Managing TB Or Non-TB Pneumonia – A Continual Call For Vigilance

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Pneumonia continues to a disease of potentially high morbidity and mortality, sparing no children or healthy adults. Over the years, clinical practice guidelines and institution-initiated management protocols have been introduced with the intention of improving outcomes by ensuring appropriate assessment and management of pneumonia. Correct assessment of pneumonia type and severity will lead to appropriate course of action. This is especially true when deciding whether the patient can be treated at home and the type of empiric antibiotic(s) that should be prescribed. The latter has a strong evidence-base when examined in the light of clinical practice guidelines. Non-guideline adherent empiric antibiotic regimes used in hospitalized community-acquired pneumonia (CAP) are adversely associated with time to clinical stability, time to switch therapy, length of hospital stay, hospital survival[1, 2] and hospital re-admission rates.[2] Our own local study on hospitalized patients with *Klebsiella pneumoniae* pneumonia, a high-ranking community-acquired organism in Malaysia, also testified to the association of adverse hospital outcomes with inappropriate choice of empiric antibiotic(s).[3]

In this issue, Jayaram J et al[4] retrospectively reviewed the process of management for hospitalized paediatric patients with pneumonia in the light of published Malaysian clinical guidelines for paediatric pneumonia and respiratory tract infections. In 96 consecutive patients admitted to a district hospital in 2004, the majority was correctly assessed as having pneumonia and fulfilled the criteria for hospital admission. Assessment on oxygen saturation however was somewhat worrying in that over 40% of patients did not have oxygen saturation measured following Accident & Emergency admission and that a large proportion in whom measurement shown to be < 95% did not received supplement oxygen. The authors also showed that in a small group of patients classified as having severe pneumonia by the guidelines, none received the recommended antibiotic(s). Fortunately, there were no hospital deaths in this cohort of patients studied, and interestingly none required intensive care attention. While it is an obvious need to improve on the critical assessment of paediatric patients with pneumonia brought through the A & E department, the authors were correctly concerned of the apparent failure to follow through with appropriate management based on these early clinical information collected.

The study by Jayaram J et al[4] highlights the purpose of a clinical audit and where the closure of the audit loop is a necessary process that needs iteration. Assessment of the adequacy of oxygenation by a simple non-invasive pulse oximetry is quick and easily performed, and provides crucial information that has serious bearings on the subsequent management. In fact, our own local study on adult patients requiring hospitalization for CAP showed that reduced oxygen saturation alone is independently associated with increased hospital mortality after multivariate analysis.[5] Such findings need to be fed back to the doctors and nursing staff and their importance emphasized. Recently, Connor SJ et al[6] elegantly illustrated the effectiveness of audit feedback, as closure of audit loop, in ensuring compliance with evidence-based management of acute pancreatitis in their hospital.

In another retrospective study by Ong C K et al[7] where 820 patients with tuberculosis (TB) pneumonia evaluated in the context of with and without HIV as well as their CD4 counts, they showed that patients with CD4 < 200 have more atypical chest X ray and exhibit poorer skin tuberculin responses. These findings are however well recognized in immunosuppressive individuals. The relevance of this study becomes obvious when we accept TB as an important CAP in Malaysia. This finding has been consistently shown in ours5 and others' studies[8, 9] that have studied the microbial aetiology of hospitalized CAP in Malaysia.

This should not surprise us too much as Malaysia is ranked by WHO as a country with intermediate prevalence, and that the trend recently is on an increase.[10] Treatment of TB is altogether different from the recommendation of empiric antibiotic(s) for CAP, and diagnosis should be confirmed before initiating anti-TB therapy. Here is exactly where in the problem

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lies. Since diagnosis requires a degree of clinical experience and suspicion, and specific sputum examination, the process is easily delayed and may encourage further spread of TB among the public. The delay is clearly associated with high mortality[11, 12], and is one of the key issues WHO is targeting for years. Ong C K et al study[7] provides a timely reminder to us that the delayed in diagnosis can be also aggravated by atypical presentations of patients with severe HIV infection. Interestingly, in our local study[13] looking at patients diagnosed with smear-positive pulmonary TB, we showed that among others, patients' preference for traditional medication is one significant factor for the delay in commencement of treatment. Taken together, treating TB pneumonia is highly relevant in Malaysia and may have to be approached quite differently from the standard approach of CAP as microbial confirmation and implementation of effective and compliant therapy take on a more prominent role. In all these matters, we must continue to be vigilant.

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