



Jurnal Ilmu Bedah Indonesia
Indonesian Journal of Surgery
Official Journal of Indonesian Surgeons Association (IKABI)



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Jurnal Ilmu Bedah Indonesia

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Volume 44 No 2 2016

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ORIGINAL RESEARCH

Correlation between Neutrophil to Lymphocyte Ratio (NLR) and Spontaneously Reduced Inguinal Hernia Complications

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Abstract

Background: Patients with incarcerated and strangulated inguinal hernias comprise a significant portion of those presenting to emergency services with acute abdominal complaints. However, during the course of the diseases, hernia might be spontaneously reduced. There is still no marker to determine the viability of the gut that has been spontaneously reduced. The process of incarceration/strangulation might increase the value of Neutrophil to Lymphocyte Ratio (NLR), a marker of acute inflammation. If the spontaneously reduced is not viable, inflammatory process tends to persist, leading to complications such as severe abdominal pain, hematoschezia, ileus, or even peritonitis. The aim of this study is to obtain the correlation between NLR and spontaneously reduced inguinal hernia complications.

Methods: A cross sectional study design was used. Patients with spontaneously reduced incarcerated or strangulated inguinal hernia were divided into two groups: the first group consisted of patients that did not develop complications whereas the second group consisted of patients that developed complications. NLR value was measured at 12 hours interval for 2 consecutive days. Complications that occurred in the study period were observed.

Results: There were 2 patients ($n=16$) that developed complications in patients with incarcerated or strangulated hernia that spontaneously reduced and has NLR value higher than the first group, at each examination time (hours 0, 12, 24, 36, and 48). There is a fairly strong

correlation between NLR and the incidence of complications. ($R = 0.566, 0.843, 0.925, 0.966, 0.960$ at each examinations respectively).

Conclusion: *NLR value was strongly associated with spontaneously reduced inguinal hernia complications.*

Keywords: *Incarcerated hernia, strangulated hernia, Neutrophil to Lymphocyte Ratio (NLR), complication incidence*