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## DISCUSSION

DR. HUMPHREYS: Dr. Davis, members and guests: I agree with Dr. Davis that Dr. Soutter is to be congratulated on bringing up this perplexing subject. He has succeeded in proposing more questions than he has answered.

We have been interested in this problem for some time, both in relation to myasthenia gravis and the case that Dr. Southworth and I reported some years ago, to which Dr. Soutter alluded.

Recently Dr. Lattes, pathologist on our staff, reviewed all our cases and analyzed 80 cases of surgically resected thymomas. He specifically excluded all cases which metastasized, on the ground that these were not thymomas but carcinomas. Here we have a semantic problem, right away, in relation to the pathologist's attitude, since if one defines a thymoma as a tumor which does not metastasize, then, what is a malignant thymoma? However, there were a number of these tumors which were malignant in the other sense that Dr. Soutter speaks of, that is, local invasion. There were 6 different pathologic types, of which the two commonest, lymphoid and epithelial, constituted 56 of the 80 cases. Twenty-one patients had myasthenia gravis; indeed, they were operated upon because they had it. However, only one of these has had a long-term apparent cure, of about 10 years. Forty-six were symptomatic in some other way.

Of the myasthenic cases, 13 were lymphoid, and the other were epithelial. There was one other case of aplastic anemia which also appeared to be relieved by removal of the thymus. The patient we reported apparently had an immediate response in terms of a reticulo-cytosis; she recovered from anemia and was able to repay the blood bank on several occasions before she died from hemo-chromotosis.

Perhaps the most extraordinary case that Dr. Lattes has encountered was not a patient operated on in our hospital, but he had an opportunity to study the tumor of the patient. At the age of 17, the patient was still only 3 feet tall, and was retarded mentally. This patient then grew 3 feet within twelve months, within 5 years had 2 Ph.D.'s and is now dean of a college. [Laughter and applause]

DR. SOUTTER: I want to thank Dr. Humphreys for his contribution. He has put his finger on a very important point to all of us, as clinicians, and that is the problem of the pathology of these tumors. We immediately became involved in this problem, because there is such a difference of opinion, not only as to what these tumors should be called, but if they show any evidence of metastasis, some pathologists will call them something entirely different from what they were originally termed. I think that until we get a very good and acceptable nomenclature for all these tumors, we are going to continue to have grave difficulties.

There is only one point that I would like to add. Dr. Humphreys having chided me for not solving any of the problems of the thymus, I would like to go back to Dr. Geoffrey Keynes' quotation of Galen's concept of the function of the thymus, which is about all that we know of its purpose. Galen said that the function of the thymus was to act as a pad to protect the vena cava from the hard inner surface of the sternum. Thank you. [Laughter and applause]

