RES-389

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Trends in Central line-associated Bloodstream Infection (CLABSI) Rates and Microbiological Patterns in an Adult Critical Care Unit of a Tertiary Teaching Hospital in an Upper-Middle-Income Country

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INTRODUCTION

- Central venous catheters (CVC) which are essential for the management of critically ill patients are associated with Central Line-Associated Bloodstream Infections (CLABSI)[1,2] & leads to poorer outcomes.[2,3]
- CLABSI incidence and the spectrum of causative microorganism is limited in critical care settings in developing countries.[3]
- CLABSI Prevention Programs were initiated in the General ICU in 2016 and later expanded to other critical care units, focusing on CVC care bundles, staff education, audit, and feedback. [3]

AIM

The aim of this study is to assess the trend and predominant pathogens contributing to CLABSI in adult Critical Care Units (CCU) over three years.

METHODOLOGY

Prospective study: Universiti Malaya Medical Centre (UMMC) from Jan 2022- Dec 2024

Patients aged >18 years with CVC and admitted to the critical care units: (Intensive Care Unit (ICU), Neurosurgery ICU (Neuro-ICU) and Cardiac ICU (CICU) for > 48 hours.

CLABSI
CENTRAL LINE ASSOCIATED BLOODSTREAM INFECTION

A primary bloodstream infection (BSI) that develops in a patient with a CVC in place within 48-hour before or on the onset of the BSI that is not related to an infection at another site [4].

MDRO

Non-susceptible to at least one agent in three or more designated antimicrobial categories [5]

