The Child Behaviour Checklist as an assessment tool in predicting perioperative maladaptive behaviour.

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Introduction: Perioperative maladaptive behaviour such as anxiety and emergence delirium are important issues in paediatric anaesthesia since they can be the cause of prolonged behavioural changes. The aim of this study was: 1. to test the usefulness of the Child Behaviour Checklist (CBCL)(1,2) as a predictive assessment tool for preoperative anxiety and emergence delirium (ED); 2. to check the prevalence of anxiety and ED.

Methods: After approval of the local ethical committee and informed consent, we performed a prospective cohort study. In total 158 children entered the study. We collected demographic data of children and their family, healthcare contacts, anaesthesia details and type of operation. The child's behaviour was assessed by the CBCL (1,5-5 and 6-18 years old); anxiety at induction was measured using the modified Yale Preoperative Anxiety scale (m-YPAS) with a cut-off value > 30 to classify children as anxious or not; emergence delirium was considered to be present when the Paediatric Anaesthesia Emergence Delirium scale (PAED) was higher than 12 at 5 min t1 and 10 min t2. We used the University of Michigan Sedation Scale (UMSS) to determine when we applied the first measurement on the PAED scale choosing a score of 3 as a point of reference. ED assessment was further corrected for pain by the Pain Observation Scale for young Children (POCIS) and a Visual Analogue Scale (VAS). Parental anxiety was measured by Spielberger's State-Trait Anxiety Inventory (STAI).

Results: The prevalence of anxiety at induction was 64% (n=101). Using logistic regression analysis, high scores on internalizing behaviour (cut-off value ≥ 55 on T Score of CBCL) and age ≤ 6 years were associated with higher anxiety at induction (table 1). ED after being corrected for pain was present in 20,7 % (n=31) at t1 and 6 % (n=9) at t2. High scores on externalizing behaviour (cut-off value ≥ 55 on T Score of CBCL) and age ≤ 6 years tend to predict higher scores at t2 (table 1).

Table1:

Odds ratio for m-YPAS > 30 (n=158 children)			
	odds	95 % CI	P value
Internalizing behaviour (T score ≥ 55)	2,759	1,2571 to 6,057	0,0114*
≤ 6 years of age	0,2 3	0,1431 to 0,6007	0.0008*
Odds ratio for PAED > 12 at t2 (n=150 children)			
	odds	95 % CI	P value
Externalizing behaviour (T score ≥ 55)	3,9438	0,7759 to 20,0457	0.0981
≤ 6 years of age	0,165	0,0195 to 1,3981	0,0984

Discussion: High scores on internalizing behaviour in CBCL predicts anxiety at induction. High scores on externalizing behaviour shows a trend towards more ED at t2. CBCL is a reliable tool to predict perioperative maladaptive behaviour and in particular preoperative anxiety.

References:

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2. Achenbach T, Rescorla L. Manual for ASEBA School-Age Forms & Profiles. Burlington: VT: University of Vermont, Research Center for Children, Youth & Families, 2001.