**Introduction:**
Patients with advanced-stage non-small-cell lung cancer have high mortality rates in the intensive care unit (ICU). In the last two decades, targeted therapies have changed the prognostic of patients with lung cancer outside the ICU. The fast efficacy of targeted therapies led some intensivists to use them as rescue therapy for ICU patients.

**Methods:**
We performed a national multicentric retrospective study with the participation of the GRRROH (Groupe de Recherche en Réanimation Respiratoire en Onco-Hématologie). All patients with non-small-cell lung cancer admitted to the ICU for acute respiratory failure between 2009 and 2019 were included in the study if a Tyrosine Kinase Inhibitor was initiated during ICU stay. Cases were identified using hospital-pharmacies records. The primary outcome was overall survival 90 days after ICU admission.

**Results:**
Thirty patients (age: 60+/−14 years old) admitted to a total of 14 ICUs throughout France were included. Seventeen patients (59%) were nonsmoker. Adenocarcinoma was the most frequent histological type (n=21, 70%). Most patients had metastatic cancer (n=21, 70%). Epithelial Growth Factor Receptor mutation was the most common oncologic driver identified (n=16, 53%). During the ICU stay, 17 (57%) patients required invasive mechanical ventilation, 13 (43%) catecholamine infusion, 3 (10%) renal replacement therapy and one (3%) extracorporeal membrane oxygenation. Eighteen patients (60%) were discharged alive from ICU and 11 (37%) were still alive after 90 days (see Figure). Moreover, 6 patients (20%) were alive one year after ICU discharge.

**Conclusion:**
Despite a small sample size this study showed that, in the context of lung cancer involvement responsible for acute respiratory failure, the use of Tyrosine Kinase Inhibitor should not be refrained in patients with severe condition in ICU.
Probability of survival after ICU admission