

## Addicted patients are at higher risk of sternal wound infection after open heart surgeries in the site of surgical incision

Hossein Rafiei · Hakimeh Hossein Rezaei ·  
Jafar Moghaddasi

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Sternal wound infection is one of the most important complications that occur acutely or chronically after open heart surgeries. Infections are either superficial or deep in the site of the surgical incision. Among critically ill patients, incidences of substance abuse have been reported between 5 and 30 % [1]. In a descriptive cross sectional study, we surveyed risk factors of sternal wound infection after open heart surgeries in the site of surgical incision in Iranian critical care units between March 2010 to March 2011. During 1 year, we studied 520 critically ill patients. Of them 89 patient were addicted. Of addicted patients, 86 % were men and rests were women. Mean age of patients were 54.2 (SD=10.7). Approximately, 93 % of the studied addicted patients had a history of myocardial infarction. All of them were addicted to a special form of opium named "Taryak" in Iran. Mean cardiac intensive care unit stay for addicted patients was 2.7 days(SD=1.7). Results of our study showed that incidence of sternal wound infection in the addicted patients were higher than other patients who were not addicted (19.3 vs 10 %).

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H. Rafiei  
Department of Intensive and Critical Care, School of Nursing  
and Midwifery, Shahrekord University of Medical Sciences,  
Shahrekord, Iran  
e-mail: Hosseinrafiei21@yahoo.com

H. H. Rezaei (✉)  
Department of Medical Surgical, School of Nursing  
and Midwifery, Kerman University of Medical Sciences,  
Kerman, Iran  
e-mail: hrezaee@kmu.ac.ir

J. Moghaddasi  
Department of Medical Surgical, School of Nursing  
and Midwifery, Shahrekord University of Medical Sciences,  
Shahrekord, Iran

While opiates directly modulate host immunity, their effects on physiological function of nonspecific host mechanisms are thought to also alter immune responses and play an important role in increased susceptibility to infection [2]. These effects are proposed to act through the Central Nervous System (CNS) and the hypothalamus-pituitary-adrenal axis. Opiates are known to alter the release of hypothalamus-pituitary-adrenal hormones (corticotrophin-releasing hormone and adrenocorticotrophic hormone), which, in turn, alter glucocorticoids (cortisol and corticosterone), the end-effectors of the hypothalamus-pituitary-adrenal axis [3]. The glucocorticoids play an important role in decreasing and regulating cellular immune responses [2].

Ancient Iranians believed that the use of opium reduce rate of cardiovascular diseases. Our study showed that addicted patients are at higher risk of sternal wound infection after open heart surgery. We recommended that medical and nursing team considered addiction as a risk factor that can increase sternal wound infection. Site of surgery in addicted critically ill patients who are undergoing open heart surgery should be checked carefully by nurses who caring of this group of patients after surgery.

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