

of lung be solidified surrounding a pervious air-tube all this is altered. There is a dull note on percussion, because less air is under the finger. The entering air-sound may be *feeble*, *harsh*, or *jerky* and interrupted; the expiration-sound is prolonged unduly; while the voice-sounds are propagated to the ear as through a tube, and the heart's sounds are also conducted. Now these are common to the first stage of phthisis, but why? All that auscultation can tell you is that a portion of the lung has several of its physical conditions altered, but of the nature of the product which so alters them it can tell you nothing. That knowledge can only come to you by a study of the other relations of your case. Let us try these alterations by their meaning.

Feeble respiration may be due to obstruction in one or more bronchioles, by pressure on their walls or narrowing of their calibre; by any obstacle to air entering, as a tumor or a foreign body in the brouchus; by anything which increases the distance of the lung from the ear, as effusion into the pleura or by a thickened pleura; and by emphysema, which impairs the elasticity of the lung.

Harsh breath-sounds may be due to thickening of the walls of the air-cells, whereby their elasticity is impaired, by induration causing pressure on the alveoli, and by dryness of the mucous membrane of the bronchi.

Prolonged expiration depends on a difference in the density and an alteration in the elasticity of the lung, whereby a sound naturally feeble is developed and rendered more audible.

The *bronchial* or *tubular* character of the breath-sounds and voice is caused by the increased conducting power of the solidified lung, and excessive audibility of the heart-sounds means the same.

The *wavy* or *interrupted* inspiration sound is only valuable when permanent and conjoined with other sounds which indicate solidification, as a whiffy or tubular character of breathing. It is probably caused by alterations in the elasticity of the alveoli and their irregular expansion.

Now if you can group several of these signs in any one case, and if dullness co-exist, and the space presenting these phenomena be limited in extent and one-sided, you may be sure that some solidifying alteration has taken place in and around the alveoli of that part of the lung. But if this condition be preceded by slight loss of flesh, sub-febrile symptoms, and with dry cough or a scanty flocculent expectoration, you may be pretty sure that you are dealing with the early stage of phthisis. But you only know your patient's present state: the future is masked or may be altered by various other agents than those now evident to you. Physical evidence is always true, but the inferences may not always be correct. I have pointed out to you that even from this state of things there may be recovery; the alveoli may collapse, the chest-walls fall in, the morbid product in the lung undergo degenerative change, dry up, and be expectorated, and a little flattening and dullness alone betray the nature of the attack.

UROCYSTIC AND URETHRAL DISEASES OF WOMEN.

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GENTLEMEN:—Progress in the study of pathology enables us to understand more fully the various changes of structure which give rise to deranged action on the part of the various organs of the body, and therefore we have more *organic* diseases on our present list, and fewer *functional* disorders.

The rule has been to call any trouble a functional disease when we could discover no change of structure in the case. On the other hand, improved means of investigation now enable us to ascertain more positively that in certain deranged functions, the organs involved are normal in structure. This is particularly applicable to the derangements of the bladder in the female.

There are several functional disorders of the bladder due to diseases outside of the organ itself, and in order that you may easily follow me in what I have to say about these derangements, let me enumerate the various ways in which the function of the bladder may be disturbed.

1. Frequent urination.
2. Difficult urination and retention.
3. Painful urination.
4. Pain after urination.
5. Incontinence of urine.

The majority of these deranged actions on the part of the bladder may be due either to functional or organic disease. Those purely functional I shall now tell you about.

In the variety of conditions of the nervous system grouped under the head of "hysteria," we often observe that frequent urination is a prominent symptom. The cause, in many cases, is the peculiar character of the urine secreted in this disturbed condition of the nervous system. The limpid urine of hysterical patients is deficient in solids, the watery portion being greatly in excess. This unnatural composition renders the urine irritating to the bladder, so that it cannot be long retained. The quantity of urine secreted is also excessive, which, together with the irritating quality of the fluid, renders urination necessarily very frequent.

But apart from the frequent urination which occurs, for the preceding reasons, in severe attacks of hysteria, we often see cases of frequent evacuation which can only be accounted for by the state of the nerves which govern the action of the bladder. When the quantity and composition of the urine are normal, and the patient can retain it without pain or distress during the night, but has to pass it every hour or two during the day, we may safely conclude that the trouble is purely functional, and due to a