

Risk factors of surgical site infections

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We read the interesting cross-sectional study done by Gjerazi et al. about risk factors of surgical site infections in a general surgery ward, which involved 678 patients with mean age of 52.7 ± 14.5 years. Post-operative skin infections were observed in 41 patients (6%) and 22 of them (53.6%) were males (1). The authors adequately emphasized the role of these infections on the increased time of hospitalization, the postoperative morbidity and mortality, in addition to significant elevation of medical care costs (1). They also highlighted the main risk factors, including contaminated wounds, colon surgery, fistulectomy, inadequate skin preparation, diabetes, hypertension, old age, cerebrovascular accidents, and drains (1). Moreover, decreasing on the immunoreactive protection associated to aging and diabetes was discussed, and the authors compared the prevalence of these skin infections with data from developed countries (1). We believe this study can stimulate researches about postoperative infections in developing countries.

In this context, we would like to add some data from Brazilian studies about acute-phase response (APR) syndrome affecting patients undergoing treatment either in general surgical or clinical wards (2-4). Ferreira da Cunha D et al. reviewed laboratory and clinical data of 113 patients with

APR in a general surgical ward and compared the findings with those of 55 control patients without APR syndrome (2). This syndrome may be characterized by surgery, major trauma or infection, associated with fever or hypothermia, neutrophil left shift and leukopenia or leukocytosis, anemia, high level of ferritin combined with low level of iron, hypoalbuminemia, hyperglycemia, hyponatremia, and hypophosphatemia (2-4). Anemia and decreased hemoglobin and circulating iron in APR are part of the host defense and result mainly of lower production of red blood cells and iron sequestration in the liver, muscles and cells of the phagocytic-mononuclear system. Serum ferritin levels increase because this protein can add iron atoms in storage compartments. This may reduce the availability of free iron to bacteria and other microorganisms, phenomenon that can optimize bacteriostatic and bactericidal systems of serum, lymph and exudates (4). Worthy of note is the relationship between biochemical and anthropometric indexes and skin lesions; and malnutrition can be characterized by body mass index lower than 18.5 kg/m^2 , height-creatinine index lower than 70%, or plasma level of albumin lower than 3.5 g/dl (4). Nonhealing wounds are more often described in hospitalized patients presenting with protein-energy or cytokine-

induced malnutrition, which is a condition frequently diagnosed among HIV-positive patients with concomitant APR syndrome (4).

In conclusion, we strongly believe that future researches about risk factors of cutaneous infected lesions in either in surgical or clinical wards should include clinical and laboratory nutritional evaluation.

Conflicts of interest: None declared.

Therefore, both preventive measures and early therapeutic procedures would be more effectively taken, resulting in fewer infectious complications, shorter period of hospitalization, and lower treatment costs. These goals must be considered of capital importance in both developing and industrialized countries.

References

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