

- ⁴ Swan, H., and I. Zeavin: Cessation of Circulation in General Hypothermia. III. Technics of Intracardiac Surgery Under Direct Vision. *Ann. Surg.*, 139: 385, 1954.
- ⁵ Virtue, R. W.: Hypothermic Anesthesia (Monograph). Chas. C Thomas, Springfield, Illinois. In Press.

DISCUSSION.—DR. HENRY WILLIAM SCOTT, JR., Nashville, Tennessee: I would like to congratulate Dr. Swan on the most stimulating review of his very extensive experience with hypothermia. On the basis of our own much less extensive experience I would like to endorse his views as to the value of hypothermia as an adjunct to the surgery of various types of congenital heart disease.

Operations on poor risk, cyanotic infants with tetralogy, with tricuspid atresia, and with valvular pulmonic stenosis, can be done more safely under hypothermia, in my opinion.

Aside from facilitating the direct suture of arterial defects, which Dr. Lewis is going to tell us about in a moment, I believe that one of the most significant applications of hypothermia at the present time is, as Dr. Swan has pointed out, its application to the direct visual repair of valvular pulmonic stenosis.

I had a short movie which I hoped to show, demonstrating Dr. Swan's technic in the direct transpulmonary arterial repair of a valvular stenosis, but unfortunately my "Metro-Goldwyn-Mayer" associate, Dr. Rollin Daniel, who was to bring the movie, has not yet arrived.

This procedure is a very fine approach to the problem of valvular pulmonic stenosis, and offers a good deal that the blind approach by the transventricular method does not offer. The valvular obstruc-

tion can be completely relieved in each instance by the direct visual method, while this has not been consistently accomplished by the older technic.

DR. HENRY SWAN II, Denver, Colorado: I would like to thank Dr. Scott for his comments. With your permission, I would like to document one point that we made.

(Slide) This is a list showing that the blood pressure obtained by the usual method disappeared in hypothermia as we have applied it. I show this merely to point out the great variability. We do not understand this phenomenon at all. At these various temperature levels it was no longer possible to hear by auscultatory methods a blood pressure recording. Nonetheless, the pulse was still palpable, and if measured intra-arterially there was a significant pulse pressure.

(Slide) One point which is of real interest is the neurologic sequellae which we have had. We have had no brain sequellae at all, but we have had a peripheral neuropathy appear in 12 patients, and we believe this is possibly due to increased susceptibility of the cold nerve to pressure, because these patients have electrocardiographic electrodes on their arms with an encircling rubber band. Currently we are using needles to avoid that pressure.

Thank you very much.