



Paper #41

Aspirin as Prophylaxis Against Venous Thromboembolism Results in Lower Incidence of Periprosthetic Joint Infection

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Introduction: Periprosthetic joint infection (PJI) following total joint arthroplasty (TJA) is a devastating complication. At our institution, aspirin (ASA) has been used as the main prophylaxis against venous thromboembolism (VTE) following TJA. The hypothesis of this study was that ASA by reducing hematoma formation, wound drainage, and reoperations for the latter problems may result in a lower incidence of PJI.

Methods: The institutional database identified 18,072 consecutive primary TJA cases performed at our institution between January 2006 and December 2012. Cases of PJI requiring surgical treatment following primary TJA were identified from our prospective database and confirmed using the MSIS definition of PJI. Among the cohort, 13,344 patients received warfarin prophylaxis for six weeks following primary TJA and 4,728 patients received aspirin twice daily. Logistic regression was utilized to identify independent risk factors of PJI.

Results: The incidence of overall PJI following primary TJA at our institution was 1.1% (192 of 18,072 patients). Incidence of PJI was significantly higher at 1.3% in patients receiving warfarin compared to 0.4% in patients receiving ASA as prophylaxis against VTE ($p=0.003$). Multivariate analysis identified warfarin prophylaxis compared to ASA, elevated BMI, prolonged length of hospital stay, older age, and higher Charlson comorbidity index as independent risk factors for PJI following TJA ($p < 0.05$). Patients receiving warfarin for VTE prophylaxis were also at higher risk of infection with methicillin resistant organisms (0.2%) compared to those receiving ASA (0.08%) ($p=0.10$).

Conclusion: Aggressive anticoagulation following primary TJA has been demonstrated as an important risk factor for developing PJI. Patients receiving ASA prophylaxis have fewer wound related complications following primary TJA, which theoretically explains its added benefits in reducing the incidence of PJI. The reason for a lower incidence of PJI caused by methicillin resistant organism in the ASA group may relate to the lower length of hospital stay that reduces the exposure to resistant organisms prevalent in the hospital setting. Our research suggests that the use of ASA compared to warfarin for VTE prophylaxis reduces the risk of PJI following TJA.
