COMPARATIVE ANALYSIS OF MAJOR INCIDENT TRIAGE TOOLS IN CHILDREN – A UK POPULATION-BASED ANALYSIS

Aims/Objectives/Background

Triage is a key principle in the effective management of major incidents. There is currently a paucity of evidence to guide the triage of children. The aim of this study was to perform a comparative analysis of nine adult and paediatric triage tools, including the novel ‘Sheffield Paediatric Triage Tool’ (SPTT), assessing their ability in identifying patients needing life-saving interventions (LSI).

Methods/Design

A ten-year retrospective database review of TARN data for paediatric patients (<16 years) was performed. Primary outcome was identification of patients receiving one or more LSIs from a previously defined list. Secondary outcomes included mortality and prediction of ISS>15. Primary analysis was conducted on patients with complete pre-hospital physiological data with planned secondary analyses using first recorded physiological data. Performance characteristics were evaluated using sensitivity, specificity, under and over-triage.

Results

15,133 patients met TARN inclusion criteria. 4,962 (32.8%) had complete pre-hospital physiological data and 8,255 (54.5%) had complete first recorded data. Male patients predominated (69.5%), sustaining blunt trauma (95.4%) with a median ISS of 9. 875 patients (17.6%) received at least one LSI.

The SPTT demonstrated the greatest sensitivity of all triage tools at identifying need for LSI (92.2%) but was associated with the highest rate of over-triage (75.0%). Both the PTT (sensitivity 34.1%) and JumpSTART (sensitivity 45.0%) performed less well at identifying LSI. By contrast, the adult MPTT-24 triage tool had the second highest sensitivity (80.8%) with tolerable rates of over-triage (70.2%).

Conclusion

The SPTT and MPTT-24 outperform existing paediatric triage tools at identifying those patients requiring LSIs. This may necessitate a change in recommended practice. Further work is needed to determine the optimum method of paediatric major incident triage, but consideration should be given to simplifying major incident triage by the use of one generic tool (the MPTT-24) for adults and children.