

# The prognostic value of acute kidney injury in patients with community-acquired pneumonia

Serov V., Shutov A., Kuzovenkova M., Ivanova J., Serova D.

Ulyanovsk State University, Ulyanovsk, Russia

## Purpose

**Purpose:** to determine the incidence, severity and prognostic value of acute kidney injury (AKI) in patients with community-acquired pneumonia (CAP).

## Methods

293 patients with CAP (185 males and 108 females) were studied.

Mean age –  $54.3 \pm 17.1$  years.

11 (3.6%) patients - on mechanical ventilation.

21 (7.2 %) of patients has the history of kidney diseases.

Mean glomerular filtration rate (GFR) -  $73.5 \pm 24.9$  ml/min.

AKI was diagnosed according to KDIGO Clinical Practice Guideline for Acute Kidney Injury (2012).

Patients with CRT-implantable devices were not included in this study.

## Results (1)

Mean serum creatinine level at admission was  $104.5 \pm 73.3$  micromol/l.

AKI was diagnosed in 83 (28.3%) patients with CAP.

The severity of disease according to scales CURB-65 and CRB-65, was higher in patients with CAP which is associated with AKI (Fig. 1).

The multivariate logistic regression analysis showed that age ( $p < 0.001$ ), diabetes mellitus ( $p < 0.001$ ), low systolic and diastolic BP levels ( $p = 0.01$ ), a history of kidney diseases ( $p = 0.04$ ) has independent association with AKI in patients with CAP.

