

Elementary Anatomy,

AS APPLIED TO NURSING.

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LECTURE IV.

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BEFORE we consider some of the more practical details of this course, it will be well to obtain a clear comprehension of the processes by which nature repairs the injuries to which the human frame is liable. Formerly, and indeed to within the lifetime of the last generation, it was thought that this repair was brought about by means of an inflammatory process, and that according to the degree of inflammation, would be the manner in which the process was effected. If the inflammation, for example, was not sufficient, it was thought that wounds would not unite; if, on the other hand, it was excessive, that the healing would be equally inefficacious. It was the happy mean, our forefathers believed, which constituted safety in the healing of wounds. Now, it is understood that the processes of repair and of inflammation are widely different, that the former is beneficial, gentle, and often painless, while the latter is always injurious, violent, and more or less painful. So it may be said, in general terms, that repair is most perfect and rapid when every sign or symptom of inflammation is altogether absent. They both, however, have one common feature in the exudation of fluid from the blood vessels of the affected part. But, speaking broadly, while in the case of repair this fluid is fibrinous and what is termed plastic, that is to say, capable of glueing together the sides of the wound, and so uniting and healing them; in inflammation the material degenerates into a creamy fluid, which is known under the name of *Pus*. The signs and symptoms of inflammation are very plain, and are *heat, redness, pain*, and usually a certain amount of *swelling*. These results are caused by the dilatation of the blood-vessels of the affected part, which immediately takes place on the commencement of the inflammatory process, followed by a slower circulation of the blood through these vessels, and, consequently, what is commonly described as *congestion* or *hyperæmia*, that is to say, an unusual amount of blood in that particular part.

Nature next relieves these engorged blood-vessels by permitting them to exude through their walls a certain quantity of fluid, and of white blood-cells, which, while relieving the pressure within the arteries, or veins, increases the pressure in the surrounding tissues, and so causes the pain and swelling to which reference has been made. One of two things then happens: either the process ceases, in which case the blood-vessels contract to

their original size, the congestion and redness disappear, while the effused fluid is sucked up by the lymphatics, or blood-vessels, and the parts return—by what is called *resolution*—to their original state. Or, the amount of exuded fluid increases, the fluid becomes thick and creamy, and forms what is popularly known as “matter,” or, in surgical parlance, is termed *pus*. Once this fluid is formed, it will set up sufficient irritation in the lymphatic canals of the affected parts, and subsequently so much disturbance of the general system as to cause more or less fever. This is characterized, as a general rule, by a rise of temperature in the evening, and a fall of temperature in the morning. You will see, therefore, that it is of the first importance to the patient whenever pus is formed, that, as soon as possible, free exit should be given to it; and so when an abscess is opened, you will observe that the patient will not only be immediately relieved of the aching, throbbing, pain in the affected part, but will cease to suffer from the rise of temperature, and its consequent effects. In some few cases, nature cures an abscess by forming a thick wall of plastic material around the pus, so that this fluid cannot exercise its usual effect of softening and breaking down the tissues with which it comes in contact. The abscess then becomes what is termed *encysted*, and may remain quiescent, giving the patient no further trouble, perhaps, for the rest of his life—the bag of pus slowly drying up into a cheesy material, and finally becoming so hard as to resemble chalk.

Where we have pus freely exuding from an open surface, for only a short-period, the effect of its formation upon the general health of the patient may be very slight. But from whatever part of the body the pus is discharged, it is important to understand that it represents a loss of most valuable constituents to the general system, and it, consequently, depletes the body corporate of elements, which are essential to its proper nourishment. Wherever, therefore, we have a case in which deep-seated, or even long continued external, suppuration is taking place, there we find the patient showing signs of increasing debility, and, as a rule, increasing loss of flesh.

As usual, I will not burden these lectures by going into minute details, for it is better that you should distinctly understand rather the general principles of disease and apply those principles to the estimation and comprehension of the cases which you nurse, reasoning out for yourselves the problems of the various differences which the same complaint exhibits in different patients, and thereby acquiring not only a greater grasp of nursing knowledge, but a better ability to deal with the details of your work. But there is one result which it is well to emphasise, that it is in these cases of long standing suppuration that the patients

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