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Pressure ulcer preventing program among pediatric ECMO population- quantities study

Olga Rozenshtein

Shneider Children's Medical Center, Israel

Background: Pressure ulcers are common complication of ECMO treatment, due to prolonged sedation, lying position, cannulas fixation and decreased perfusion. The incidence of pressure ulcers in pediatric intensive care units in US is about 27%. High complexity of pediatric ECMO patients has led to increase incidence of pressure ulcers in this population. Pediatric Cardiac Intensive Care Unit (PCICU) in Schneider Children's Medical Center is the leading center in Israel for pediatric ECMO. In 2012, a new pressure ulcer prevention protocol was introduced. It includes: use of pressure relieve mattress, frequent repositioning head and neck protection with Polymem dressing, cannulae protection using Granuflex dressing and skin moisturizing. The purpose of the study was to evaluate the efficiency of this new practice in preventing pressure ulcers among pediatric ECMO patients.

Methods: The study was comprised on retrospective analysis of 73 cases, which were treated with ECMO between 2010 and 2014 in PCICU. Data was collected from Computerized medical charts that included information about patient's condition, reason for ECMO treatment, type and placement of cannulation, skin assessment and ulcers. The data was coded and processed in SPSS-19.

Results: The most significant factor for pressure ulcers development was patients age (OR=1.017). Use of Tempur mattress was a protective factor (OR=0.245, p=0.014). The usage of Polymem and Granuflex dressing significantly decreased the number of pressure ulcer (t=4.89, p<0.001). No statistical significance was found between the reason for ECMO and occurrence of pressure ulcer ($\chi^2=4.17$, p>0.5). Following the intervention, the rate of pressure ulcers among pediatric ECMO patients decreased from 58.1% to 19.5%.

Conclusions: The incidence of pressure ulcers declined following the implementation of new protocol. It is highly important to raise the awareness of medical staff to the subject, establish guidelines and standards of care and usage of designated equipment in order to prevent pressure ulcers.

Biography

Olga Rozenshtein has an MEM (master of emergency medicine) degree from Ben-gurion University. She is an ECMO and Pediatric Intensive Care Unit specialist and instructor. She is a nurse in Pediatric Cardiac Intensive Care Unit Schneider Children's Medical Center of Israel.

zeev.olya@gmail.com

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