76482_Auto_Edited.docx

WORD COUNT 596
TIME SUBMITTED 30-JUN-2022 04:16PM
PAPER ID 87864141

Name of Journal: *World Journal of Orthopedics*
Manuscript NO: 76482
Manuscript Type: LETTER TO THE EDITOR

Risk of methicillin-resistant staphylococcus aureus prosthetic joint infection in elective total hip and knee arthroplasty following eradication therapy: Letter to editor

J.A.A.Sampath Jayaweera

Abstract

Re-screening following MRSA decolonization will be helpful to minimize the development of PJI among MRSA colonizers.

TO THE EDITOR

I read this important retrospective study by Kapur *et al*[1] on the risk of methicillin-resistant *Staphylococcus aureus* (MRSA) prosthetic joint infection in elective total hip and knee arthroplasty following eradication therapy. MRSA is a virulent pathogen that causes infections among healthy and immunocompromised individuals. The spectrum of MRSA infection varies from cellulitis, necrotizing fasciitis, bone and joint infections, bacteremia, infective endocarditis to pneumonia [2].

This article provides a crucial insight into the importance of screening and re-screening following eradication of MRSA colonizers prior to prosthetic joint implant in orthopedic surgery. Authors have compared the incidence of prosthetic joint infection (PJI) among MRSA colonizers and non-colonizers, and following follow up, found that PJI is high among MRSA colonizers. As we know, the associated financial burden following PJI is substantial.

The authors have mentioned the method of MRSA decolonization and some practice instead of prontoderm nasal spray and octenisan for 4% chlorhexidine and mupirocin ointment. The IDSA guideline explains the importance of the latter regime, but different

formulae have similar decolonization ability and differ in cost as the latter is cheaper [3]. Use of povidone-iodine and rifampin has shown efficient and low cost MRSA decolonization. Simor *et al*. [4] showed use of topical germicide and antibiotic plus oral agents and rifampin achieved 92% eradication of MRSA. Moreover, the duration of decolonization was given as 5-10 days of mupirocin and 5-14 days of 4% chlorhexidine body wash. Here authors have discussed the mupirocin use.

The authors mentioned the use of teicoplanin prophylaxis among MRSA positives. In emergency surgery, the advice is to provide vancomycin or teicoplanin prophylactically while replacing cefuroxime. However, routine use of anti-MRSA antibiotic prophylaxis for MRSA positives following decolonization is questionable. The expectation would be to minimize the occurrence of MRSA bacteremia. Most studies have discussed the failure of the MRSA decolonization procedure. Almost all prosthetic joint implantation is done as a planned procedure; this would signify the importance of employing the re-screening strategy following decolonization prior to the surgery [5].

A study conducted by Gravery *et al* showed the possibility of having MRSA colonization following decolonization. Following repeated decolonization the MRSA colonization has reduced from 7.2% to 4.7% [6]. Several methods were employed by different research groups for MRSA screening. In addition to molecular methods the use of chromogenic agar is also costly but, the use of mannitol salt agar and swabs in to 7.5% NaCl in brain-heart infusion broth and phenotypic detection including tube and slide coagulase testing is cost effective to isolate MRSA [2]. Over the period, I have seen many patients with repeated MRSA colonization following MRSA decolonization. However, almost all isolates were mupirocin susceptible. Therefore, it may be associated with a lack of compliance and a lack of highlighting the importance of decolonization to the patient or the family. Since most patients are morbid and probably have mobility problems, adherence to a five-day regular body wash and nasal spraying is questionable [7].

The authors have highlighted the importance of re-screening while relating the financial and social burden following PJI. Another thing is, if possible, re-screening following MRSA eradication would minimize the prophylactic use of teicoplanin.

Re-screening following MRSA decolonization will be helpful to minimize the development of PJI among MRSA colonizers.

76482_Auto_Edited.docx

ORIGINALITY REPORT

2%
SIMILARITY INDEX

PRIMARY SOURCES

1	S. F. Bradley. "Eradication or Decolonization of Methicillin-Resistant Staphylococcus aureus Carriage: What Are We Doing and Why Are We Doing It?", Clinical Infectious Diseases, 2007 Crossref	15 words — 2%

EXCLUDE QUOTES	ON	EXCLUDE SOURCES	OFF
EXCLUDE BIBLIOGRAPHY	ON	EXCLUDE MATCHES	< 12 WORDS