

# ASSOCIATION BETWEEN FUNGAL DETECTION AND DIAGNOSIS OF MODERATE EQUINE ASTHMA (MEA) ACCORDING TO SAMPLING SITE AND METHODOLOGY

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## INTRODUCTION

Poor agreements were previously described between tracheal wash (TW) and bronchoalveolar lavage fluid (BALF), as well as fungal detection by cytology and mycology culture.

The link between moderate equine asthma (mEA) and detection of fungal elements in the airways remains controversial.

## METHODS

- Prospective study on 120 horses in active training or referred for respiratory disease
- Horses were classified as “control” (CTL) or “mEA” based on clinical examination, airway endoscopy and BALF
- A sample was considered “positive” if at least one colony was identified by culture or at least one fungal element was observed on cytology

## RESULTS

- Horses: 35 “CTL” and 85 “mEA”
- Cytology (Photo 1): No significant difference was observed between groups for fungal detection regardless the sampling site.
- Culture (Photo 2): Prevalence of positive mycology was significantly higher in TW and BALF of mEA horses compared to controls (Figure 1)
- Diagnosis of mEA was significantly associated with positive mycology culture on both TW (OR = 3.9; 95% CI 1.4-10.1) and BALF (OR = 5.0; 95% CI 1.5-16.4)
- Mycology culture on BALF exhibited high specificity (Sp = 0.90) and high positive predictive value (PPV = 0.91), unlike mycology culture on TW (respectively Sp = 0.76 and PPV = 0.31)

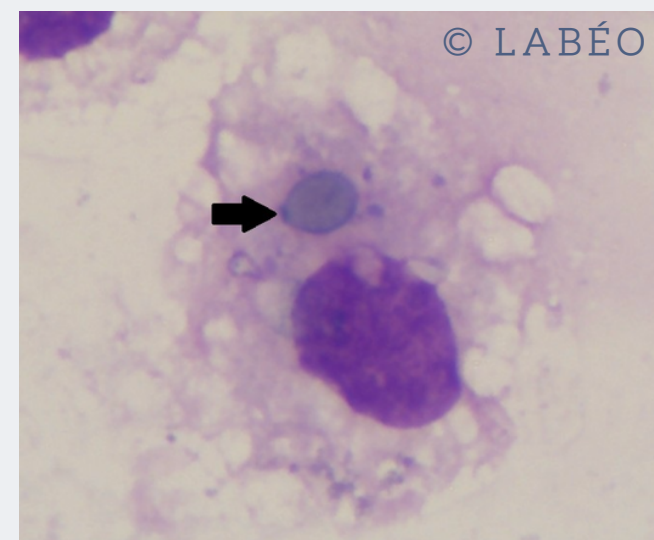
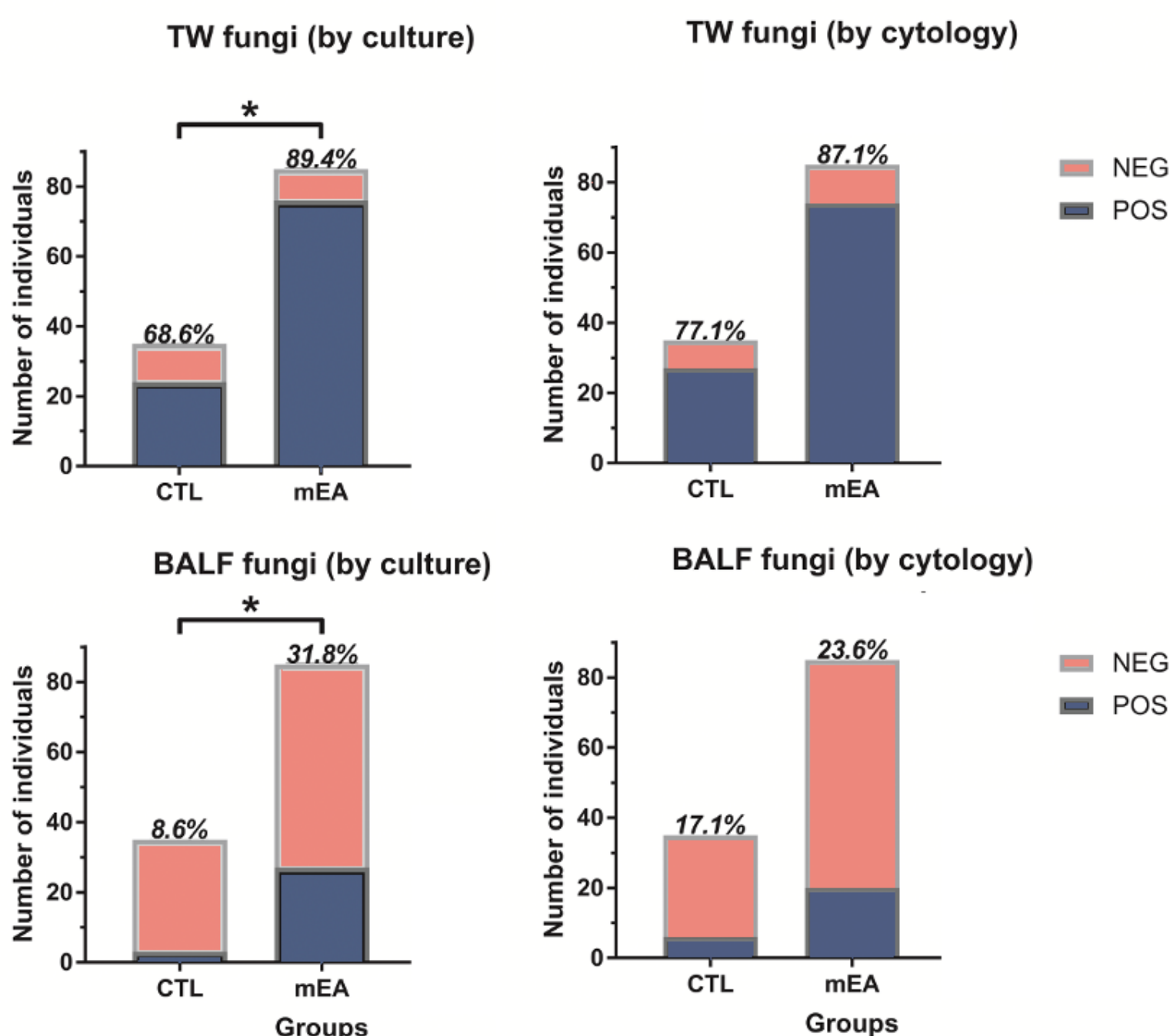


