Introduction:
Cough efficiency may be an important factor at weaning, and expiratory Peak Flow (ePF) could be a marker of risk for extubation failure. Objective: To verify the relationship between predictive indexes and extubation failure in mechanically ventilated patients, analyzing specifically the role of the ePF.

Methods:
Retrospective study, conducted from January to December 2016, in a 14-beds General Intensive Care Unit (ICU), from a University Hospital. Predictive indexes, such as Maximal Inspiratory Pressure (MaxIP), Rapid Shallow Breathing Index (RSBI) and ePF, were collected on the day of extubation of adult patients with MV >24h (excluded tracheostomized). For statistical analysis, the data were described by mean, standard deviation and percentage. Pearson’s Chi-square test was used for correlation, adopting p <0.05.

Results:
It was included 154 patients. Most common causes of admission: medical non-neurological (33%), elective postoperative (20%), and Traumatic Brain Injury (TBI) (14%); mean APACHE II 25.6, 1st day SOFA 9.6, mean age 48.2y, 58% female. The duration of MV and sedation were 123.2 and 57.3 hours, respectively. ICU and hospital length of stay were 10.7 and 25.1 days. Mean MaxIP was 28.0 ± 14.22 mmHg, RSBI 58.7 ± 35.76, and ePF 57.6 ± 33.86 L / min. Among the patients included in the study, 99% were extubated and of these, 12% had extubation failure. There was a correlation between MaxIP and ePF (p < 0.001), and extubation failure was associated with MaxIP (p<0.001) and ePF (p < 0.001).

Conclusion:
MaxIP and ePF (collected at the extubation day) were correlated with extubation failure, demonstrating that they are reliable indices to predict extubation failure in adult MV patients.