

of an endarteritic artery was smooth and regular when under pressure.

However, remembering that there was considerable shrinkage in the paraffin while hardening, the possibility remained that when the vessel was properly distended at normal pressure or nearly so, the vessel wall was smooth, even with the presence of endarteritic plaques. It was, therefore, decided to use water for the injection fluid, and to fix the preparation by freezing. An apparatus was then devised so as to give any desired pressure, depending upon the height of the column of water above the aorta to be tested. When the proper pressure, equal to one hundred and sixty millimeters of mercury, had been obtained in the aorta, the whole apparatus was placed at a temperature of from 0° F. to -20° F. After an exposure of some hours the water in the specimen and apparatus was completely frozen and the character of the lumen was determined by sawing the frozen aorta into a series of small discs half an inch in thickness. The character of the lumen was easily distinguished in these discs, and impressions of the vessel wall in the distended state with the ice within were easily obtained. All the observations had, of course, to be made in the cold.

It was found that when the discs had been painted over with methylene blue and the excess stain had been removed with blotting paper, that accurate impression of the contour of the vessel wall could be obtained. Moreover, these impressions indicated with accuracy the contour of the lumen of the vessel while still under pressure. It is to be remembered that, as our specimens were filled with water under average high arterial pressure, the process of freezing, instead of relieving this pressure to some extent as is the case in the use of paraffin, actually increases the pressure, and hence would tend to obliterate still further the intimal projections and favor the views of Thoma.

In these experiments we were again unable to substantiate Thoma's contention. The intima with its white endarteritic thickenings could be quite readily distinguished from the media. Each of these endarteritic plaques formed a rounded bulging into the vessel lumen and nowhere could any weakening of the media be distinguished in the early intimal lesions. The small superficial