Aspirin Thromboprophylaxis Is Comparable to Low-Molecular-Weight Heparin and Other Potent Anticoagulants for Femoral Neck Fractures

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Purpose: Although aspirin is increasingly popular for venous thromboembolism (VTE) prophylaxis in the elective arthroplasty population, guidelines preferentially recommend low-molecular-weight heparin (LMWH) or other potent anticoagulants after total hip arthroplasty (THA) or hemiarthroplasty for a femoral neck fracture (FNF). Few studies have compared aspirin to potent anticoagulants in patients who sustained FNFs. We compared aspirin VTE prophylaxis to potent anticoagulants with respect to VTE, bleeding, and surgical site infection risk.

Methods: We reviewed 697 Medicare patients who underwent THA or hemiarthroplasty for FNF from January 2014 to October 2017 within a single health system. Data from 30-day claims and electronical medical records were used to compare rates of VTE, bleeding, and surgical site infection between patients who received prophylaxis with: (1) aspirin monotherapy (16.5%); (2) a single, potent anticoagulant (38.6%); (3) antiplatelet agents other than aspirin, multiple anticoagulants, or dual therapy (31.7%); or (4) no anticoagulation (13.2%).

Results: The overall 30-day VTE incidence was 1.0% (7/697). Aspirin (0/115, 0%) showed similar risk of VTE compared to a single anticoagulant (4/269, 1.5%), multiple anticoagulants (3/221, 1.4%), or no anticoagulation (0/92, 0%, P = 0.39). There was a similar risk of infection when comparing aspirin (0/115, 0%), a single anticoagulant (1/269, 0.4%), multiple anticoagulants (2/221, 0.9%), or no anticoagulation (1/92, 1.1%, P = 0.64). There was no increased risk of bleeding when aspirin was used (0/115, 0%), compared to a single anticoagulant (1/269, 0.4%), multiple anticoagulants (4/221, 1.8%), or no anticoagulation (0/92, 0%, P = 0.13).

Conclusion: Rates of VTE after FNF are relatively low with modern surgical techniques and rapid mobilization. In this setting, aspirin monotherapy thromboprophylaxis was comparable to the use of a single potent anticoagulant, multiple anticoagulants, or no anticoagulation with respect to VTE, bleeding, and infection risk. This study suggests that aspirin is a reasonable option for VTE prophylaxis after a THA or hemiarthroplasty for FNF in properly selected patients. Further studies are needed to clearly define the population for whom aspirin offers sufficient prophylaxis and to identify any population that may benefit from more potent anticoagulation.