The Transpleural Endoscopic Approach to the Autonomic Nervous System and Its Therapeutic Possibilities*

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Operations on the thoracic sympathetic chain, as in hypertension for example, can be performed simply and without operative risk. After the induction of a pneumothorax, the entire sympathetic trunk, from the caudal portion of the stellate ganglion down to its passage through the diaphragm including its branches to the splanchnics and the rami communicantes, can easily be seen with a thoracoscope, shining through the parietal pleura. Although every anatomical atlas shows these topographical relations, until now this simple route has not been described. After death the parietal pleura quickly thickens and clouds like the cornea so that in the cadaver where new operative procedures are usually tried the vagus and sympathetic are no longer clearly seen. On the other hand, in open thoracotomies the reflex hyperaemia and the brilliant lighting of the operative field obliterates nuances. This may appear paradoxical, but it is the endoscopic illumination that brings out in rich contrast and relief the vegetative nervous system.

By means of thoracoscope and through either one or two openings in the thorax, the sympathetic can be injected or divided by cautery at any given point above the diaphragm. With a suitable instrument exeresis can be done and the nerves from below the diaphragm evulsed. This is not true of the vagus. The upper half is approachable with a direct optic and cautery. The lower half can be reached only at certain points and then with a 90 degree or 135 degree optic and a curved cautery.

In a series of 200 operations no complications were observed, with the exception of three intercostal neuralgias. The procedure is so easily performed that in some patients on the same day and even in the same hour the operation can be done first on the one and then on the other side. The advantages of the endoscopic method are:

1) There is practically no operative risk.
2) The procedure can be repeated. For example, a preliminary novocain block can be done, the therapeutic effects studied, and

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after several days or weeks, a permanent interruption performed. Again as in hypertension with renal involvement, the first intervention (on the splanchnicus) eliminates the vasoconstriction of the kidneys. After an improved renal blood flow and function, the second intervention against the sympathetic can be carried out if necessary.

3) The operation can be performed with a certainty of exact localization, without general anesthesia, and without preliminary sedation, so that many new physiopathologic observations are possible.

In a short communication no discussion of the uses of this method as in hypertension, diseases of the liver, and biliary tract, pancreas, spleen and hemopoletic system, circulatory disturbances, bronchial asthma, and pulmonary tuberculosis can be made.

We wish only to note here that in our treatment of peptic ulcer we interrupt the sympathetic and not the vagus. This treatment will be discussed in another communication.

REFERENCE