

bolus. Every member of the committee to whom this case report was sent concurred with this diagnosis. In the hope that a better knowledge of this complication might occasionally result in the heroic appropriate treatment, it seemed well to review briefly some of the essentials worth knowing.

Some interesting physio-pathological concepts of pulmonary embolism have been described by de Takats in his monograph on vascular surgery.¹ A diagnostic and understandable feature of massive pulmonary embolism is the acute right ventricular hypertrophy and hypertension which results in increased pressure in the superior and inferior vena cava as evidenced by the increased venous distention in the neck. A baro-receptor reflex, similar to that of the carotid sinus reflex, has been described as being induced by increased pressure resulting from embolization in the pulmonary artery.² The sudden resulting arterial hypotension may cause sufficient oxygen-lack to produce coronary insufficiency with dilatation and failure of the right heart manifested on the electrocardiogram by deep S and Q₃ wave.

We asked a prominent cardiac surgeon to suggest appropriate surgical treatment of massive pulmonary embolism in the event this complication occurred in a medical center equipped to cope with such an eventuality. He stated that "where there is adequate warning and forty to sixty minutes time available to set up an extra lung by venous take-off, veno-pulmonary by-pass through a disc oxygenator, and return to the femoral artery, pulmonary embolectomy could then be performed."³ If, as in the case reported, there is neither sufficient time to establish cardio-

pulmonary bypass nor the equipment available, an operation known as the Trendelenburg operation has been described and modified^{4,5} so as to attempt pulmonary embolectomy directly. To do this, the heart is exposed swiftly. The anterior wall of the right ventricle is incised longitudinally after placing two parallel sutures in the wall of the ventricle. A #34 catheter is pushed through the cardiac incision into the opening of the pulmonary artery and suction is applied to extract the embolus. According to Harken, the medical literature reveals that this procedure has been tried in 411 cases but that only 9 patients survived.³

REFERENCES

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The Teaching of Anesthesiology

To the Editor—The article "One Method of Teaching Anesthesia to Medical Students" by Drs. Robert H. Smith and Stuart C. Cullen (*ANESTHESIOLOGY* **24**: 68-71, 1963) prompts me to report the advantages we have found in recording a certain amount of instructional

material on magnetic tapes, as previously suggested by Dr. John Pender.¹

The audio-tape provides the student with a basic amount of information, available for his learning at a time of his choosing. The presen-

¹ Pender, J. W.: *ANESTHESIOLOGY* **21**: 81, 1960.