

and the specialists, who are the modern handmaids of practical medicine; knowing the history of his trusting friends and taking an interest in their wholeness and wholesomeness,—the chum of the old people, the intimate of confiding girlhood, and the uncle and oracle of the kids." Jacobi: "Significance of the General Practitioner." *BOSTON MED. AND SURG. JOUR.*, 1912, clxvi, 439.

² Putnam: *Proc. Mass. Med. Society*, 1899; *BOSTON MED. AND SURG. JOUR.*, 1899, cxli, 53.

³ Dr. P. C. Knapp has recently presented the arguments for this general viewpoint. "The Rehabilitation of Neurasthenia." *BOSTON MED. AND SURG. JOUR.*, 1910, clxii, 269.

⁴ A good resumé will be found in Janet: *Major Symptoms of Hysteria*. The Macmillan Co., 1909.

⁵ Cushing: "The Hypophysis Cerebri." *Jour. Amer. Med. Asso.*, 1909, liii, 249; also, *Proc. Amer. Neurolog. Asso.*, 1911, p. 202.

⁶ Cannon: *BOSTON MED. AND SURG. JOUR.*, 1912, clxvi, 563; also with D. de la Paz: "Emotional Stimulation of Adrenal Secretion." *Amer. Jour. of Physiology*, April 1, 1911.

⁷ Cannon: "The Influence of Emotional States on the Functions of the Alimentary Canal." *Amer. Jour. Med. Sciences*, April, 1909.

⁸ Jones: "A Modern Conception of the Psychoneuroses." *Interstate Med. Jour.*, 1910, xvii, no. 8.

TUBERCULOSIS IN THE AGED AND THE DIAGNOSTIC VALUE OF INCREASED WHISPER IN THE INTERSCAPULAR SPACE.

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So great is the death toll from tuberculosis during the early years of life that we are apt to think of it only as a disease of young adults. And this is but natural since nearly one-third of those who die are between 15 and 40 years of age.

These figures, however, do not give us any idea of the relative importance of tuberculosis as a cause of death at any one period. That can only be determined when estimations are based on the number living at that particular age.

Thus we find that though the total deaths from tuberculosis between 44 and 64 years of age are only one-half what they are between 24 and 44, yet when estimated on the basis of 1,000 living at those two decades, the percentage is practically the same. And it is twice as high for those of 65 as for those between 15 and 20.

This is a fact of the greatest importance, the full significance of which is not generally appreciated. Pulmonary tuberculosis in the elderly, because of its chronicity and periods of arrest when symptoms are more or less in abeyance, is diagnosed less frequently perhaps than at any other time of life. This is in part due to the fact that chronic bronchitis and emphysema are so common in the elderly, and also because the clinical picture differs considerably from that which we are accustomed to see in early life. In elderly people cough is the chief complaint. The other symptoms are frequently slight or lacking altogether. In looking over my private cases for the past two years, I find that I have examined sixteen patients of 60 or over, who consulted me because of cough. This was due to the following causes: inhalation or dust (tracheitis) 1; chronic bronchitis (with or without emphysema) 5; nephritis and myocarditis, 1; possible tuberculosis, 2; tuberculosis, 7. The recital of several case histories will best illustrate certain features of the disease that characterize the latter decades.

CASE 1. MARY S. Aged 60. A brother died of tuberculosis 40 years ago. The patient had good health up to the time of her marriage at the age of 20. The second year after her marriage she had a hard cough, which the neighbors diagnosed as consumption. She has worked hard much of her life, though frail, and each winter for the past four or five years has had a cough which has been diagnosed a number of times by her physician as grippe. The past winter the "grippe" was more severe and persistent and for the past few months the patient has been somewhat hoarse and has lost weight and strength. Examinations showed an old fibroid condition at the right apex with infiltration throughout the whole of the left lung and a cavity below the apex. Patient also had tuberculosis of the larynx and many tubercle bacillus in the sputum.

