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DISCUSSION.—DR. DENTON A. COOLEY, Houston, Texas: Including the cases of dissecting aneurysm of the thoracic aorta which we reported before this association last year we have operated upon a total of 14 patients. In four patients the dissecting process was acute, producing severe pain and vascular collapse. The only death which occurred after operation in this group was probably due to our failure to control hypertension after operation, and intrapericardial rupture with pericardial tamponade resulted eight days later. This experience emphasizes the importance of anti-hypertensive drugs after such operative procedures particularly where the blood pressure is extremely elevated. The procedure which we proposed for lesions located in the ascending aorta was division of the aorta and creating a re-entrance passage into the true aortic lumen to provide a means of decompressing the false lumen. As yet it is too early to evaluate the results of this method of treatment, but we will continue with this technical approach until something better is available.

The other type of dissecting aneurysm we have treated surgically is the one which originates in the distal portion of the arch at or just beyond the origin of the left subclavian artery. Usually there is a localized fusiform swelling or bulge on the aorta in these cases indicating the site of origin and ultimate perforation. Resection of this area can be accomplished with homograft replacement. If the dissecting process extends below the level of resection then the wall of the true and false lumens should be approximated with sutures to arrest the dissection below the graft and thus protect the vessels located distally which may be compressed by the pressure in the false passage.

In patients with an acute dissecting aneurysm in which the dissection extends from the aortic arch to the iliac arteries producing iliac artery occlusion, it is advisable to interrupt the aorta at some level above the diaphragm to protect the renal arteries since renal artery occlusion may lead to death from uremia if both renal vessels are compressed. Similar treatment in the abdominal aorta above the bifurcation should also be used to relieve the iliac occlusion.

Not all dissecting aneurysms are associated with cystic medionecrosis and hypertension. For example we have operated upon two women both about 40-years-old who were normotensive and both had some of the manifestations of Marfan's syndrome with unusual skeletal development. Moreover, in some arteriosclerotic patients with or without hypertension dissecting aneurysm may oc-

cur and the histologic appearance of the aorta will show only findings of arteriosclerosis and the media may be normal in appearance. This paper presented by Dr. Warren was most interesting and should help to clarify some of the pathologic and clinical aspects of acute dissecting aneurysm and serve to place the surgical treatment of these lesions on a sound basis.

DR. WILLIAM H. MULLER, JR., Charlottesville, Virginia: We wish to thank Dr. Cooley for his discussion, and also to compliment him and Dr. DeBakey and their associates for the excellent results they have achieved in their cases, which they reported last year and which they have brought up-to-date this year.

We have tried to emphasize the necessity for early operation in these patients during the first 48 hours or so after the occurrence of the aneurysm because the mortality rate is so exceedingly high. On the other hand, the benefit achieved by our present technics must be balanced against the relatively high operative mortality rate in these acutely and severely ill patients.

The patient with intrapericardial rupture will nearly always have a fatal outcome, and therefore it is in this group that a vigorous effort should be made to control the hemorrhage. The orlon fabric band which we utilized in two patients controlled the bleeding effectively but did nothing for the underlying pathological lesion, as was demonstrated in the patient in whom the intima invaginated through the arch of the aorta.

It is entirely likely that, following control of bleeding, one might replace the arch of the aorta at a later date with a homologous arterial graft, thus rendering a more definitive type of treatment. I believe Dr. DeBakey and Dr. Cooley have done this in patients with saciform aneurysms.

If it is observed that the dissection has not extended beyond the arch of the aorta, one should probably not cross-clamp the aorta because of the likelihood of reinitiating bleeding and also producing further dissection about the arteries arising from the arch, and which may compromise the blood supply to the central nervous system. In the one patient on whom this was tried, we could find no sac to enter, and therefore could not form a re-entry site.

Finally, many of these patients are hypertensive, and care should be taken after the operation to place them on a regimen to control their hypertension in an effort to prevent further dissection.