P0932

Impact of lab automation and reorganization on bloodstream infections management in ICU

G. Dewulf[1], M. Paluch[1], F. Canis[1], F. Lambiotte[2], B. Lagraulet[3], L. Abad[4], A. Dubrulle[4], C. Cattoen[1], N Ettahar[5]

[1] Laboratoire de microbiologie. centre hospitalier de Valenciennes, France. [2] Service de réanimation, centre hospitalier de Valenciennes, France. [3] Pharmacie hospitalière, centre hospitalier de Valenciennes, France. [4] bioMérieux, Marcy l'Etoile, France. [5] Service de maladies infectieuses et tropicales, centre hospitalier de Valenciennes, France

Background

- Rapid microbiological turn-around time (TAT):
  - Optimized antimicrobial stewardship
  - Better patient care

In 2021, lab went through 2 revolutions:

- Acquisition of WaspLab® automaton
- Reorganization : 24/7 microbiological samples treatment

Methods

- Retrospective monocentric study
- Study periods:
  - Pre-intervention (Before): 01/01/2019 - 31/12/2019
  - Post-intervention (After): 01/05/2021 - 01/04/2022
- Patients over 18 years old in ICU with positive blood culture (PBC)

Results

Inclusions	Before	After	p
Episodes, n	116	128	
Patients, n	104	112	
Male, n (%)	65 (56.1)	84 (65.6)	.13
Age, mean (min-max)	65.1 (18-93)	64.2 (23-85)	.89

