

**DEPRESSION OF THE UPPER AND ANTERIOR  
ASPECT OF THE THORAX,  
CONSEQUENT UPON POSTURE IN OCCUPATION, SIMULATING THE  
DEPRESSION OF PHTHISIS.**

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SOME years ago, a man, about 40 years of age, requested my advice for severe pectoral symptoms, prostration of strength, and extreme emaciation. He believed himself to be suffering from consumption. His breathing was laboured; he spoke with evident difficulty, and coughed almost incessantly. He expectorated a great deal, and perspired much: in short, he ran over the usual symptoms of a man in the last stage of phthisis.

On his drawing off his shirt, in order to my making a closer examination, I perceived that the forepart of the three upper left ribs was much depressed, and that, during inspiration, they failed to rise as in the healthy chest. So far, this corresponded with, and corroborated the idea of the patient himself, that his disease was consumption. But going further, I found that the cardiac and vocal resonance was not increased; that percussion elicited no materially dull sound; and that vesicular respiration was going forward, though mixed up with large mucous r le. The other side of the chest was healthy in form, and likewise in sound, except that rhonchus in the larger air tubes was extensive. With these encouraging facts, I ventured to disregard the flattening of the left side, and assured the patient that his disease was not consumption. The treatment adopted was what is usual in such cases of bronchitis, and included counter-irritation. The more acute symptoms passed off, and in some months the patient was restored to his usual health.

I had the curiosity to ascertain the subsequent history of this man, and I therefore visited him within the last few days. I found that he had some two years back discontinued his occupation, that of a cabinet-maker, in consequence of his health being delicate, and had since employed himself at a lighter business, requiring less exertion and stooping. He still coughed a good deal, and felt weakly, but he had as much flesh as when I discontinued seeing him some four years ago. I requested to be allowed to see his chest; and though there was evidently some flattening on the left side, it was materially less than formerly,—a change which I attribute to the discontinuance of his former occupation. He had formerly been employed the greater part of the day at a low bench, sawing and planeing, with the chest inclined forward, and to the left, and with the right shoulder more elevated than the left. This had been his daily occupation from boyhood; and it had affected him doubtless the more readily, from his constitution being delicate, from his osseous frame being unusually slight, and from his habits being somewhat irregular. Throughout the chest vesicular respiration was established, and any little mucous r le to be heard was confined to the right mammary region, and was not to be made out in the region of the flattened ribs.

Since my attention was drawn by this case to the depression of the

upper and forepart of the chest by posture in occupation, regarding it with some interest in relation to the flattening caused by phthisis, I have observed the same alteration in form, produced by posture in other patients; but guided by the case related, I have avoided confounding it with the same alteration dependent upon pulmonary disease. In some cases, the flattening is found on the right side; in some on both sides, including the upper portion of the sternum. When the entire upper portion of the chest is greatly depressed, which is the case particularly in those workmen who are employed in drilling wood on a very low bench, and who increase the force of the left hand holding the drill, by pressing it with the under surface of the lower jaw, and the upper portion of the front of the chest, the thorax at its back aspect becomes gibbous, the dorsal vertebræ forming a segment of a circle, while the cervical and lumbar vertebræ remain in a comparatively straight line. When the depression takes place on one side, for the most part the spine is somewhat distorted, the dorsal vertebræ forming a curve whose convexity is directed to the opposite side. For the most part, in proportion to the flattening or depression of one side, there is observed a greater fulness of the opposite side of the thorax.

Such alterations in the form of the chest, consequent upon posture, are in themselves significant of little or no internal injury. In such cases, the internal organs present no signs of alteration in their structure, very little of disturbed function, and for the most part, evidence only of slight displacement. The bodies of men whose chests have been very considerably altered in form have been opened, and the thoracic viscera have displayed no signs of morbid alteration. I have carefully examined during life the lungs and heart of many suffering from flattening of the chest thus induced, and have in most cases failed to detect any material internal lesion.

I have been informed, both by workmen themselves and by their employers, that posture, even when it succeeds in causing flattening of the breast, gibbosity of the back, and inequality of the shoulders, is operative, if to any, to only a very slight extent, to the injury of health. The workmen have invariably said, that their diseases, and even their chest ailments, are more due to close and heated workshops and to dust, than to any other cause; while the masters have, with obvious justice, referred not a little of the illness of their men to the irregularity of their habits, and their excesses.

Neither induced by internal disease, nor inducing any such, of what import, it may be asked, can such alterations be? What they possess not themselves, they may acquire, if taken for the signs of internal disease. That importance which depression of the chest, the result merely of posture, does not possess, it acquires, if taken, or liable to be taken, for depression the result of phthisis. It is with this view that the subject is here considered. The mistake may be made, and has been made; but it need not be made, for each kind of depression has its respective concurring signs.

