

Right-sided Infective Endocarditis in an Indian Intensive Care Unit

Sir,

Right-sided infective endocarditis (RSIE) is seen in 5-10% of IE cases and is commonly associated with intravenous drug use (IVDU) in developed nations.^[1] However, the Indian population has a lesser incidence of IVDU, but Indian data are limited to two case series from the 1990s.^[2,3] We reviewed all RSIE cases admitted to the Intensive Care Unit (ICU) of a tertiary-care academic medical center in India from January 2010 to December 2014. All patients >18 years with a diagnosis of IE by the modified Duke criteria were included in the study. Patients discharged against medical advice and pregnant females were excluded from the study. During this period, 96 patients were admitted to the ICU with IE, with 11 patients (11.5%) having RSIE. Median age was 33 (28-53) years with 4 (36.4%) males. Median Charlson age-comorbidity index was 1 (0-3) and no patient had an immunocompromised state, history of alcohol abuse, IVDU, central venous catheters, or implantable cardiac defibrillators at the time of presentation or diagnosis. Nine (81.8%) and 10 (90.1%) of the 11 patients presented with fever and a new cardiac murmur; however, vascular and immunological phenomena were seen only in 4 (36.4%) and 1 (9.1%) patients, respectively. Eight (72.7%), 2 (18.2%), and 1 (9.1%) patients had tricuspid valve (TV), pulmonary valve, and bivalvular involvement, respectively. Median vegetation size was 2.0 cm (1.3-2.1) × 0.8 cm (0.5-1.4). *Staphylococcus aureus* was the most common pathogen (5 patients, 45.5%), with 2 (18.2%) being methicillin-resistant *S. aureus* (MRSA). TV and pulmonary valve regurgitation were noted in 8 (82.7%) and 6 (54.5%) patients, respectively. Acute kidney injury, septic shock, acute respiratory distress syndrome, and decompensated heart failure were noted in 2 (18.2%), 3 (27.3%), 2 (18.2%), and 1 (9.1%) patients, respectively. Median ICU stay was 7 (3-16) days. Medical therapy was successful for 8 (72.7%) patients, with 2 (18.2%) requiring surgical resection and TV replacement.

The Asian population is unique in its inherently low incidence of IVDU, with RSIE incidence of <9%.^[1-5] Clinically, fever and a new cardiac murmur are common presenting features with a low incidence of vascular and immunological phenomena.^[5] *S. aureus* continues

to be the leading pathogen in India and Asia, with about 40% of MRSA in our study, demonstrating an etiological shift.^[2,3] Early surgical therapy is often recommended for aggressive infection with *Staphylococcus* and *Streptococcus* species.^[1,4] The European Society of Cardiology guidelines recommend avoiding surgery except in cases of right heart failure, difficult to eradicate organisms, vegetations >20 mm, all refractory to medical therapy.^[1,4,5] Older Indian literature^[2,3] demonstrated a higher mortality of about 30%, but our study showed a significant decrease to 9%, which is comparable with current global literature.^[1,5] In summary, we present an exclusive Indian RSIE series in over 25 years, which is also the first dedicated ICU RSIE study. During this period, there has been a significant evolution in the microbiological and antimicrobial spectra and advances in diagnostic and management techniques, leading to improved patient care. We highlight the changes in etiology and risk factors and demonstrate improvement in outcomes and mortality in comparison to prior studies.^[2,3]

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Conflicts of interest

There are no conflicts of interest

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