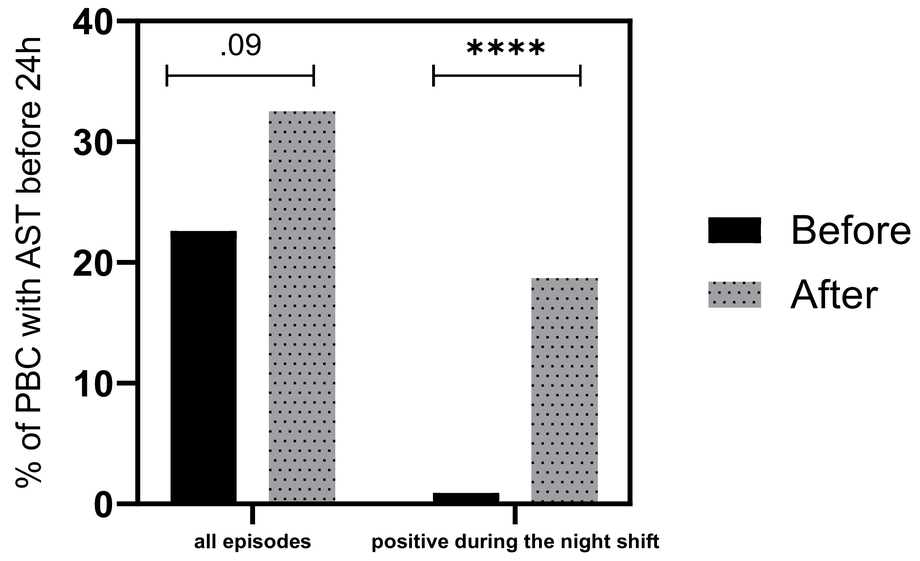

Figure 1. Percent of PBC with an available AST before 24h from positivity

**P < 0.05; **P < 0.01; ***P < 0.001; **** P<0.0001*

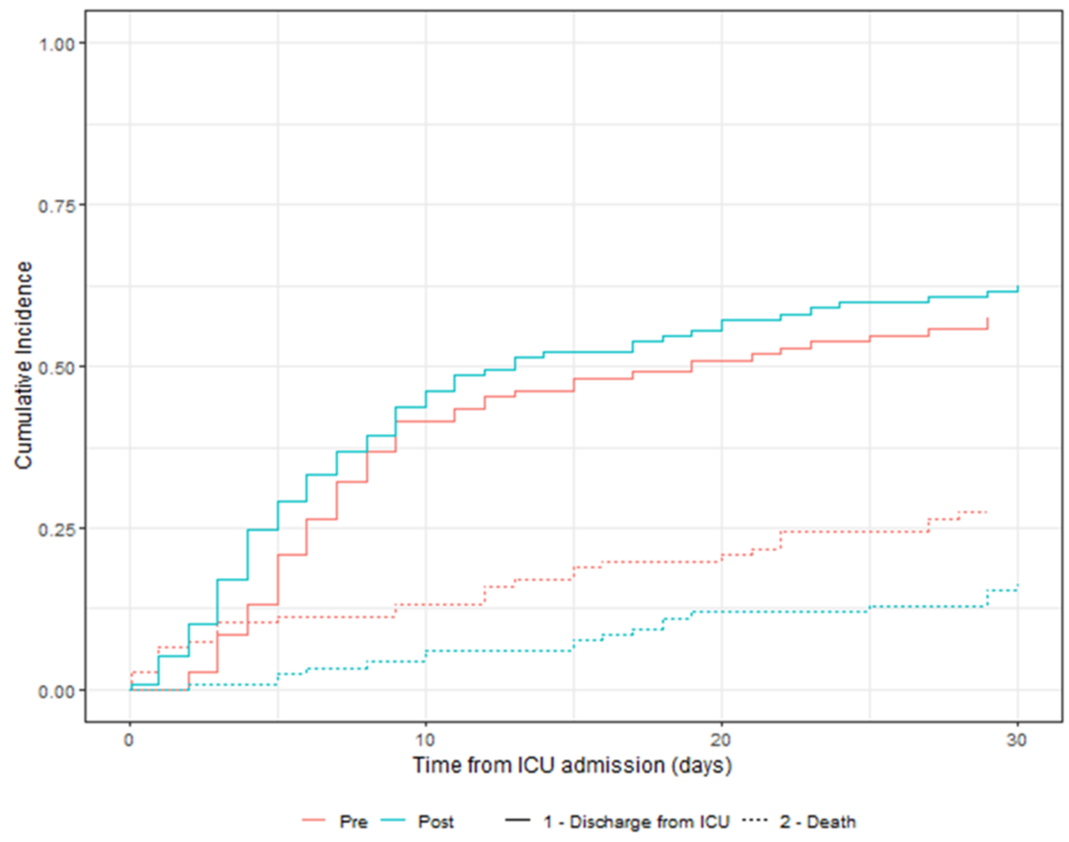

Figure 3. Cumulative ICU discharge from ICU admission considering death as competitive risk

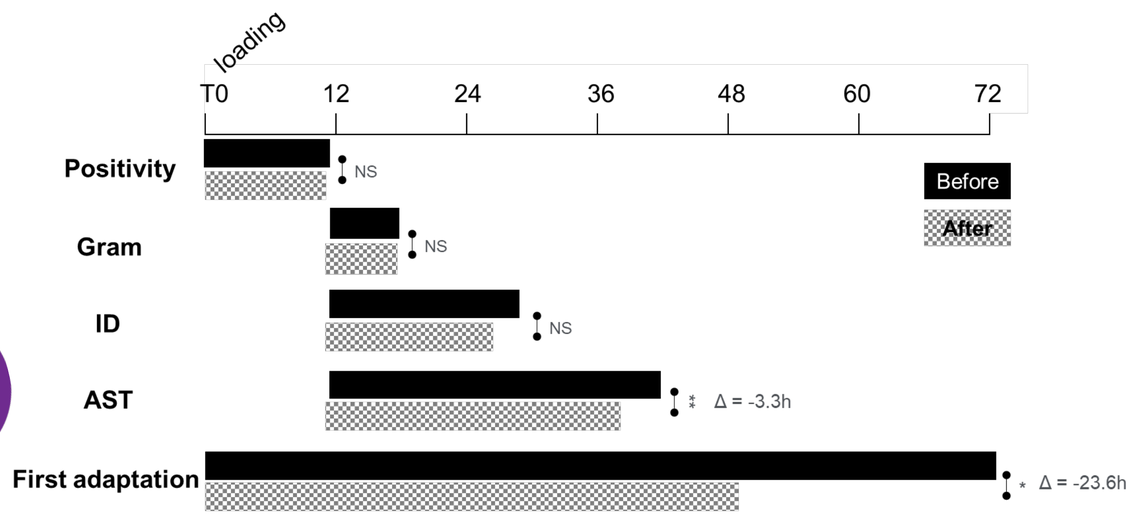

Figure 2. Times before/after lab reorganization among clinically significant episodes

**P < 0.05; **P < 0.01; ***P < 0.001; **** P<0.0001*

Post *vs* pre periods:

- Higher percent of PBC with available AST within 24h
- Among clinically significant episodes:
  - Lower TAT (30.4 vs 27.1h)
  - Lower time to first adaptation (72.6 vs 49h)
- Higher ICU discharge (HR = 1.38; p=0.04)
- No difference for hospital discharge
- Lower risk of death trend (HR = 0.63; p=0.05)

Conclusion

Our results suggest that:

- Lab reorganization supported by the benefits of Lab automation leads to lower TATs for clinically significant PBC.
- Shorter TAT supported AMS effort decreasing time to first antimicrobial adaptation and improving patients' outcomes.

Acknowledgment

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For Supplementary data Scan me !

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