Artificial Aneurysms in Live CadaversA new realistic model for practicing the management of intra-operative rupture

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Introduction

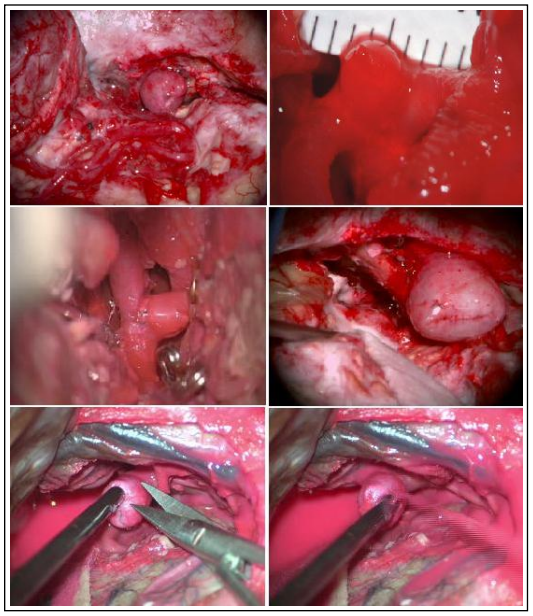
Intra-operative rupture of aneurysm ranged from 6.6% and up to 40% in some older reports. Despite the fact that incidence of intraoperative rupture may not be affected by the surgeon's experience, it is clearly evident that the outcome improves as neurosurgeon's surgical experience increases. Here we present a new realistic technique to practice the management of this event

Methods

23 cephalus were used in 13 courses between 2011-2014 in the US and abroad. The major vessels in the neck section were cannulated with suitable tubes. The vessels were then connected to artificial blood reservoirs and the arterial reservoir was further connected to a machine that provides pulsating pressure. In this setting, a real situation is created in the cadaver head that allows a true simulation for surgical procedures in terms of bleeding, pulsation of arteries, and softness of tissue. Artificial aneurysms were created in the usual locations of cerebral aneurysms

Results

203 residents and 89 attendants and faculty members have practiced and tested the Live Cadaver model. 91 of them (27 faculty member and 64 residents) have completed a questionnaire using a 5-point Likert-type scale in which the respondents were asked to rate their opinion. Most of them either agreed or strongly agreed that the model was a true simulation of the conditions of live surgery on cerebral aneurysms, and it is a realistic simulation of aneurysm clipping and intra-operative rupture. Residents were more exited than faculty as this model allowed them to respond to a circumstance, which normally, due to the level in their career, they rarely get to encounter



Conclusions

The Live Cadaver Model is true simulation of the conditions of live surgery on cerebral aneurysms and realistic simulation of clipping and intra-operative rupture, this model could significantly improve current training in the management of intra-operative cerebrovascular complications.

Movie

Movie

Learning Objectives

By the conclusion of this session, participants should be able to;

1- understand how to prepare this model and training scenario.

2- realize the importance of laboratory surgical training

3- add the techniques described and shown through the videos to their technique in the management of intraoperative rupture.

References

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