

中文題目：醫療照護相關抗碳青霉烯類綠膿桿菌感染之危險因子探討

英文題目：Risk factors for Healthcare-associated Infection caused by carbapenem-resistant *Pseudomonas aeruginosa*

作者：曹儷馨¹，辛芋儀²，劉欣怡³，莊涵瑀³，陳立遠³，李桓樟^{3,4}

服務單位：臺北醫學大學附設醫院內科部；¹；臺北醫學大學附設醫院成人感染科；²臺北醫學大學附設醫院成人感染科；³臺北醫學大學附設醫院成人感染科，

Background:

The incidence of carbapenem-resistant *Pseudomonas aeruginosa* (CRPA) related healthcare-associated infection (HAI) has increased in recent year worldwide. This study is to investigate the risk factors associated with CRPA infections in an university hospital setting in Taiwan to provide more information for clinician and infection control.

Methods:

A retrospective cross-sectional study was conducted from January 1st, 2009 to June 30th, 2014 at Taipei Medical University Hospital (TMUH).

A total of 395 patients with *P. aeruginosa* related HAI were included and divided into the CRPA group and carbapenem- susceptible *Pseudomonas aeruginosa* (CSPA) control group. The medical records were reviewed to identify risk factors of CRPA HAI and mortality. And patients with prior use of any anti-pseudomonal carbapenems were included in subgroup analysis(monotherapy versus combination therapy).

Results:

A total of 3,263 HAI events were noted during the study period. Among them, 395 cases (12.1%) were caused by *P. aeruginosa*. And the average age was 71.2 years old and 62% of them were male.

The average of hospitalization day was 54.2 days while the average time at risk was 27.6 days.

The results of multivariate analysis showed time at risk ($p < 0.05$), prior use of either anti-pseudomonal carbapenems ($p < 0.01$) or aminoglycoside ($p < 0.05$) significantly increased CRPA risk, which might have contributed the development of drug-induced antibiotic resistance in *P. aeruginosa*.

In subgroup analysis, prior use of anti-pseudomonal carbapenems in monotherapy did not significantly increase the risk to get CRPA infections (OR: 4.50, 95% CI: 0.48-42.25) compared to combination therapy.

The 30-day all-cause mortality rate in the CRPA group was 30.2% (19 events), while

31.9% (106 events) in the CSPA group. However, patients infected by CRPA did not have higher mortality rate compared with those patients with CSPA infections (adjusted OR: 0.70, 95% CI: 0.97-1.33).

Conclusions:

The worldwide CRPA prevalence has been on the raise and Taiwan has also been keeping up with the trend.

Antimicrobials usage should be monitored carefully, especially with carbapenems and aminoglycoside. Clinician should be aware of the risk of CRPA infection, which increases by 1% with each hospitalization day.