CASE 2. AMELIA H. Aged 64. Father died at 65 of tuberculosis, 41 years ago. Well and strong as a girl; thirty-two years ago while pregnant developed a cough. This continued after confinement, and her strength was slowly regained. At that time she had several hemorrhages. Following the next confinement, three years later, the patient was very much run down with a cough, night sweats and hemorrhages, and it was six months before she regained her health. Some of these hemorrhages came on while sleeping, others after a hard attack of coughing. Her cough is frequently so severe as to cause gagging. She has had a number of attacks of left sided pleurisy. Her health was good for a considerable period of time prior to three years ago, when she developed a severe illness diagnosed "typho-pneumonia." She was ill at this time for three months with a severe cough and hemorrhages. At the suggestion of a lady friend she slept out of doors for a number of months with great benefit, and this past year has been unusually well until two weeks ago, when she began to cough and expectorate bright blood and have a slight afternoon temperature.

There was very slight retraction of the right apex and dullness to the right of the fourth and fifth dorsal vertebra, with small moist rales at the right apex on coughing both in front and behind, and a few over the right lower lobe and at the left apex posteriorly. The whispered voice was heard over the vertebral column as low as the 8th dorsal and also to the right and left of the vertebral column from the fourth to the sixth dorsal vertebra. Two weeks later the right apex showed the same signs and a wet leather rub had developed over the right lower lobe. No tubercle bacilli were found in either of two specimens consisting chiefly of blood.

In both these cases there was an exposure to tuberculosis over 40 years before. It is noteworthy that in one case the disease first manifested itself 32 years ago, and in the other the first symptoms appeared 38 years before. Case 2 is living and in excellent condition today, thanks to a lay friend who suggested the out-of-door life. Case 1 is dead because her physician either failed to make the diagnosis, or lacked the moral courage to tell the truth. And there is no more despicable example of moral cowardice than the physician who shrinks from inflicting the momentary pain the truth would cause, preferring rather to let his patient drift along to

an untimely death or chronic invalidism with its sufferings and lost illusions.

Our conception of the duration of tuberculosis would be materially changed did we devote more time to obtaining our histories. The mere fact that a cough has been present for a number of years is too often taken as sufficient proof of its non-tubercular character.

CASE 3. MARGARET N. Aged 61. Was delicate to her 45th year, every spring running down with "malaria." The past two winters she has had a severe cough which caused gagging. Two months ago she developed a pleurisy of the left lung which has continued, and for about six weeks has had a cough of increasing severity, often causing gagging. She has lost weight, had night sweats, complaints of weakness, loss of appetite, increasing dyspnoea, and more recently, severe pain over the lower part of the sternum. The patient was extremely ill and suffered much from dyspnoea. The chief signs were those of a resolving pneumonia over the left lower lobe. Slightly prolonged expiration over right apex posteriorly was also noted. In addition, the whispered voice was present over the upper four dorsal vertebra. The patient died in 48 hours. At the post-mortem an extensive pericarditis was found, the whole of the pericardium being adherent to the heart. A caseous area was present in the left lower lobe. A few tubercles were present on the visceral pleura and a partly caseous gland about one 1½ inches in diameter was found at the junction of the right bronchus and trachea.

Apart from a questionable infection dating back to childhood, the chief interest in this case centers in the enlarged bronchial gland, whose presence was suspected because of the whispered voice heard over the upper dorsal vertebra. This sign, first called attention to by D'Espine,¹ as being indicative of enlarged bronchial glands, has not received the attention it deserves. It is elicited as follows: The stethoscope is placed over the vertebral spines, and the patient requested to whisper "three-thirty-three." In children the tracheal quality normally ceases at the seventh cervicle. Occasionally in an apparently normal adult the tracheal quality, though of diminished intensity, persists over the upper three or four dorsal spines. The sign is said to be positive when the final "e" of the last word, "three," persists for an appreciable time after phonation ceases.

