05AP01-11
The role of the psycho-emotional factor during anesthesia at different stages of the treatment of traumatic disease in children

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The purpose of the research was to identify the difference in the patients' long-term outcome with the constant psychological support and without at all the stages of traumatic disease with the necessity of the multiple anaesthetic interventions.
From 2002 to 2021, 720 patients aged 3 to 17 years underwent multiple anaesthetic interventions (from 4 to 26). Some of the patients were observed repeatedly during hospitalization at the stages of treatment and rehabilitation of a traumatic illness within 1-2 years. 200 of them refused any professional psychological support. The outcomes were assessed according to the range of psychological tests, cognitive tests, visceral dysfunction scales, pain scales, somatic and physiological dysfunction tests. The results were compared in both groups.
Every patient was admitted in a serious condition with multiple concomitant trauma in need of intensive care and respiratory support. After stabilizing them the professional psychological support was provided to each of the patient for the whole time of hospitalization and rehabilitation. The findings of two compared groups found out that those children without the support had the tendency to require longer hospital stay and poorer outcomes. Nevertheless, 25% of children remain disabled with limited quality of life (10% higher in the group without the professional psychological support). Purulent-septic complications with manifestations of multiple organ dysfunction were observed in 35%. Extracorporeal methods required 15 children. And all patients had psychosomatic complications of traumatic illness of varying severity.
According to our research, children are shown to have better outcomes both at the early and late stages of post traumatic disease which proves the necessity of multidiscipline approach to their treatment not only in the ICU, but before and after multiple anaesthetic interventions.

05AP01-12
Use of continuous positive airway pressure during sevoflurane inhalational induction does not result in faster induction but increases sevoflurane consumption

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Background and goal of study: Inhalational induction of anaesthesia is more acceptable to children. Sevoflurane is inhalation anaesthetic agent of choice because of low pungency, a non-irritant odour and a low blood: gas partition coefficient. Continuous positive airway pressure (CPAP) refers to the delivery of a continuous level of positive airway pressure and is functionally similar to PEEP. CPAP prevents collapse of terminal bronchioles, increases FRC (functional residual capacity), increases the surface area of the alveolus and improves V/Q. Increase in FRC due to application of CPAP might cause significant enough difference in children to cause faster induction of anaesthesia. Using these two mechanisms of increased FRC and by preventing collapse of the smaller airways and increasing the surface area available for gas exchange, we hypothesized that, application of CPAP during induction will reduce the induction time.
Materials and methods: A prospective, randomized controlled trial was conducted at the All India Institute of Medical Sciences, New Delhi; India between May2020 and June 2021 after obtaining approval from the institutional ethics committee (IECPG-741/30.01.2020, RT-25/27.02.2020) and randomized 129 children between the ages of 1 to 5 years scheduled to undergo ophthalmic examination under anaesthesia into 3 groups: group Z (CPAP of 0 cm H2O) , group A (CPAP of 5 cm H2O) or group B (CPAP of 10 cm H2O).
Results and discussion: 62% of children randomized in to the study were males. Anthropometric measurements like weight, height, midarm, hip and waist circumference were similar across all three groups. No significant difference was reported in the time to induction and time to SGD insertion between the study groups.
There was a significant difference in sevoflurane consumption between the study groups with increasing consumption in with increasing CPAP levels. Median amount of sevoflurane consumption for GROUP A, B and Z was 8, 10 and 7 ml respectively with interquartile range of 8,9 for GROUP A, 9,10.3 for GROUP B and 7,7 for GROUP Z.
Conclusion: CPAP application (5 and 10 cm of H20) did not reduce induction time, or time to supraglottic device insertion but did result in an increase in sevoflurane consumption, we believe it is reasonable to NOT use CPAP during inhalational induction in all cases. It follows that CPAP should only be applied in cases where there is evident airway obstruction.

05AP02-01
The level of serum cortisol as a predictor of postoperative morbidity and mortality in neonates after cardiac surgery

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Background and Goal of Study: The role of cortisol in stress response during critical illness is well known. But few data exists regarding cortisol level correlation with postoperative morbidity and mortality after CPB cardiac surgery in children. The aim of this study was to investigate postoperative cortisol dynamics and its relation with clinical outcome in neonates with congenital heart disease, undergone complete surgical repair. Study approved by Jo Ann Medical Center ethical committee.
Materials and Methods: In this single center prospective observational study of 32 neonates, who undergone CPB cardiac surgery, three serial cortisol levels were measured: immediately after admission from OR (T_0), first and second postoperative mornings ($T_1$and T_2). Inclusion criteria were age$\leq$28 days, complete surgical repair of CHD, presence of three cortisol measurement results. Exclusion criteria: palliative cardiac procedures (including S1P of HLHS), weight < 2kg, use of steroids in pre- and early postoperative period, surgical residual lesions.