simple symptoms which are indicative or suggestive of pulmonary tuberculosis, and the importance of early treatment. Such, however, we know is not the case. Consider the submerged tenth of the tenement-house districts; the newly arrived and ignorant immigrant in this country; the thousands of laborers and operatives who are so oppressed with their daily struggle for existence that they are oblivious of everything except their daily routine of work and sleep of exhaustion, so many of whom patiently toil on in spite of increasing weakness until the disease is past arrest. To such we must go and carry instruction and seek an examination. This, to a certain extent,

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¹ Congrès International de la Tuberculose, Paris, 1905.

² Brit. Med. Jour., Dec. 1, 1906.

the district visiting nurse already does whenever she has occasion to enter the homes of the poor, where a case of tuberculosis exists, by urging all the inmates to go to the dispensary for an examination. Very much could also be accomplished if a periodic examination of all mill or factory operatives was required and provision in sanatoria or elsewhere was provided by the management for those discovered to be tuberculous, as is already done, I believe, in some establishments in this country and abroad.

The more perfect way, and one which we may find necessary if we are ever to absolutely control tuberculosis, is a house-to-house inspection in the tenement-house districts and an examination of every inmate. An experiment of this kind has recently been made in one of the streets of Boston in a congested locality. Each household was visited by a physician, and each member of the family was examined as regards tuberculosis. By tact, patience and kindly address the good will of the inmates was gained and the opportunity obtained for making the investigation.

The third difficulty I have mentioned is lack of adequate facilities for free examinations. More free dispensaries are needed, particularly in the smaller cities and towns, and they must be so popularized and advertised that they will be eagerly resorted to by the working people. The trained visiting nurse, or investigator, is now recognized as an essential part of the equipment of such dispensaries, and it is obvious that the number of early cases discovered is greatly increased by this instrumentality, for the nurse, as I have before said, advises all the members of the families she visits to seek an examination; she is, indeed, the advertising agent and promoter of the dispensary.

By holding some of the clinics in the evening, a very important class of patients as regards early diagnosis is obtained, namely, those who do not feel ill enough to sacrifice a day's work or even part of a day in order to visit the dispensary. In the evening the workingman will feel more inclined to consult the clinic, even for what seems to him only a suspicion of disease, knowing it will entail no loss of time from his work and that the visit will be less conspicuous.

The fear that tuberculosis may be discovered and, in consequence, one's employment may be lost, undoubtedly deters many from seeking an examination, even though they may suspect that something is wrong with their lungs. This fact presents two serious and important social problems, the solution of which will materially aid us in obtaining larger opportunities for making an early diagnosis.

First: The public must be disabused of the idea that a consumptive is necessarily dangerous to those about him. On the contrary, it must be impressed upon the public again and again that a consumptive without sputum, as frequently occurs in the early cases, and one who properly disposes of his sputum, are both innocuous and are not to be shunned.

Second: The provision of proper occupation

for such consumptives as are able to do some work for their support. Already this problem is in process of solution by means of farm colonies, etc., but until, however, a more general realization of this need exists and greater opportunities are afforded to meet it, many early cases will remain undiscovered, because the discovery now means, in so many cases, loss of one's occupation and hence loss of support for oneself and family.

Another field which offers fruitful results in the endeavor to make an early diagnosis is the examination of children, school children, for, in fact, in most civilized countries, all children, with comparatively few exceptions, are school children. Furthermore, I would extend such examination not only to school children, but to all students, for it is comparatively easy to deal with an organized body as a school, academy or college. There is nothing more pathetic than to be confronted with a case of advanced tuberculosis in a young student, where life might have been saved if the disease had been detected in its inception.

I would have a yearly examination of all school children and students, and, finally, an examination at the close of their school or college career, when advice as to the choice of an occupation would be of inestimable value to those who show evidence of a tuberculous tendency. If, as is now required by law in Massachusetts, for example, all school children are examined once at least in every school year to ascertain whether or not they are suffering from defective sight or hearing, it would seem to be equally important to require a yearly examination of their lungs, when one considers the prevalence of tuberculosis. Moreover, the machinery for doing this is already at hand in the medical inspection of schools, now quite universal.

Much is already being accomplished in the examination of children through various agencies. Notably is this the case in France, and no other country, to my knowledge, has so clearly recognized the importance of this phase of the tuberculosis problem or so comprehensively set about its solution. In my own city (Boston) we are working out the problem in the following way: The dispensary of the Municipal Consumptive Hospital devotes one clinic a week, on Saturday, which is a school holiday, solely to children. The visiting nurse urges the family in which a case of tuberculosis exists to send all the children to the dispensary for an examination. By means of circulars sent to clergymen, teachers and agents of children's societies, an urgent appeal is made to have all children under their supervision sent to the dispensaries for an examination. Thus we expect, and experience is already verifying our expectation, to secure the early recognition of many cases of tuberculosis in children which would otherwise remain undiscovered until more active symptoms developed in later life.

