Behavioral and emotional effects of repeated general anesthesia in young children

Mohamed H. Bakri, Eman A. Ismail, Mohamed S. Ali, Ghada O. Elsedfy, Taher A. Sayed, Ahmed Ibrahim

Abstract:

Background: Preclinical and clinical data suggest the possibility of neurotoxicity following exposure of young children to general anesthetics with subsequent behavioral disturbances. The aim of the study was to determine the overall effect of repeated general anesthesia on behavior and emotions of young children aged 1½-5 years old, compared to healthy children. Materials and Methods: Thirty-five children underwent repeated anesthesia and surgery were matched with the same number of healthy children who attended vaccination clinic, as a control group. Both groups were administered the child behavior checklist (CBCL) 1½-5 years and Diagnostic and Statistical Manual of Mental Disorders (DSM) oriented scale. Behavior data were collected through a semi-structured questionnaire. Results: The CBCL score revealed that children with repeated anesthesia were at risk to become anxious or depressed (relative risk [RR]; 95% confidence interval [CI] = 11 [1.5-80.7]), to have sleep (RR; 95% CI = 4.5 [1.1-19.4]), and attention problems (RR; 95% CI = 8 [1.1-60.6]). There was no difference in the risk between the two groups regarding emotionally reactive, somatic complaints, withdrawn problems, aggressive behavior, internalizing or externalizing problems. On DSM scale, children with repeated anesthesia were at risk to develop anxiety problems (RR; 95% CI = 3.7 [1.1-12.0]), and attention deficit/hyperactivity problems (RR; 95% CI = 3 [1.1-8.4]). There was no difference in the risk between the two groups regarding affective, pervasive developmental and oppositional defiant problems. Conclusion: Young children who undergone repeated surgical procedures under general anesthesia were at risk for subsequent behavioral and emotional disturbances. Proper perioperative pain management, social support, and avoidance of unpleasant surgical experiences could minimize these untoward consequences.

Keywords:

Behavior, child, emotional disturbances, repeated anesthetics

Published In:

Saudi Journal of Anesthesia, Vol. 9, Issue 2, April-June 2015, 161-166