Acute Lung Infection Severity Score (ALISS) – A Scoring Scale for Chest X-Ray (CXR) Findings in Lung Infections.

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Introduction Acute lung infections, a common medical problem is now of significant importance with COVID-19. CXR remains the investigation of choice in Sri Lanka and low- and middle-income countries. Developing a scoring system for CXR will enable standardizing the assessment of CXR reducing interpersonal variations.

Objective To develop an acute lung infection severity score for CXR findings.

Methodology The definition of CXR findings were based on the Fleishner glossary. Each lung was divided into upper zone (UZ) and lower zone (LZ). Each zone was divided into central lung field (CLF) and peripheral lung field (PLF). The pathological finding considered were consolidation (C) and ground glass opacity (GGO). A total of 8 areas were assessed (Right lung – UZ PLF, UZ CLF, LZ PLF, LZ CLF; Left lung - UZ PLF, UZ CLF, LZ PLF, LZ CLF) and a score of one point was given for each area with a maximum total score of 8. This scoring system was applied on the abnormal first CXRs done on 146 RT-PCR positive, confirmed cases of Sri Lankan COVID-19 patients and on the last available CXR of this cohort of patients. The study was carried out at the radiology department of the National Institute of Infectious Diseases.

Results 39/146 (26.7%) patients had abnormal CXR with a sensitivity of 31.6% and a specificity of 96.2%. Of the 39 abnormal first CXRs a score of 4 or above showed a worse prognosis. Score of 4 (70% ICU admission, 10% death), 5(50% ICU admission, 50% death) and 7(100% ICU admission, 100% death). On the last available CXR (17) of the same cohort a score of 5 and above had 100% ICU admissions and death.

Conclusion The ALISS score is a good indicator of prognosis. However, this must be studied in a larger population and validated.