

Short report – ESVS educational travel grant

Skåne University Hospital, Malmö, Sweden

Spinal cord ischemia (SCI) and concomitant paraplegia are among the most dreaded complications of thoracic endovascular aneurysm repair (TEVAR) and endovascular thoraco-abdominal aortic repair. Although the incidence of paraplegia is estimated to be between 2.5% and 8% and is lower than the paraplegia rate after open surgical repair, SCI remains a significant problem. We recently conducted a comprehensive literature review of preventive strategies. This showed an overall transient SCI rate of 5.7% (450/7168, 95% CI 4.5 - 6.9%) and a permanent SCI rate of 2.2% (232/7168, 95% CI 1.6 - 2.8%). With regard to the preventive measures, the results showed a slightly lower permanent SCI rate 1.8% (102/4216, 95% CI 1.2 - 2.3%) when employing avoidance of hypotension. A very low SCI estimate (transient and permanent) was found in the subgroup of studies (2 studies, n = 248) using (mild) peri-operative hypothermia (transient SCI 0.8%, permanent SCI 0.4%). Higher SCI rates were observed in the subgroup using temporary permissive endoleak (transient 15.4%, permanent 4.8%). The remaining preventive measures did not significantly impact transient or permanent SCI estimates. Another main finding of the review was that the data is very heterogeneous and largely retrospectively collected. The current preventive treatment protocols vary widely and although SCI is reported frequently, it is rarely the primary outcome measure. It was concluded that ultimately, further high quality data are essential to establish a definitive preventive strategy.

The ESVS education travel grant allowed me to visit one of the leading hospitals for treatment of complex aortic disease by endovascular means worldwide, namely the Skåne University Hospital (Malmö, Sweden). I met the team led by Tim Resch, including renowned vascular and endovascular surgeons Nuno Dias and Björn Sonesson. Second, I was also able to attend the Critical Issues in Aortic Endografting meeting.

The meeting was one of the best I have attended in my career thus far. Excellent lectures by leading experts in the field of complex endovascular aortic repair have expanded my knowledge on the subject tremendously. The session on spinal cord ischemia was of particular interest, given the nature of my visit. Although key issues remain and in order to answer these we need additional data. Therefore, during my visit we had in depth discussions on the various measures currently employed to prevent SCI at the Skåne University Hospital. Current prospective trials were discussed, including the trial by Etz. et. al. This trial focuses on ischemic preconditioning of the myelum by sequentially embolizing lumbar arteries before endovascular aortic repair is performed. Early feasibility studies showed promising results, and the Skåne University Hospital is one of the centers participating in this multi center study. Second, we made extensive plans to set up a prospective multi center registry to collect high quality data to better identify those patients at risk for SCI and improve the outcomes. A research collaboration between the University Medical Center Groningen and Skåne University Hospital will be instated and a second visit is planned in March 2019.

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Martijn Dijkstra, M.D. Ph.D.