The diagnostic value of this sign I have considered elsewhere.² In both children and adults, but especially in the latter, its significance is considerably increased when the whispered bronchophony is also heard at one or both sides of the vertebrae and its import is greater when heard down to, or below, the level of the fifth dorsal vertebral. In the adult when it is only heard over the upper three or four thoracic spines it is of questionable significance. I have had numerous radiographic confirmations of its value, and just

recently a case came to autopsy whose only constant sign for several weeks had been increased whispered voice in the interscapular space. The tracheal and bronchial glands were found to be very much enlarged. Several patients with chronic bronchitis and emphysema have been studied and in no instance was there an increase of the whispered voice. Paravertebral dullness from bronchial glands, often demonstrated in children, is more difficult to elicitate in adults because of muscular development but it can frequently be detected in those of spare frame if very light percussion be employed. The demonstration of enlarged bronchial glands does not prove their tuberculous nature, though such is usually the case, nor can one affirm with absolute positiveness, even when they are tuberculous, that they are causing the symptoms complained of as good health is compatible with bronchial adenitis if the disease is in an inactive state. Unfortunately we are forced many times in medicine to deal with probabilities rather than certainties, and so in an adult with the history of "running down" associated with a persistent cough, the presence of marked whispered bronchophony over the mid thoracic vertebral, and to one or both sides thereof, greatly increases the probability of tuberculosis if syphilis and a neoplasm can be excluded.

CASE 4. ANNIE H. Aged 65. Consulted me because of chronic cough and attacks of asthma. She was a typical asthmatic who wheezed markedly while her history was being taken. The physical signs were those of emphysema and chronic bronchitis, except that the rales were somewhat more numerous and moist at the right apex, where a slight amount of dullness was detected. There was marked increase of whispered voice in the interscapular region and especially over the vertebral column. Numerous tubercle bacilli were found in the sputum.

It is notoriously hard many times to detect a tuberculosis lesion of the lungs when emphysema or asthma co-exists. The x-ray is of great value here but unfortunately is available to only a few. Asthma is sometimes due to enlarged bronchial glands, and we should consider the possibility of their presence in those patients who have a great deal of dyspnoea without pulmonary, cardiac, or renal lesion.

CASE 5. An old gentleman, over 60 years of age, had a severe cough, and was extremely emaciated, so much so that examination of the lungs was difficult; no definite signs of disease could be detected. No attempt was made, unfortunately, to elicit a whispered vertebral bronchophony. Within a short time after first coming under observation, he had a chill and fever every other day, very typical of malaria, and that diagnosis in fact had been made by another physician. No plasmodia were detected in the blood and his leucocytes were 13,000. He subsequently developed an effusion of the left pleural cavity and a 1000 cc. of straw colored was withdrawn; sp. gr. 1020; coagulum slight; many small mononuclear cells, no polynuclears seen. The high

¹ D'Espine: Bull. Acad. de Med. de Paris, 1907, vol. lviii, p. 167.

² Stoll, H. F.: Amer. Jour. Med. Science, 1911, vol. cxli, p. 83; also, Amer. Jour. Diseases of Children (not yet published).

gravity and the type of the cells made the diagnosis of tuberculous pleuritis probable.

At the autopsy the apices were adherent, and were moderately infiltrated. The left parietal pleura was studded with tubercles, the bronchial glands much enlarged, and a large mass of glands was situated near the pylorus.

In several of these cases mention is made of the fact that the cough was severe enough to cause gagging. In a series of 169 cases I found that cough followed by gagging occurs twice as often with tuberculosis as with all other diseases combined—pertussis excepted. It seems to be especially common in patients presenting signs of bronchial gland enlargement.

