General Anesthesia for Lumbar Puncture and Bone Marrow Aspiration /Biopsy in Children

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Background

Multiple procedures (Lumbar puncture and bone marrow aspiration /biopsy) cause pain, stress, depression and etc for the patients and their families. Various methods have been recommended for pain reduction during invasive procedures. The aim of this study is to report the complications following general anesthesia.

Methods

In this prospective observational study, two hundred and two children with cancer were enrolled. All patients received propofol 2.5 mg /kg and fentanyl 1 µg/kg. After adequate anesthesia, procedures were performed by a pediatric oncologist. All anesthesia complications were classified into two groups: Intraoperative and Postoperative complications. Complications which were recorded include: abnormal age-specific bradycardia (≤20 × baseline), decrease in arterial oxygen saturation (≤90%), laryngospasm, vomiting, agitation, headache, hypothermia (<35 C°), hyperthermia (>37/8 C°), signs of allergy, traumatic LP (bloody), and unusual local bleeding.

Results

In this study, 118 males and 84 females underwent 623 general anesthetic procedures with a median of 3 procedures per patient. Intraoperative period complications occurred in 48 of total 623 procedures (7.7 %). The most common complications were traumatic LP, bradycardia and decrease in arterial oxygen saturation which occurred in 25, 6 and 6 cases, respectively. Postoperative period complications occurred in 74 (11.9%) cases. The most common complications were vomiting, agitation and headache, decrease O_2 saturation and bradycardia.

Conclusion

General anesthesia by propofol and fentanyl may be a good choice for short-term painful procedures in children undergoing treatment for bone marrow aspiration/biopsy and intratechal injection.

Key Words: Embryonic stem cells; Bone Marrow, Biopsy.

Poster Presentation

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