A BRIEF DISCUSSION OF THE PATHOLOGY OF MALIGNANT GROWTHS OF THE UPPER AIR PASSAGES.*

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Before proceeding to discuss the pathology of malignant tumors of the respiratory tract, I wish to say a word or two in defense of the microscope. One of our members yesterday, in speaking of microscopic examinations, belittled microscopic findings, because of the different diagnoses he had received in regard to specimens which he had submitted for examination. In the past fifteen years I have had a good deal of pleasure in working over microscopes, and those of you who are familiar with this kind of work will agree with me in what I have to say.

In the first place, a great deal of the fault in diagnosis lies with the clinician. In a case in which he is in doubt he simply removes a small piece of tissue and sends it to the microscopist for examination. Now, if the microscopist is purely a microscopist, and not a clinician, the report will be absolutely of no value to him. The microscopist has simply examined a small piece of tissue taken from the growth. One can not possibly differentiate between a small round-cell sarcoma; an acute inflammatory condition that is partially organized, an inflammatory area around a specific or tubercular lesion, and many other processes. One can not tell the difference in examining a few sections taken from this region. A small round-cell sarcoma is nothing more than embryonic connective tissue. If allowed to go on to connective tissue, you would not have sarcoma, because the round, small cell is nothing more than an embryonic cell, and never reaches the full stage of development. Let us take sarcoma, with its small vessels, ill-formed, given an inflammatory process in a certain stage of organization, is it the microscopist or is it the clinician who is to blame?

The microscopist will not give an opinion based on such a small piece of tissue. He will write out exactly what he finds. If the clinician is a microscopist, he may criticize the report of the microscopist; but to take a small piece of tissue from any ulcerated area and base an opinion on it is absolutely wrong. I do not believe any well-informed microscopist will do it. In the examination of tissue from supposed malignant growths, you should have tissue that

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is taken from the deep structure, and unless it is taken from the entire structure, from the center of the surface, and sections made very soon, the microscopical examination will be of no value to you from a diagnostic standpoint. It may lead you into serious error, for the reason that you may advise radical operation for a malignant condition when it may not be necessary, so that from a pathological standpoint one of the most important features connected with malignant growths is a correct diagnosis. To rely absolutely on any microscopical examination is wrong. The best microscopist is the man who is also a good clinician, who associates all phenomena observed in the patient with the microscopical findings. When this is done, the report will be of some value. To condemn a microscopical examination simply because some one described tissue and saw a small round cell, with well formed blood vessels, and concluded it was sarcoma, is wrong. Like the expression, "It depends upon the man behind the gun," so it depends on the man behind the microscope.

Malignant tumors of the upper respiratory tract belong to sarcomatous tissue, and those of connective tissue by the carcinomata or the epithelial type. There has been a great deal of confusion in regard to malignant growths from the fact that we have certain benign tumors that become the seat of malignant growths. That is easily explained. For instance, we may have a benign tumor of the connective tissue type or of the epithelial type. For example, papilloma is of low grade tissue. It has its type in adult tissue. Papilloma has its type in the epithelial structure, and adult connective tissue tumors, as, for instance, fibroma, has its type in the adult connective tissue. Take adenoma, and it gives us a reproduction of the gland structure. It falls short in one thing, and that is physiological function. That tissue is of lower grade than true tissue, and under irritation predisposes to a malignant condition, whether it be carcinoma or sarcoma. Papilloma occurs at the junction of the skin and mucous membrane, or it occurs at the junction of a fold of mucous membrane. It may occur freely on the surface from such points. It may not always be at the junction, but usually is. There is nearly always a location where it is subject to irritation. The irritation will tend to produce carcinomatous or sarcomatous tissue. You will frequently see, even in this day, articles in journals in which a benign tumor is said to have become malignant. It never became malignant, because a benign tumor is never turned into a malignant one any more than measles turns into smallpox or typhoid fever turns into pneumonia. One predisposes to another. A benign tumor at the point where it is sub-

jected to irritation, a tumor which is not quite up to the standard of type or tissue, will more likely be the seat of malignant growth than if there was no tumor there. About the pharynx, the nasal orifice, the tonsils, the tongue, the mouth, where we have benign growths, a great many practitioners say, remove them at once, and possibly in many cases that is the right thing to do, because irritation of the tumor may tend to its malignancy. Take the cases you have seen in your own clinics, in which you have made a diagnosis a year before, say, of tumor of the larynx, and a positive opinion has been given that it is carcinoma or epithelioma. It does not make any difference which variety, it is possible you may have considered it to be a papilloma, but from irritation it has become the seat of a malignant growth. It is a low grade tissue. It has not the physiological function of the adult connective tissue or epithelial tissue. Any irritation may predispose to malignancy. That is one of the most important points in the pathology of malignant growths about the upper respiratory tract. Many benign growths removed early may be saved from malignancy. It is difficult from a microscopic or clinical examination to determine sometimes the true nature of a growth. Not only in my own clinical work, but in laboratory work, I have found in tumors that growth outside and afterwards involve the inner structures (I am speaking now of growths involving the mucous membrane or skin and mucous membrane) that in nearly every case the history dated back to a simple growth, and that irritation has continued until we have ulceration, and then a suspicion, at least; of malignancy. For that reason, I would urge upon you all, in the microscopical examination of tissue, that you take into consideration the early history of your cases. Wherever you have breaking-down of tissue, whether it be a benign growth, or one which from irritation has become the seat of malignancy, take into consideration the fact of its early removal from the mucous membrane.

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