



## Service Priorities and Programmes Electronic Presentations

**Convention ID:** 377

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### **A 2-year study on “The Door-to-needle time of antibiotic administration for patients with Post-Chemotherapy induced Febrile Neutropenia”**

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#### **Keywords:**

Post-Chemotherapy induced Febrile Neutropenia  
study  
antibiotic administration

#### **Introduction**

Neutropenic sepsis is a life threatening complication of chemotherapy and associated mortality rates range from 2% to 21%. A golden standard “door-to-needle” time in 1 hour for IV antibiotics administration is recommended internationally and may reduce the result of adverse reaction.

#### **Objectives**

1. A multidiscipline team established in 2014 for reduce the “Door-to-needle time” of antibiotic administration in 1 hour for post- Chemotherapy induced Febrile Neutropenic sepsis patients.
2. The team members include clinical oncologists, AED doctors and nurses, ward and out-patient clinic nurses and clinical pharmacists.
3. To enhance staff alertness to the post- Chemo. induced Febrile Neutropenic sepsis patients in Oncology ward.

#### **Methodology**

1. The inclusion criteria were Neutropenic Fever, oral temperature  $\geq 38.0^{\circ}\text{C}$  (100.4F) for  $\geq 1$  hour or one reading of  $\geq 38.3^{\circ}\text{C}$  (101F) with absolute neutrophil count (ANC) of  $< 0.5 \times 10^9/\text{L}$ , or a count of  $< 1.0 \times 10^9/\text{L}$  with a predicted decrease to  $< 0.5 \times 10^9/\text{L}$ .
2. To provide guidelines on management of neutropenia, in particular the development of fever or sepsis.
3. To arrange emergency management and administrate antibiotic to high risk of post- Chemotherapy induced Febrile Neutropenia sepsis patients in Accident and Emergency Department (AED)
4. To prepare the workflow for enhance ward nurses' alertness on post- Chemotherapy induced Febrile Neutropenia sepsis patients for emergency treatment

and care.

### **Result**

On August to October 2014 (Before the project implemented), 5 patients recruited and admitted from AED, with the mean time of door-to-needle time of antibiotic administration 279.6 minutes.

The project implemented on November 2014, the study period on April 2015 to December 2016, 29 patients were recruited and admitted from AED. ~89.66 % of recruited patient has door-to needle time of antibiotic administration in AED within 1 hour, 51.73% within 30 minutes and the average mean time was 36.35 minutes.

There was significant improvement and achieved the door-to-needle time of antibiotics administration within 1 hours for post- Chemotherapy induced Febrile Neutropenic sepsis patients. The ward nurses feedback that the workflow enhanced their alertness on post- Chemotherapy induced Febrile Neutropenia sepsis patients and no delayed treatment noted.