Post-EVAR Enlargement of Aneurysm Sac Treated by Wrap Around Surgery and Suture of Aneurysm While Preserving the Stentgraft

Sagi Levental, MD, Hadassah Medical Center, Jerusalem
Eyal Avraham, MD, Hadassah Medical Center, Jerusalem
Salah Shokry, MD, Hadassah Medical Center, Jerusalem
Ron Karmeli, MD, Hadassah Medical Center, Jerusalem

Objective:

Sac shrinkage serves as a predictor of successful endovascular treatment for abdominal aortic aneurysms (AAAs). Endoleak is a common complication of endovascular aneurysm repair (EVAR) and usually prevents adequate sac regression and even promotes aneurysm growth. While various endovascular solutions exist for treating endoleaks, cases occasionally arise where these options are exhausted, and the aneurysmal sac continues to enlarge. In such situations open surgical repair should be considered. Elective open conversion after EVAR is a challenging operation with high morbidity and mortality. Here, we present an open surgical approach that preserves the stentgraft while addressing sac enlargement.

Methods:

In our cases, we performed open abdominal surgery using a wrap around technique at the aneurysm neck. This involved clot removal and suturing the sac between longitudinal felts on both sides using through-and-through sutures. This procedure is performed while preserving the stentgraft without requiring aortic clamping. In all cases an aortic balloon was placed for emergency management.

Results:

All aneurysms had previously been treated using various endovascular methods. However, in these five cases, the sac continued to expand beyond 7-8 centimeters (mean: 9 cm). Employing the described method, we successfully operated on these cases without mortality or morbidity. In all cases aortic clamping or ballooning was unnecessary. Over a mean follow-up of 2 years, aneurysm sacs regressed to less than 6 centimeters in all cases. It is important to note that all stentgrafts maintained normal function.

Conclusion:

Our approach offers a relative less harmful surgery for enlarged aneurysm sacs without stentgraft removal. As a result of this procedure type 1A endoleak is resolved by wrap around . Sac is sutured and its size reduced. We find this solution favorable and superior to stentgraft removal. Importantly, this technique can be performed without aortic clamping, minimizing risk to the patient. Further follow-up and additional cases will enhance our understanding of this approach.