Gulstonian Lectures

ON

THE USES OF BLOOD-LETTING IN DISEASE.

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VENESECTON is, I maintain, not a remedy of inflammation, but a remedy of the accidents which accompany, or, rather, arise out of, certain inflammations and non-inflammatory diseases; viz., those inflammations and diseases which are accompanied with obstructions of the cardiac and pulmonary functions. It is, therefore, of service in those inflammations only which are attended with such obstructions.

Let me repeat, in brief, what I hold to be the proofs of this proposition. In all ages of medicine, venesection has ever been most especially lauded as of service in those affections which are attended with such obstructions to the play of the thoracic organs. As science advanced, and men came to understand better the special character of diseases, they began to bleed less; first, they gave up the practice in external inflammations, under the teaching of facts *oculis subjecta*; and then, at length, in all other inflammations, excepting in those attended with pulmonary or cardiac obstructions. At the present time, there is never any pretence of bleeding, except in the class of affections alluded to. Is not the conclusion obvious?

The very symptoms, let me remind you, for which venesection is practised in such cases, are the very symptoms which are representatives to us of pulmonary and cardiac obstructions. The very relief given by the bleeding is just the kind of relief which, we know, experimentally results from venesection in such cases. The relief given by bleeding, when practised in pneumonia, is the very same relief as that which is given by bleeding in chronic cardiac and thoracic aneurismal affections. It is precisely the relief which naturally flows from the removal of mechanical impediments to the respiratory and cardiac movements; and the relief is given, although the physical conditions of the local inflammation in the lung, for example, remain unchanged. The relief, again, is in all cases immediate; while the blood is still flowing, the relief is profoundly felt, if the bleeding be of service at all. Moreover, no one ever thinks of resorting to venesection in pneumonia, if the inflammation be so limited as to produce little or no impediment to the respiratory or cardiac functions. Yet, if bleeding be a good remedy for the cure of the inflammation of the lung *per se*, why is it not as requisite when the lung is very partially as when it is very largely inflamed? The destruction of a small portion of the lung may be as dangerous to life as the destruction of an entire lung. But the mere re-

moval of the obstruction to the play of these organs is not the only good which results from the venesection. I need not stop to tell all the long series of beneficial consequences which follow the bleeding. The entire vegetative life of man is renewed through the freedom of action given to these vital organs. To interfere with the play of the heart and lungs is to interfere, *pro tanto*, with the proper functional activity of every organ of the body. All these great benefits I claim as the indirect results of the bleeding. Nor have I time, nor is it needful for me, to discuss more nearly how the relief given in such case is effected by the bleeding. Enough for my argument is the fact that it is given. I will only observe, that it seems to me to be, in the main, of a mechanical character; by the withdrawal of blood, relief is given to the distended, oppressed, and, I may say, of necessity, partially paralysed heart. See what happens. When pneumonia extensively pervades a lung—and it is only, remember, in such severe case that bleeding is ever thought of as a remedy—suddenly a large extent of the pulmonary aerating surface is rendered useless; and as the amount of blood in the body remains unchanged, there is all at once established an undue relation between the mass of the blood and the aerating surface. The result is obvious. One lung is suddenly called upon to do the work of two; the blood is obstructed in its passage from the heart to the lungs, and the right side of the heart begins to labour and becomes engorged. But engorgement and dilatation of the heart is, of necessity, *pro tanto*, obstruction to, and partial paralysis and loss of natural force, of the heart; and all these evils increase *pari passu* with the degree and duration of the obstruction. Leaving out of consideration all those other evil consequences which necessarily flow from this one, may it not be most reasonably argued, that the relief of this condition is the main, the starting-point of the benefits accruing from venesection in pneumonia? The suffering which finds relief through the bleeding in pneumonia is, I take it, the very same in kind as that which is the expression of the agony of angina; and in both cases, as I argue, it takes its origin in an oppressed and partially paralysed heart. In angina, the cause of the paralysis of the organ lies within its very self—in its enfeebled and degenerated muscular walls; whereas, in pneumonia, it finds its source from without; viz., in the obstructed pulmonary circulation. And just so, likewise, do we find that venesection, which relieves the one affection, is worse than useless in the other? We find also, indeed, that in all cases of heart obstructions, whatever their cause—that in pneumonia, for example—there are periods when venesection will no longer avail to give freedom of action to the enfeebled heart; then, indeed, when its partially paralysed force is paralysed beyond redemption. Remember, again, the relief, when given by venesection in pneumonia, is given whilst the blood is flowing from the vein, and long before the patient begins to feel faint—long, therefore, before that period of syncope arrives, which is said to be of such service in causing the blood-vessels of an inflamed part to become pale and empty.

The experiments of Dr. John Reid, touching asphyxia, also surely corroborate the view I am maintaining. He showed that when the heart had ceased to beat in asphyxiated animals—had become paralysed through over-distension—its action might once

again be renewed, and even so as to preserve life by giving exit to the blood from the engorged right side of the heart.

