

Physician - Aortic (Thoracic) Pathologies and Surgery/Endovascular Interventions

[MSB-14]

Validation of the German Registry for Acute Aortic Dissection Type A Score After Aortic Dissection Surgery

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Objective: This study aimed to evaluate how the German Registry of Acute Aortic Dissection Type A (GERAADA) score performs in predicting operative mortality for ATAAD.

Methods: This retrospective study included 86 consecutive patients (60 males, 26 females; mean age: 61.37±12.96 years) who underwent surgical repair for ATAAD between January 2013 and December 2023. Data collection comprised the 11 preoperative main parameters required for calculation of the new GERAADA score: age, sex, previous cardiac surgery, inotropic support at referral, resuscitation before surgery, aortic regurgitation, hemiparesis, intubation/ ventilation at referral, preoperative organ malperfusion, extension of aortic dissection, and location of primary entry site.

Results: Two (2.3%) patients had a history of previous cardiac surgery. The GERAADA scores and postoperative results were compared. The overall 30-day mortality for the entire study cohort was calculated by the GERAADA score to be 22.94% (range, 5.8 to 81%). In comparison, the actual 30-day mortality rate of the study cohort was 32.55%. The GERAADA score showed discriminative power with an area under the curve of 0.867 (95% confidence interval 0.79–0.94).

Conclusion: The GERAADA score prediction of 30-day mortality after surgery is accurate, easily accessible due to its web-based platform, and can be calculated with basic preoperative clinical parameters.

Keywords: Aortic dissection, GERAADA, malperfusion, risk prediction.

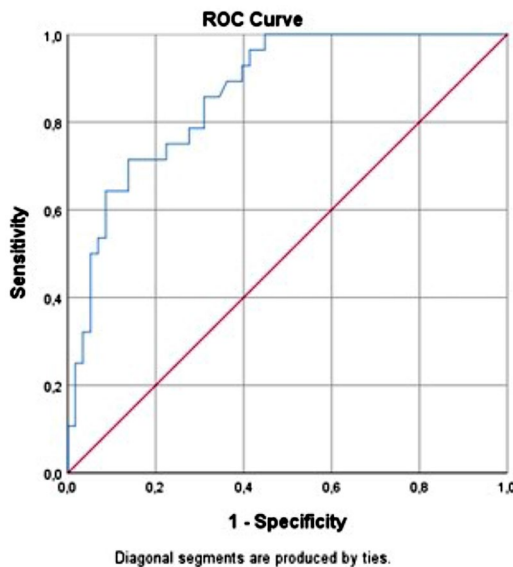


Figure 1. The receiver operating characteristic (ROC) analysis for comparison of the GERAADA score prediction of 30-day mortality versus actual 30-day mortality of the study group.

Table 1. GERAADA score characteristics of all patients

| Variables | Number of patients (%) |
|---|------------------------|
| GERAADA characteristics | |
| Age (years) | 61.37 ± 12.96 |
| Gender (female) | 26 (30.2%) |
| Resuscitation before surgery | 4 (4.7%) |
| Previous cardiac surgery | 2 (2.3%) |
| Intubation/ventilation at referral | 11 (12.8%) |
| Catecholamines at referral | 20 (23.3%) |
| Aortic valve regurgitation | |
| No | 15 (17.4%) |
| I-II | 44 (51.2%) |
| III-IV | 16 (18.6%) |
| Unknown | 11 (12.8%) |
| Malperfusion (clinical and radiological criteria) | |
| None | 26 (30.2%) |
| Coronary | 7 (8.1%) |
| Visceral | 13 (15.1%) |
| Peripheral | 26 (30.2%) |
| Unknown or other | 23 (26.7%) |
| Preoperative hemiparesis | 11 (12.8%) |
| Extension of dissection | |
| Aortic arch | 69 (80.2%) |
| Supra-aortic vessels | 17 (19.7%) |
| Descending or further downstream | 72 (83.7%) |
| Unknown or other | 3 (3.5%) |
| Location of primary entry in aortic arch | 8 (9.3%) |
| Data are presented as mean ± SD or number and percentage. | |