## Results (2)

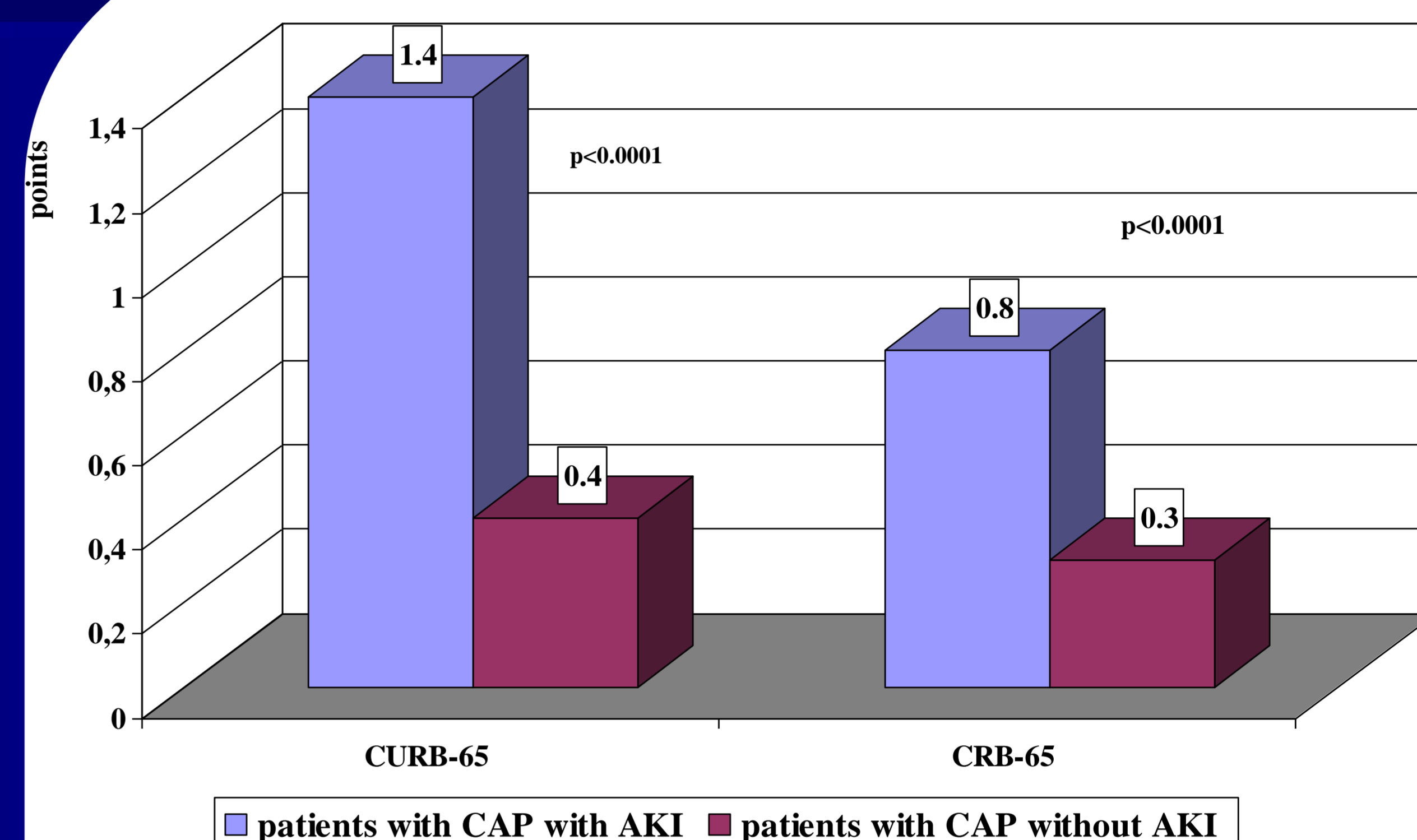


Fig. 1. Severity of CAP and incidence AKI

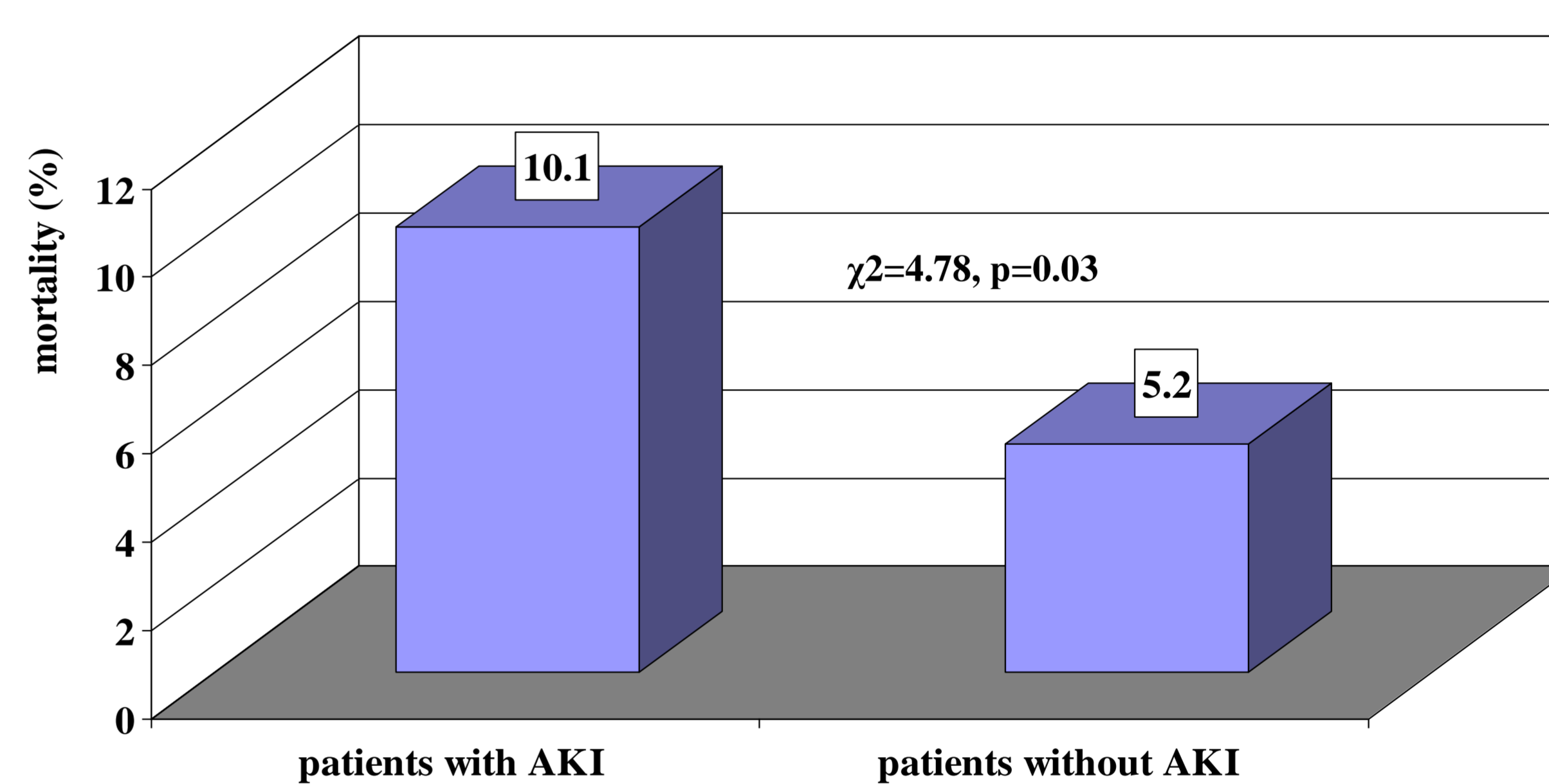


Fig. 2. Mortality in CAP patients with and without AKI

In 16 (5.5%) patients the disease has been fatal, including 11 patients on mechanical ventilation.

The mortality was higher in the group of patients with AKI (Fig. 2).

The odds ratio of death in patients with CAP associated with AKI was 3.4 (95% CI 2.27 - 17.46).

## Conclusions.

Acute kidney injury complicates the course of community-acquired pneumonia in 30.4% patients and increases the mortality. AKI is community-acquired in 69.9 % of patients with CAP. Predictors of Acute Kidney Injury in patients with CAP are advanced age, diabetes mellitus, hemodynamic disorders and history of kidney diseases.