It may seem strange that, in the latter half of the nineteenth century, I should offer within these walls illustrations of the uses of blood-letting; but, in consideration of the prejudice existing against the remedy at this time, I may, perhaps, be pardoned if I relate a few examples of what I cannot myself do otherwise than regard as demonstrative of the life-preserving effects of venesection—examples showing the incorrectness of the theory, that diseases will not bear bleeding now as they did formerly; and examples of the fact, that a dread of bleeding is at this moment prejudicial to the interests of the sick.

Not long ago, I saw a female suffering from severe pneumonia, so that her life was considered in danger. To my view, she was in that condition of body, and presented those signs which strongly indicated the propriety of venesection. The gentleman in immediate attendance upon her received the proposal with dismay. He at last, however, gave his consent to the operation, on the condition that his hands were to be washed of the expected results. I will only say, that the patient was largely bled, was thereupon immediately relieved, and made an excellent recovery; the marked change in her condition admittedly dating from the moment of taking the blood.

The next case I will give is one of chronic disease of the valves of the heart. The subject was a large and powerful man. When I saw him, his legs were œdematous, his abdomen dropsical, and from the great oppression of his breathing, it was manifest that his lungs were already invaded with effusion. This was his first attack in this way; and all these severe symptoms of heart-affection had come rapidly on him. During a week he had been subjected to treatment; but neither diuretics, nor purgatives, nor diaphoretics, etc., had availed to relieve him. Indeed, if ever there were a case of the kind, in which early dissolution might be predicted, this surely was one. I then and there had him bled, or rather bled him myself, as the young surgeon in attendance had never seen the operation performed. About thirty ounces of blood were taken. The relief was unmistakable; it was immense and immediate; and I will only add, that on the very next day he was up, walked about on the third day, and made a complete temporary recovery from the dropsical attack in question.

The next two cases I will give are from the surgical practice of my colleague Mr. Walton, who has, like myself, no prejudice in favour of a present asthenic phase of humanity. A man of 78, hale and temperate, fell from a cart, and did or did not break a rib or two. In two or three days, pain on inspiration was felt in the back; purgatives and opium gave no relief. On the eighth day, the pain was intense and killing, the dyspnoea great, and the face distressed. Mr. Walton now saw the man for the purpose, I understand, of deciding and taking the responsibility of venesection. The patient was at once largely bled; the blood being allowed to flow until the breathing became easy. The relief was immediate and permanent.

In another case, the ribs were also broken; and as the symptoms, in the course of three days, became of an alarming character, Mr. Walton was called in to decide whether venesection might be resorted to, the patient being sixty-eight years old. When Mr.

Walton saw the man, he had been sitting for two days bolstered up in a chair; his legs œdematous; his lips blue and congested; and the gentleman in attendance upon him considered him to be dying. Mr. Walton immediately bled the man largely—to about thirty ounces. “The result was most satisfactory,” the report runs, “enabling the patient to resume the horizontal position; and, from being asphyxiated and at the point of dissolution, gradually to improve and recover.” I could, sir, give you other cases of a like character, and of quite modern date, if it were necessary; but it would be merely repeating the same tale. I know that, in cases of this kind, many members of the profession would at once resort to the remedy; but I am equally certain that the majority of practitioners, however much their better judgment might incline them to the right conclusion, do hesitate, and fatally hesitate, at the present moment, in resorting to venesection in such cases. The phantom of asthenia rises before them, and paralyses their actions. I have attempted to show that this phantom—this change of type in diseases—is a theory unsupported by satisfactory and trustworthy data; that the idea so widely spread and so generally accepted, that men will not bear bleeding now as formerly, is unfounded in fact, and contrary to experience; and sincerely do I hope that I may have in some small way assisted in removing a delusion which, as I believe, banefully weighs upon the practice of our art.

I have also attempted to define the right limits and the true effects and the proper application of blood-letting in diseases; pointing out that, as it seemed to me, physiology, pathology, and experience all concur in teaching us: that venesection has no directly beneficial influence over inflammations; that it is only of service during certain stages of those inflammations in which the action of the heart and lungs is impeded; and that its use lies in removing the obstructions which arise incidentally out of those inflammations.

In dealing with this wide and unlimited subject, I have, of necessity, been forced carefully to avoid the temptations which have beset me on every side; I mean the discussion of the hundred interesting topics incidental to the tale of blood-letting which present themselves to him who treats thereof. I have strictly confined myself to two especial points; viz., the attempt to show the fallaciousness of the change-of-type theory; and to the explanation of the real uses of bleeding in inflammation; believing firmly that the removal of the theory and the acceptance of the explanation would necessarily involve, with all reasonable people, a reconsideration and a readoption of venesection as an ordinary remedy in diseases. This, sir, must be my apology with those of my hearers who may think I have treated the question in too exclusive a spirit.

Allow me, sir, in conclusion, to say one word of apology. I fear that I may seem at times to have expressed my own views too dogmatically, and too lightly to have estimated the value of the opinions which I have opposed. Should I have fallen into this error, let me assure you that it was not from any want of due respect to those whose opinions I naturally regard so highly, but solely from the earnestness of the conviction with which I have attempted to impress my own views upon your notice.