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## Letter to the Editor

# Unveiling the silent nemesis: periprosthetic joint infection-the burden and road to recovery

Sir,

Periprosthetic joint infection (PJI) is a devastating complication of joint replacement surgery that poses significant challenges for patients and healthcare systems. It is associated with increased morbidity, financial burdens, and emotional distress for patients. Understanding the risk factors for PJI and implementing preventive strategies are crucial to reducing its incidence and mitigating its impact on both individuals and healthcare institutions.

As we delve into the burden of PJI, it is essential to recognize that its impact extends beyond patients and the healthcare system. Surgeons who encounter cases of PJI experience a unique emotional toll that can profoundly affect them and their relationships with patients. Journey from diagnosis to treatment and beyond is fraught with challenges, leaving indelible mark on operating surgeon.

PJI cases present surgeons with a myriad of emotions, ranging from frustration and disappointment to empathy and concern. Surgeons invest not only their expertise but also their dedication and commitment into each patient's well-being. When faced with the devastating news of a PJI diagnosis, a whirlwind of emotions engulfs the operating surgeon. The realization that their patient, whom they have nurtured through the process of joint replacement, now faces a formidable adversary in the form of an infection, can be emotionally overwhelming.

Several risk factors contribute to the development of PJI. One of the primary factors is presence of comorbidities, such as diabetes. A systematic review and meta-analysis found that patients with diabetes had a higher risk of surgical site infections, including PJI, following total knee arthroplasty (TKA).[14] Diabetes compromises the immune system and impairs wound healing, making individuals more susceptible to infections. Other factors that increase risk of PJI include obesity, smoking, immunosuppression, and previous joint infections.[14]

The burden of PJI on the healthcare system is multi-faceted. Financially, the costs associated with treating PJI are substantial. Patients with PJI require prolonged hospital stays, multiple surgeries, and costly antibiotic regimens. The economic impact extends beyond direct medical expenses and encompasses indirect costs, such as lost productivity and rehabilitation.[11] A retrospective review of 744 cases showed that local antibiotics, such as intrawound vancomycin, reduced the incidence of PJI and consequently decreased healthcare costs.[8]

Emotionally, PJI takes a toll on patients and their families. Patients who develop PJI experience pain, functional limitations, and decreased quality of life. Need for revision surgeries and prolonged antibiotic treatment can lead to emotional distress and anxiety. Burden of managing PJI can also strain the emotional well-being of caregivers and loved ones who support affected individuals.

Morbidity is a significant consequence of PJI. The infection can result in joint instability, implant failure, and bone loss, leading to functional impairment and disability. In severe cases, limb amputation may be necessary. Moreover, the management of PJI often requires complex surgical procedures, such as irrigation and debridement, prosthesis exchange, or even two-stage revision surgeries. These interventions are associated with higher rates of complications and poorer outcomes compared to primary joint replacements.[10]

Prevention plays a crucial role in reducing the burden of PJI. Evidence suggests that the use of prophylactic measures, such as the application of vancomycin powder and dilute povidone-iodine lavage, can decrease the risk of PJI in high-risk joint arthroplasty procedures.[1,2,3,9] Vancomycin powder has shown efficacy in reducing PJI rates in primary hip and knee arthroplasty.[3] Dilute betadine lavage has also demonstrated potential in preventing acute postoperative deep PJIs.[5] Implementing these preventive measures as part of standardized protocols can significantly impact the incidence of PJI.

Additionally, optimizing patient-related risk factors is crucial for infection prevention. This involves controlling comorbidities, such as diabetes, through appropriate glycemic control and preoperative optimization.[15] Smoking cessation programs and weight management strategies should be integrated into preoperative care plans to minimize risk factors associated with PJI. Furthermore, adhering to strict sterile surgical techniques, including proper skin preparation and antibiotic prophylaxis, is essential in reducing the risk of PJI.[7]

Once PJI is diagnosed, timely and appropriate management is crucial to prevent further complications. Treatment options include irrigation and debridement, prosthesis exchange, or two-stage revision surgeries, depending on the severity and extent of the infection. These interventions aim to eradicate the infection, restore joint function, and improve patient outcomes.[12] Combining surgical interventions with targeted antibiotic therapy tailored to the specific pathogens identified is essential for successful management of PJI.[13]

The specter of PJI looms as a formidable burden upon both patients and the healthcare system. Its consequences reverberate through the corridors of medical care, demanding our utmost attention and vigilance. To navigate the treacherous waters of PJI, we must unravel the intricate tapestry of its risk factors, unravelling the threads that weave this tale of infection and adversity.

PJI also has a profound emotional impact on surgeons. The weight of responsibility, witnessing the suffering of patients, and the strain on the patient-doctor relationship all contribute to the emotional burden experienced by surgeons. Recognizing and addressing this emotional toll is vital for the well-being of surgeons and the preservation of compassionate and effective patient care.

Adoption of standardized protocols becomes our guiding compass in this battle against PJI. We must construct fortress of prophylactic measures, fortifying our defences with meticulous application of evidence-based interventions. No stone can be left unturned as we optimize patient-related risk factors, striving to mitigate vulnerabilities that leave them susceptible to this silent adversary.

In summation, in this intricate tapestry of PJI, we find ourselves entwined. The challenges it poses are great, but so too is our resolve to overcome them. Together, we shall endeavor to minimize the burden of PJI, weaving a tale of resilience, compassion, and triumph.

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