Category :**Sepsis: basic mechanisms**

A49 - *Agtr1 rs275651 aa genotype links with better survival in sepsis patients in icu*

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Introduction:

International studies demonstrate an annual increase in the frequency and impact of sepsis in intensive care units (ICU). Dysregulation of blood pressure makes a significant contribution during sepsis, and especially septic shock. Angiotensin II receptor type 1 (AGTR1) affects the condition of the *vessel* wall and arteriolar tone. The *AGTR*1 gene encodes angiotensin II receptor type 1, which is involved in cardiovascular diseases. *AGTR*1 rs275651 AA genotype is associated with unstable angina. So, **the aim** of our study was to define the contribution of *AGTR*1 rs275651 genotypes to the course and outcomes of critical illness, complicated with sepsis.

Methods:

Study cohort included 145 ICU patients diagnosed with sepsis. 60% of patients underwent surgery, 42% were diagnosed with diabetes as a major comorbidity. *AGTR*1 rs275651 polymorphism was studied by using specific polynucleotide tetraprimer set to amplify gene fragments from each patient's DNA followed by analysis of PCR products in a 2% agarose gel electrophoresis.

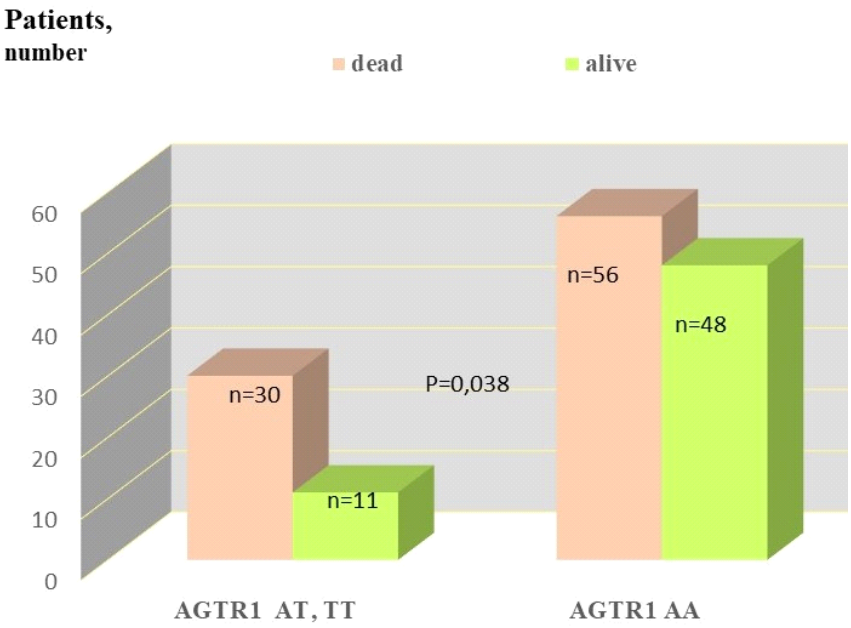
Results:

Septic shock occurred more frequently in patients with AT or TT genotype, than in homozygotic carriers of *AGTRI* A (P=0,01, Fisher`s exact test). Also, patients with more common genotype AA and with sepsis often survived (P=0,039, Fisher`s exact test, Fig.1). SOFA values on days 1 were not different in patients of distinct *AGTR*1 genotypes. Expectedly SOFA values on days 2 and middle day in ICU were significantly lower in patients *AGTR*1 AA genotype compared to T carriers of (6,8 vs. 7,9, P=0.04, t-test and 6.9 vs. 8.4, P=0.024, respectively).

Conclusion:

*AGTR*1 rs275651 AA genotype associates with survival advantage in sepsis patients in ICU setting presumably because of contribution to lower multiorgan failure and decreased occurrence of septic shock**.**

Image :



Survival of sepsis patients depends on AGTRI rs275651 genotypes