$$CLABSI\ rates = \frac{Number\ of\ CLABSI}{Central\ line\ days}\ X\ 1000$$

CLABSI rates & Microbiological pattern was analyzed using Microsoft Excel

RESULT

Figure 1.Trends of CLABSI per 1000 catheter days

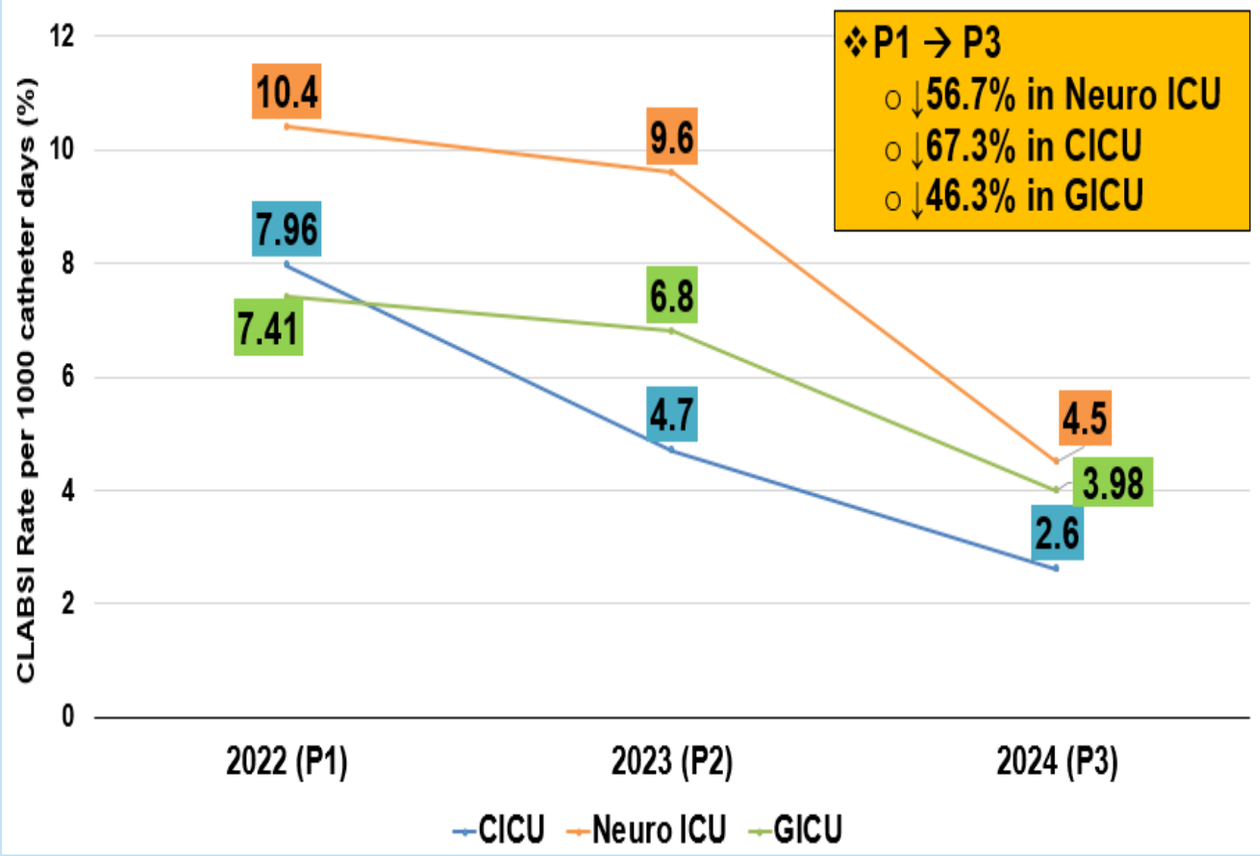
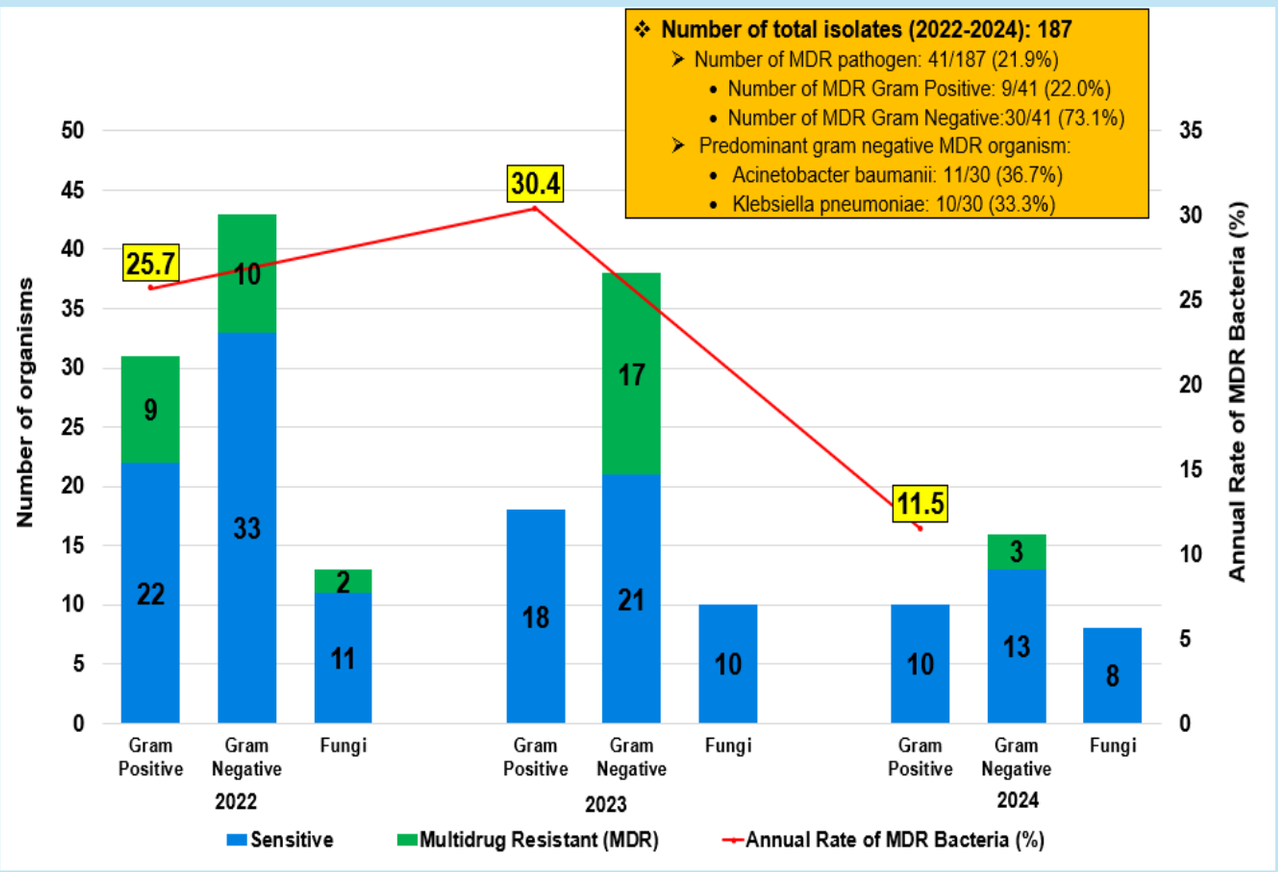


Figure 2. Trends & types of Organisms Causing CLABSi



CONCLUSION

1. ↓ CLABSI rates over three years reflect sustained success of UMMC CLABSI Prevention Program.
2. Shift in pathogens from Gram-positive to MDR Gram-negative organisms highlights the changing epidemiology.
3. On-going data-driven surveillance is vital to guide antimicrobial stewardship (AMS) programs & effective Infection Prevention and Control (IPC) strategies are essential to sustain low CLABSI rates and respond to emerging resistance trends.

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