No Increased Risk of Infection in Total Joint Arthroplasty Patients with Bullous Pemphigoid

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INTRODUCTION:
Periprosthetic joint infection (PJI) after total joint arthroplasty (TJA) requires reoperation and is associated with increased risk of morbidity, amputation, and mortality. Bullous pemphigoid (BP) is an autoimmune blistering disease of the skin that characteristically affects the elderly, primarily those aged 70 years or older. Frequently managed with chronic, immunosuppressive medication, though unknown, the risk of PJI in BP patients is presumed to be high, which may limit access to TJA. We sought to determine if, within 90 days of TJA, BP patients have increased risk of: 1) PJI; 2) delayed wound healing; 3) reoperation for any reason; or 4) emergency room (ER) visits or readmission.
METHODS:
Our source population was from the TriNetX database, containing over 87 million patients from 1995 to 2020 at 59 academic medical centers and healthcare organizations worldwide. CPT and ICD codes were used to identify all TJA patients and match BP patients (n = 116) to those without BP (n = 116) across demographics and comorbidities associated with increased PJI risk: age, gender, race, obesity, diabetes, renal disease, gastric bypass, rheumatologic disease, preoperative anemia, coagulopathy, congestive heart failure, pulmonary disease, depression, psychoses, metastatic tumor, and peripheral vascular disease. Multivariate logistic regression was used to identify covariates associated with 90-day outcomes of interest.
RESULTS: TJA patients with BP had increased risk of 90-day delayed wound healing ($p = 0.0012$) compared to TJA patients without BP. BP patients had no increased risk of 90-day PJI ($p = 0.9835$), reoperation for any reason ($p = 0.9672$), ER visits ($p = 0.6772$), or readmission ($p = 0.7458$).
DISCUSSION AND CONCLUSION:
BP patients undergoing TJA have increased risk of 90-day delayed wound healing, but not PJI or other adverse events. Preoperative optimization of skin eruptions, minimization of immunosuppressive medications, extended antibiotic prophylaxis, and meticulous soft tissue management may be considered.