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Introduction:

Primary Objective: To assess the safety of inhaled liposomal amphotericin B (ABL-inh) in mechanically ventilated (MV) patients through a patient safety-focused protocol. Secondary Objective: To analyze the efficacy of ABL-inh prophylaxis in patients at risk of invasive pulmonary aspergillosis (IPA).

Methods:

Retrospective study in the ICU (June 2021-2023). Included MV patients receiving ABL-inh for >7 days. Administration protocol: ABL-inh nebulization (25mg/48h), Aerogen® nebulizer, reconstitution with water, active humidification system, and post-nebulization filter replacement. Recorded complications: bronchospasm and expiratory valve obstruction with/without clinical repercussions. Efficacy of ABL-inh prophylaxis defined as absence of IPA during ICU stay. Demographic data, severity scores, ABL-inh indication, and clinical outcomes collected. Results expressed as mean +/- standard deviation.

Results:

35 patients received ABL-inh. Epidemiological data and outcomes in Table 1. 85.7% (30/35) received ABL-inh prophylaxis; 40% (12/30) hematologic/oncologic/immunosuppressed patients, 60% (18/30) other risk factors along with environmental conidia contamination (>15 CFU/m³). 5 patients received ABL-inh as adjunctive therapy. Complications associated with ABL-inh observed in 17.1% (6/35) of patients: 3 with resolved bronchospasm upon ABL-inh withdrawal, 2 with expiratory valve obstruction without clinical impact, and 1 with a limited episode of hypoxemia due to expiratory valve obstruction. ABL-inh prophylaxis was effective in 80% (24/30). 4/6 who developed IPA under prophylactic treatment were high-risk immunosuppressed patients.

Conclusion:

Administration of ABL-inh in MV patients was safe and well-tolerated. Implementation of an ABL-inh protocol could be effective in preventing complications, favorably tipping the risk-benefit balance for MV patients at risk of IPA.

References:

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Table:

	(n= 35 patients)
SOFA SCORE (mean +/- SD)	8.10 +/- 3.43 points
APACHE SCORE (mean +/- SD)	17.93 +/- 4.78 points
ICU LENGTH OF STAY (mean +/- SD)	48.89 +/- 28.82 days
DAYS OF MECHANICAL VENTILATION (mean +/- SD)	41.20 +/- 24.63 days
DAYS OF ABL-INH (mean +/- SD)	17.06 +/- 11.84 days

COMPLICATIONS (%)

6/35 (17.1) patients

DEVELOPMENT IPA UNDER PROPHYLACTIC TREATMENT (%)

6/30 (20%) patients

Table 1. Epidemiological data