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Brief Communication - Nursing

## Preadmission checklist by nursing staff for timely implementation of isolation precautions to prevent spread of infection in a paediatric transplant centre

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### ABSTRACT

**Introduction:** Hematopoietic stem cell transplant patients are at a high risk of infections because of prolonged neutropenia and lymphopenia.<sup>[1]</sup> Bacteraemia caused by enteric organisms is well known but they can have prolonged shedding of upper respiratory tract viruses and progression to pneumonia.<sup>[2]</sup> These organisms are spread via direct contact and nosocomial spread has been reported.

**Aim:** Retrospective analysis of children transplanted in last three years after pre-admission checklist was implemented.

**Method:** A pre-admission checklist of 3 infection control components was formulated. The protocol involved informing the nurse in-charge of admission for transplant and handing over all infection reports by on call fellow to nurses prior to admission. Isolation precautions were planned by nurses. Nasopharyngeal swab was sent on admission to the unit and droplet, or airborne precautions are instituted based on reports. Surveillance cultures were sent weekly for CRE (Carbapenem resistant Enterobacteriaceae and Nasopharyngeal swab was sent when child has symptoms.

**Result:** 61 patients were analysed post institution of the checklist. 15 patients had respiratory organisms (viruses, streptococcus pneumoniae), 36 patients were positive for CRE and 2 for Methicillin resistant staphylococcus aureus in nasal swab. No respiratory organisms were transmitted. Surveillance cultures showed one suspected cross transmission of CRE. No outbreaks were reported.

**Conclusion:** Respiratory viral illness are associated with high morbidity with limited management options. Strict adherence to infection control measures is important to preventing outbreaks in the transplant unit. Spread of multi-drug resistant organism puts patients at high risk of developing subsequent infections with them, increasing morbidity and mortality. A simple pre-admission checklist can ensure adequate early isolation and prevent spread of infections in this severely immunocompromised cohort.

**Keywords:** Checklist, Infection control, Transplant unit, Outbreak management

### INTRODUCTION

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### AIM

Retrospective analysis of children transplanted in last three years after pre-admission checklist was implemented.

### MATERIAL AND METHOD

A pre-admission checklist of 3 infection control components was formulated. The protocol involved informing the nurse in-charge of admission for transplant and handing over all infection reports by on call fellow to nurses prior to admission. Isolation precautions were planned by nurses. Nasopharyngeal swab was sent on admission to the unit and droplet, or airborne precautions are instituted based on reports. Surveillance cultures were sent weekly for Carbapenem resistant Enterobacteriaceae (CRE) and Nasopharyngeal swab was sent when child has symptoms.

### RESULTS

61 patients were analysed post institution of the checklist. 15 patients had respiratory organisms (viruses, streptococcus pneumoniae), 36 patients were positive for CRE and 2 for Methicillin resistant staphylococcus aureus in nasal swab. No respiratory organisms were transmitted. Surveillance cultures showed one suspected cross transmission of CRE. No outbreaks were reported.

### CONCLUSION

Respiratory viral illness are associated with high morbidity with limited management options. Strict adherence to infection control measures is important to preventing outbreaks in the transplant unit. Spread of multi-drug resistant organism puts patients at high risk of developing subsequent infections with them, increasing morbidity and mortality. A simple pre-admission checklist can ensure adequate early isolation and prevent spread of infections in this severely immunocompromised cohort.

### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

### Financial support and sponsorship

Nil.

### Conflicts of interest

There are no conflicts of interest.

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