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## Mahboob Quershi

Toruo University, USA

### Control and prevention of nosocomial RSV pneumonia in neonates and immunocompromised adult population

RSV bronchiolitis and pneumonia is a common cause of pediatric hospitalization in the USA and all over the world. Severity of RSV pneumonia is exacerbated in the premature neonates and those with congenital cardiopulmonary pathologies. Additionally, adults with hematopoietic malignancies and particularly those receiving stem cell transplants often become predisposed to RSV pneumonia. Breakouts of RSV-pneumonia in community often pre-herald those at the nosocomial settings. Attempts to minimize the incidence frequencies and severity of these nosocomial events require multifactorial approach including screening of staff and visitors, screening on admission, visitor restriction, compliance monitoring and finally use of personal protective equipment which yet generates variable results. Prophylactic use of monoclonal antibody palivizumab has been reported with variable responses. RSV and other respiratory viral infections among stem cell transplant recipients are commonly encountered after allogenic transplant, which often poses a significant challenge for patient recovery and transplant survival. Prospective studies confirming the efficacy of Ribavarin use in these patients preventing progression to life threatening pneumonia are yet to be properly done. Thus, it leaves the scope for prospective studies utilizing alternate therapeutic approaches. Osteopontin (OPN) is an immunomodulatory molecule originally reported to be involved with osteogenesis and only later have been implicated in modulating immune response polarizing the response towards a Th1 type. Recently, several research groups in the USA and other countries have reported immune-modulatory effects of OPN in RSV infections. RSV-infected infants develop a hyperactive airway (Th2 bias) response which has been shown to be prevented in experimental animal models by prophylactic administration of OPN. It is yet to be established whether prophylactic use of OPN in nosocomial setting has a similar effect in preventing progression to severe pneumonia and minimize mortality. Use of OPN in combination with the existing multifactorial approaches may prove wise and worthwhile to prevent the untimely death of the RSV-infected neonates, as well as those immunosuppressed hematopoietic stem cell recipients.

### Biography

Mahboob Quershi is presently the Associate Dean for Research and Professor of Microbiology and Immunology Toruo University Nevada and also associated with University of the Ryukyus, Japan.

[Mahboob.Quershi@tun.touro.edu](mailto:Mahboob.Quershi@tun.touro.edu)

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