The depression of the chest, simply the result of posture, is to be known from the same alteration induced by phthisis, by the absence of the other signs of that disease, such as the prolonged expiration, the decided dulness on percussion, the reduced vesicular breathing, the increased resonance in the early stages, the cavernous respiration,

pectoriloquy, and the other sounds emanating from cavities in the structure of the lungs in the third stage.

When the depression is the result of posture, for the most part the loss of room in the cavity of the chest in one side is compensated by a corresponding amplification of the other; and when the whole upper part of the chest is depressed, an increase of room is secured for the lungs and heart, by the gibbous back already referred to. On the other hand, depression of the ribs consequent upon tubercular deposit, has no compensation, for this reason, that the depression is the result of the reduced contents of the chest, and follows, *pari passu*, upon the internal reduction. In this case, nothing internal is displaced, so there is no occasion for an increase of space elsewhere.

With the help of these physical signs, the two forms of depression may be diagnosticated, even when the depression from posture is associated with bronchitis, with emaciation and hectic fever, as in the case I have related.

It is to be observed, that though depression of the chest may have originated in posture in occupation, yet it may after a time become associated with phthisis, and owe its further development to that disease. In such a case, depression formerly unaccompanied by decided dullness, reduced vesicular murmur, etc., will now be attended by them. It may be, that the depression will be abnormally great, and that the amplification of the chest in some other quarter, which compensated the loss of space, may yet exist.

It perhaps has tended, on the part of young practitioners, to cause the depression of the chest from posture in working men to be mistaken for a sign of phthisis, that the depression referred to is more common amongst the weak and sickly than amongst the robust. The delicate of frame, the irregular in habit, and the ill-fed, sooner yield to the deforming influence of posture than the opposite. It is an interesting fact, that on visiting a certain cabinet manufactory on a late occasion, I did not see one man who appeared distorted or unhealthy. I was informed that the men were well paid, and that the master could afford to employ only regular men. The same day I was taken to a workshop devoted to the same description of trade: I was told that the master was poor, did a lower kind of business, and paid his work-people indifferently. I found the men thin, sickly, and the shoulders unsymmetrical. The most perfect specimen of the flat breast and the gibbous back which I have seen, met me there.

It appears that on the discontinuance of the posture which has induced the depression, the deformity becomes disposed to remove. A material elevation has certainly taken place in the left side of the patient whose case is related at the commencement of this communication. No such correction takes place in phthisis; doubtless, here, as in cases of ricketty curvature of the limbs, there is an ever-watchful principle at work in the body, ready to restore, under favourable circumstances, the natural conformation. It only awaits the removal of untoward circumstances, too strong to be overcome, which have neutralised it for a time, in order that it may recal the formative organs from their erring course to their normal action. How beautiful is such a reparation; how it tells of God in every living thing; how encouraging to the physician, as well as soul-improving to the man!

Although it has been mentioned as one of the diagnostic signs of depression of the ribs consequent upon posture, that percussion affords no decided dulness as in phthisis, there is little doubt that I have made out in numerous cases of flat breasts, the result of posture, as well as a natural characteristic, a certain amount of dulness. I am convinced that the resounding clearness, which we obtain from a prominent or barrel-like breast containing healthy viscera, is seldom or never elicited from the flat chest. On the other hand, the amplified part, such as the gibbous back, is more resonant than the natural back. The flat and contracted thorax I have often found to give out sounds on percussion somewhat dull, although the contained lung was in no degree solidified; and again, I have frequently evoked sounds from the rounded, and prominent, and barrel-like thorax, much clearer and ringing, although there was no reason to believe that the lungs were more filled with air than in cases of flattened chest.

These facts have led me to believe, that the resonance of the chest is due, less than is usually credited, to the quantity of air in the lung, and that it is materially affected by the form of the bony frame. But perhaps this is matter for consideration at another time; and it will suffice to have referred to the point, which is one which should be taken into account, when the student gauges the acoustic properties of the thorax in disease. Yet I may allude for a moment to the analogous formation of musical instruments. The sounding board of some pianos is somewhat arched in order to increase the sound; and when by any accident this form is reduced, the sound is proportionably lost. The arched form of other musical instruments favours this resonance. It is not otherwise with the human thorax. Such being the case, the student, in order that he may the more accurately appreciate the sounds of the thorax, as signs of the condition of the contained viscera, would do well to make himself acquainted with the respective sounds of the different kinds of thorax in health, as a preliminary to the study of those of the same part in disease.

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