Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

frequently mutated in all risk categories, but was only prognostic of survival in high-risk tumors. Genomic and epigenetic analysis demonstrated clustering of top differentially expressed and methylated genes into low- and high-risk tumor phenotypes. Differential gene expression and methylation pathway analysis demonstrated impairment of multiple immunologic pathways including downregulation of chemokines for B cells, monocytes, and activated NK cells, and downregulation of antigen presentation pathway machinery.

CONCLUSION: Increased mutation burden in lung adenocarcinoma tumors at high-risk for recurrence is associated with impaired immunologic response via a variety of genomic and epigenetic mechanisms, and may explain the high rates of recurrence after complete surgical resection of stage I lung adenocarcinoma.

Silent Hypoxia in Covid-19: A Machine Learning Algorithm for Early Prediction

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INTRODUCTION: Silent hypoxia (SH) is defined as having minimal to no symptoms with markedly reduced pulse oximetry readings. This study aimed to determine a novel algorithm to triage and uncover silent hypoxemic patients with pre-symptomatic COVID-19 pneumonia.

METHODS: A single-center retrospective analysis of 223 COVID-19 positive patients who presented to our emergency room and admitted with a positive COVID-19 PCR test. The all-inclusive analysis of patient demographics, risk factors, and vital signs were evaluated using the electronic health record (EHR) with approved (IRB #2020436 and Robert Wood Johnson Research Grant ID#95636). 67% (n=150) of patients were identified as COVID-19 positive patients (COVID-19+) and 33% (n=73) were defined as silent hypoxic COVID-19 positive patients (shCOVID-19) with a weighted questionnaire.

RESULTS: Using an extra tree classifier machine learning algorithm, we successfully predicted a shCOVID-19 patient with an AUC of 99%. By imputing the missing values with mode, model accuracy increased from 72% to 89%. The highest correlated shCOVID-19 characteristics are recent contact with sick persons, home oxygen, tobacco use, obesity, and hypoxia (<94%). Significant negative correlated shCOVID-19 characteristics are diabetes mellitus type II, subjective fever, productive cough, rhinorrhea, tachypnea (>19), and systolic blood pressure (>130 mmHg). The questionnaire scores for shCOVID-19 compared to COVID-19+ characteristics were also significantly different using ANOVA.

CONCLUSION: SH may be an early clinical sign in shCOVID-19 patients and if identified with accurate and simple tools, physicians may triage, diagnose and intervene earlier to reduce its morbidity and mortality.