When an individual has enough resistance to fight a drawn battle with the tubercle bacillus in his early life, the truce may be prolonged many years with only an occasional skirmish to indicate that a complete victory has not been won; but never was a skirmish fraught with more grave peril to non-combatants, for it is in these flare-ups when cough recurs that tubercle bacilli are scattered broadcast, often with dire results. Case two contracted the disease from her father, aged 65, and she probably infected her daughter who died with tuberculosis five years ago. Case five has a son who has had hemorrhages, and his daughter-in-law with whom he lived when I saw him, had an active pulmonary lesion. The husband of case one had moist rales above his right clavicle, though no symptoms, and a grown son and daughter not examined, are very delicate in appearance. Not infrequently it is very difficult to convince the patient that he has tuberculosis, and must exercise great care in the disposal of his sputum. For this reason it is hazardous for children to be in intimate association with them.

In conclusion: 1. Pulmonary tuberculosis is not an uncommon disease in persons past 60 years of age. Laënnacoe encountered it in a person aged 99.

II. It is more prevalent than the mortality suggests as an acute pneumonia is often the ultimate cause of death.

III. In persons in the latter decade of life the disease is chiefly characterized by its extreme chronicity and by periods of relatively good health.

IV. Many people contract tuberculosis each year from the intimate association with some elderly member of the household who has had a "stomach cough" or "catarrh" for "as long as he can remember."

V. The examination of the sputum of elderly people for tubercle bacilli is a much neglected procedure.

VI. The recognition of the pulmonary lesion is often difficult as the typical physical signs are frequently marked by some other condition, notably asthma or emphysema.

VII. In these cases the key to the diagnosis will often be found in the interscapular space.

The detection of bronchial gland enlargement in adults speaks for tuberculosis rather than chronic bronchitis or emphysema.

Reports of Societies.

ASSOCIATION OF AMERICAN PHYSICIANS

TWENTY-SEVENTH ANNUAL MEETING, HELD AT ATLANTIC CITY, N. J., MAY 14-15, 1912.

First Day: Tuesday, May 14.

PRESIDENT'S ADDRESS.

DR. J. GEORGE ADAMI, Montreal: As a step in advance I would suggest that our Association might take the initiative in a plan to have the Government provide a building in Washington in which various national and international societies might hold their meetings and in which their archives might be safely kept. The Association might also provide a medal which could be bestowed as occasion arises upon those who in the opinion of our body have made some advance of the first order in medicine. Also, for the same object, an annual lectureship could be founded as a means of honoring those who make notable advances in our science. It is my sad duty to recite the loss from our ranks of John H. Musser, who has died since our last meeting. A keen student, enthusiastic clinician, a cheery friend, beloved alike by his patients and professional brethren, we mourn his untimely death.

A CLINICAL STUDY OF THE EFFECTS OF SLEEP AND REST ON BLOOD PRESSURE.

DRS. HARLOW BROOKS AND JOHN CARROLL, New York: Numerous physiological researches on both man and the lower animals have shown that there is a marked fall of blood pressure during sleep. In our experiments we have found that the night pressure, taken in groups of night sleepers, was almost invariably lower than the day pressure in the same individual, but that, conversely, in night workers and day sleepers the finding was reversed. The pressure was found to vary from 62-3 mm. to 44.8 mm. lower during sleeping than during waking hours, being slightest in those whose usual pressure was lowest. The maximum fall took place about two hours after sleep began. Attempts to secure even a temporarily lower twenty-four hour pressure by prolonging or deepening the sleep were apparently without avail; nor was the degree or persistence of the drop increased by artificial means, as, by large dosage of bromide or chloral. It may be said that attempts at lowering blood pressure are perhaps as harmful as they are futile.

DISCUSSION.

DR. THEODORE C. JANEWAY, New York: Fall in systolic blood pressure is not at all synonymous with fall in the mean blood pressure. The excessive fall in the high pressure cases obtained during sleep I think about corresponds to the fall in mean pressure and is largely due to the diminished size of the pulse wave at the periphery during the sleep. While Dr. Brooks does not feel that he has seen