Photo 1: Cytological detection of fungal element

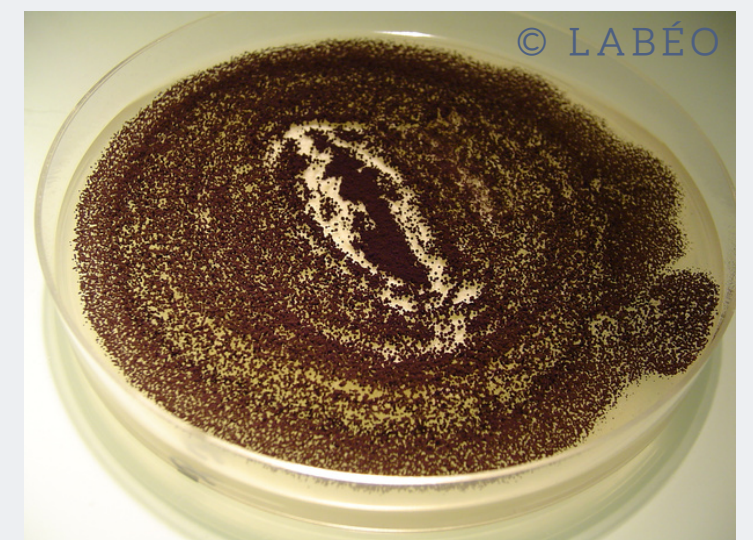


Photo 2: Culture of fungal element

## CONCLUSION

Despite a significant association with asthma diagnosis, the high prevalence of fungal detection in TW of control horses precludes its clinical relevance.

However, positive mycology culture on BALF represents a significant risk-factor of suffering mEA.

Figure 1: Prevalences of fungal elements according to sampling site (TW or BALF), methodology (culture or cytology) and clinical status (CTL or mEA)