

COMPARISON OF EARLY AND LATE INFECTIOUS DISEASE PHYSICIAN CONSULTATION REGARDING CARBAPENEM PRESCRIPTION IN THE MEDICINE UNIT, MAHARAJ NAKORN CHIANG MAI HOSPITAL, THAILAND: A RANDOMIZED CONTROLLED TRIAL

Prot Eiamprapai¹, Cheeratikarn Phithakam², Nontakan Nuntachit¹,
and Romanee Chaiwarith¹

¹Division of Infectious Diseases, Department of Medicine, Faculty of Medicine, Chiang Mai University; ²Pharmacy Division, Maharaj Nakorn Chiang Mai Hospital, Faculty of Medicine, Chiang Mai University, Chiang Mai, Thailand

Abstract. Carbapenems use at the study hospital is allowed for 72 hours by the primary care team, after which de-escalation is conducted based on culture results, but carbapenems use is still high. In this study, we aimed to determine if infectious diseases (ID) physician consultation within 24 hours with de-escalation at that time based on the specialist recommendations versus ID physician consultation at 72 hours with de-escalation would result in a difference in antibiotic prescribing practices. This was a randomized control trial conducted among patients in the medicine unit, Maharaj Nakorn Chiang Mai Hospital, Thailand between June 2016 and February 2017. Eligible patients were randomly assigned to one of the two study groups: ID physician consultation < 24 hours (early consultation group) or ID physician consultation > 72 hours (late consultation group). A total of 104 patients were included in the study: 51 in the early consultation group and 53 in the late consultation group. The median [interquartile range (IQR)] age of patients was 62 (52-71) years; 49 patients (47%) were male. The most common diagnosis was bloodstream infection ($n=43$, 41.3%), followed by urinary tract infection ($n=28$, 26.9%), and pneumonia ($n=20$, 19.2%). Carbapenems was de-escalated within 24 hours for 17 patients (33.3%) and 4 patients (7.6%) in the early and late consultation groups, respectively ($p=0.001$). The median (IQR) duration of carbapenems use was 2 (1-6) days in the early consultation group and 4 (3-6) days in the late consultation group ($p = 0.017$). The median cost for the carbapenems per patient in the early consultation group was half that of the late consultation group ($p=0.018$). The 90-day mortality, readmission rate within 30 days and length of hospital stay were not different between the two groups. In conclusion, early ID physician consultation was associated with earlier de-escalation of carbapenems in appropriate cases with less cost and similar outcomes.

Keywords: de-escalation, carbapenems, antimicrobial stewardship

Correspondence: Dr Romanee Chaiwarith, Division of Infectious Diseases, Department of Medicine, Faculty of Medicine, Chiang Mai University, Chiang Mai 50200, Thailand.

Tel: +66 (0) 53 936739; Fax: +66 (0) 53 894101

Email: rchaiwar@gmail.com