Paper - Annual Meeting

Paper Session: Program Highlights

Accelerated Surgery Versus Standard Care in Hip Fracture (HIP ATTACK): An International Randomized Controlled Trial

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Purpose: Observational data suggest accelerated surgery is associated with improved outcomes in patients with a hip fracture. We undertook the HIP ATTACK trial to assess the effect of accelerated surgery versus standard care in patients with a hip fracture.

Methods: HIP ATTACK was a randomized controlled trial conducted at 69 sites in 17 countries. We enrolled patients ≥45 years of age who had a low-energy mechanism hip fracture that required surgery. Patients were randomly assigned to accelerated surgery (goal of surgery within 6 hours of diagnosis) or standard care. The co-primary outcomes were mortality and a composite of major complications (ie, mortality and non-fatal myocardial infarction, stroke, venous thromboembolism, sepsis, pneumonia, life-threatening, and major bleeding) at 90 days after randomization. The intention-to-treat principle was followed.

Results: We randomized 2970 patients to accelerated surgery (n = 1487) or standard care (n = 1483). Median time from diagnosis to surgery was 6 hours (interquartile range [IQR] 4-9) in the accelerated surgery group and 24 hours (10-42) in the standard care group (P <0.0001). 140 (9%) patients assigned to accelerated surgery and 154 (10%) assigned to standard care died; hazard ratio (HR) 0.91, 95% confidence interval (CI) 0.72-1.14. Major complications occurred in 321 (22%) accelerated surgery patients and 331 (22%) standard care patients, HR 0.97 (0.83-1.13). Fewer patients in the accelerated group than in the standard group had delirium within 7 days after randomization (132 patients [9%] vs 175 patients [12%]; odds ratio [OR], 0.72; 95% CI, 0.58-0.92; P = 0.009). There were fewer urinary tract infections (UTIs) in the accelerated care group than in the standard care group (120 patients [8%] vs 150 patients [10%], HR, 0.78; 95% CI, 0.61-0.99; P = 0.0454). Accelerated surgery resulted in a quicker time to first mobilization after randomization compared to standard care (median of 25 hours vs 46 hours; P <0.0001). The mean time from randomization to hospital discharge was 9.5 days in the accelerated group and 10.8 days in the standard group; absolute mean difference 1.3 days (95% CI, 0.70-1.91; P <0.0001). Patients with an increased troponin measurement at baseline had a lower risk of mortality with accelerated surgery than standard care (17 deaths [10%] of 174 accelerated surgery vs 42 deaths [24%] of 175 standard care; HR 0.38 [95% CI 0.21-0.66]).

Conclusion: Among patients with a hip fracture, accelerated surgery did not lower the risk of mortality or a composite of major complications compared with standard care; however accelerated surgery resulted in less delirium and UTIs, faster mobilization and hospital discharge, and a mortality reduction in accelerated patients with an elevated troponin at baseline.