Finally, the nation, state or municipality can, officially, both directly and indirectly, promote the early recognition of tuberculosis, and, in most countries, much is being done in this direction, dependent upon an intelligent and lively apprecia-

tion of the nation's duty in the prevention and control of disease.

The state or municipality can establish free dispensaries and is already doing so. It has its laboratories for the free examination of sputum. It indirectly aids in the early detection of the disease by providing sanatoria for incipient cases and thus encourages the individual who fears he may be suffering from tuberculosis to apply for an examination, knowing that if he is found to be tuberculous an opportunity is afforded him for treatment. The nation can require that all its employees in the army, navy or civil service shall be periodically examined. The state can go farther and insist upon the examination of all operatives in workshops and factories before referred to. Massachusetts, for example, now requires that all factories shall be well lighted, well ventilated and kept clean; that cuspidors shall be provided; that there shall be proper sanitary arrangements; that medical and surgical appliances should be kept in all factories; and that proper egresses, fire escapes and fire extinguishers shall be provided. Why not extend this paternal care of its working people and require a periodic examination of the lungs of each operative, perhaps of equal value with these other requirements, when one considers the frequency of tuberculosis among workers? Moreover, such a requirement might, with equal reason, be extended to large department stores where many young women are employed.

Again, the state, by exhibitions and the dissemination of literature upon tuberculosis and other educative measures, can impress upon the public the importance of the early recognition of tuberculosis, with especial reference to the favorable results of treatment in the early stages of the disease. Thus it will be seen that official action can, and in many countries does, accomplish very much toward securing to its citizens an examination as regards tuberculosis, and can, by these various measures, cause it, in many cases, to be discovered in its incipency, when cure is easy and the infection of others impossible.

The above are some of the difficulties, as I conceive them, in the early detection of tuberculosis, and I have endeavored to suggest some of the remedies.

MEDICAL INSPECTION OF SCHOOLS FROM THE STANDPOINT OF THE MEDICAL INSPECTOR.*

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THE first system of medical inspection of school children in this country was inaugurated in Boston, in 1894, under the direction of the Board of Health, and to Dr. Samuel H. Durgin, Chairman of the Board, the pioneer in this work, is due all credit. After several years of patient endeavor, Dr. Durgin's wishes were finally realized, when, in 1894, under the administration of Mayor Mat-

thews, an appropriation of \$10,000 was granted for instituting the work. The city was divided into districts, and 50 physicians were appointed as medical inspectors of schools, at an annual salary of \$200 each. The system was as follows:

A daily bulletin of all cases of scarlet fever, diphtheria and measles reported to the Board of Health was mailed to each inspector. His duty was to visit each case of scarlet fever and diphtheria not sent to the hospital and report upon the isolation. Upon receiving notice from the attending physician of the completion of desquamation, the medical inspector again made a visit and examined the patient and, if satisfied that desquamation had ceased, notified the Board of Health of the fact, recommended that the patient be released from quarantine and that the premises be disinfected. In the beginning, in cases of diphtheria, the medical inspector took cultures for release only when the attending physician refused to do so or abandoned the case. Later on, two consecutive negative cultures were required for the release of the patient and the medical inspector was required to take the final culture. Two years ago, visitation and report on the isolation of typhoid fever, tuberculosis and cerebrospinal meningitis were required, and these diseases were included in the daily bulletin.

The primary object of the school work was the detection of communicable diseases among the pupils. The teachers selected such children as seemed to them indisposed or showed some external sign of disease. The medical inspector examined these children, gave to the teacher his opinion and advice as to what should be done. The medical inspector has no authority in the schools, his position being merely advisory. Dr. Durgin was emphatic that no treatment be given to any pupil and that the medical inspector should in no way attempt to enlarge his private practice through his connection with the schools. One exception to the rule of no treatment exists, and will be mentioned later. In addition, the medical inspector was expected to be particularly cautious lest any action on his part should give offense to any practising physician. The actual work at present comprises:

1. Examination of all children entering the schools without certificates of successful vaccination.

2. Examination of and advice regarding all children referred by the teachers for any evidence of ill-health.

3. Contagious diseases. If a child is found in a schoolroom suffering from a contagious disease, the medical inspector closely observes the other children of that room for the next two or three weeks for the appearance of this disease; or, should it be discovered that several children attending a certain room are absent at the same time with the same contagious disease, an examination of all the children of that room becomes necessary. Should the medical inspector feel that disinfection of the room is necessary, the Board of Health is notified and proper action taken. Again, the chief medical officer of the

* Read at the regular meeting of the Boston School Physicians' Association, Nov. 20, 1908.