Factors influencing severe community-acquired pneumonia few points to ponder

Sir,

We read with great interest the article by Mahendra *et al.*[1] and would like to highlight a few pertinent points.

1. The authors have studied the potential factors responsible for severe community-acquired pneumonia (SCAP) and have used CURB-65 to decide on the site of care, as well as label cases as "severe" or "nonsevere"

pneumonia (although the definition of SCAP has not been categorically mentioned in the article). This brings forth certain issues. Although the concept of SCAP is not univocal, it is commonly defined as CAP requiring supportive care in a critical care environment and associated with higher mortality rates.[2] In this regard, CURB-65 has been conventionally used to determine the site of care but has not been directly used to define SCAP. CURB-65 has been extensively validated to identify low-risk patients but has not performed well in identifying need for intensive care support.[2] Rather validation studies have reported on the superiority of major and minor criteria of IDSA/ATS criteria (over other scores such as CURB-65) for identifying patients who would require mechanical ventilation, vasopressor support, or Intensive Care Unit (ICU) admission.[3,4] Using CURB-65 to determine site of care by itself may be too simplistic at times and using other scores such as IDSA/ATS may be more practically useful. As an example, patients who require mechanical ventilation (invasive or noninvasive) or vasopressors (for shock persistent after adequate fluid therapy) are often managed in ICU/high dependency unit (irrespective of and overriding other factors) as dictated by major criteria of the IDSA/ATS criteria.[3,4] However, the same is not directly or readily implied from the CURB-65 score. Along with IDSA/ATS, risk stratification tools such as SMART-COP are considered to fare better than CURB-65 to identify patients who would require ICU admission.[5]

2. In the study, it is not clear how many of the patients initially admitted to the ward were later shifted to ICU (as commonly seen in clinical practice). If there were indeed such patients, were they labeled as severe or nonsevere pneumonia? Further, admission in CAP is often indicated for patients having mental illnesses, concerns about adherence to therapy, substance abuse, cognitive impairment, etc. In these situations, the factors governing hospital admission are not directly concerned with the severity of illness. Were there any such patients in the study group (especially with CURB-65 score of 0 or 1) who required admission for an indication mentioned above? It would also be interesting to know the number of deaths in each group (which has not been reported by the authors). If any of the ward patients had died, was s/he labeled as "nonsevere pneumonia?" If the mortality data are available, it would perhaps be also meaningful to determine factors related to death (an endpoint of prime importance and on the basis of which the severity scores of pneumonia are formulated)
3. This study was part of the international Global Initiative for Methicillin-resistant *Staphylococcus aureus* (MRSA) Pneumonia (GLIMP) study to evaluate MRSA; however, no MRSA was isolated in this particular study. Interestingly, in the GLIMP study, the incidence of MRSA pneumonia was reported as 1.4% in India.[6] It appears that the relatively small sample size of the present study (which is also mentioned by the authors) was probably the primary reason for nondetection of MRSA cases as studies with larger number of patients have reported on the incidence of MRSA in India[7]
4. Finally, among the risk factors reported by the authors, smoking and alcohol usage were the important determining factors for severity of pneumonia. In this regard, it would be useful to know the exact definition used by the authors as the same are often reported casually by patients/study subjects and may have lesser value if stringent objective definitions are not used.

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Conflicts of interest
There are no conflicts of interest.

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