

ABSTRACT

Context: Diffused endothelial dysfunction in sepsis leads to an increase in systemic capillary permeability, the renal component manifesting as microalbuminuria. The degree of microalbuminuria correlates with the severity of the acute insult, the quantification of which may serve to predict sepsis and mortality in critically ill patients.

Aims: To evaluate whether the degree of microalbuminuria could predict morbidity and mortality in critically ill patients.

Settings and Design: Prospective, non-interventional study in a 30-bed Intensive Care Unit (ICU) of a tertiary care hospital.

Methods and Materials: After exclusions, between July 2009-july 2010, 30 consecutive adult patients were found eligible.

Albumin-creatinine ratio (ACR, mg/g) was measured in urine samples collected on ICU admission (ACR1) and at 48 hours (ACR2).

Results: microalbuminuria was common in medically ill patients admitted to ICU with sepsis (93%), the cause of sepsis was the chest infection in most patients.

The median APACHE score on the day 1 was 19.63(APACHE II), while on the day 3 the median APACHE score was 54.833(APACHE IV) .

The median SOFA score on the day 1 was 6.933, while on the day 3 the median SOFA score on the day 3 was 7.46.

The median ALB/Creat ratio on the day 1 was 102.6, which increase to be 135.66 on the day 3.

There was a significant correlation between ALB/Creat day1 and both APACHE day1 ($p= 0.007$), and SOFA day1 ($p= 0.031$).

Also a significant correlation between ALB/Creat day3 and APACHE day3 ($P= 0.041$) and SOFA day3 ($p= 0.012$).

Microalbuminuria at 48 hrs was found to be significantly elevated in non survivor compared with survivor ($p=0.005$), and in patients who needs ventilator($p=0.011$).

Conclusion: microalbuminuria was common in critically ill patients; it correlates with illness severity, mortality, needs for mechanical ventilator as or better than APACHE and SOFA scores.