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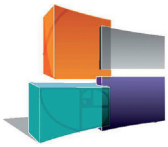

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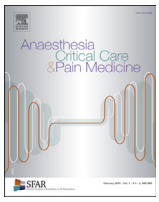

Letter to the Editor

Ambulatory paediatric surgery in French non-paediatric surgical ambulatory units: Results of a nationwide survey: The OPERA study

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More than 70% of all surgeries under 15 years old are actually performed on an ambulatory basis in France. The paediatric population is well adapted for ambulatory surgery because most of children have no medical history and a good health status. Many types of surgeries can be performed in an ambulatory mode as found in a previous study [1]. Although the practice of anaesthesia and outpatient surgery is higher in paediatrics than in adults, there are few data comparing the organisation and the characteristics of surgical ambulatory practice. On behalf the SFAR, the "OPERA" (Organisation PERiopératoire de l'anesthésie en chirurgie Ambulatoire) study reported the organisation and the characteristics of ambulatory surgery in France in adults [2]. The goal of this study was to compare the characteristics and organisational medical ambulatory surgical activity of the child compared to the adult in same surgical ambulatory units.

The methodology of the OPERA study has been published elsewhere [3]. Briefly, the OPERA study was an observational, prospective survey carried out on a given day, in French health establishments with ambulatory facilities randomly selected. The practice survey was performed over a period of 10 consecutive working days. For each facility, the 2 selected days had to be non-consecutive, spread out over the 2 weeks (i.e. 1 day per week) and on different days of the week (e.g. a selection with two Mondays was unacceptable). It took place from June to July 2014 and from November to December 2014. Children $<$ 16 years were individualised relative to adults. A full investigation of the following type of surgery were performed: oral surgery, knee arthroscopy, abdominal wall surgery, perianal surgery, laparoscopic cholecystectomy, uterine surgery, hallux valgus, hand surgery. The treatment of pain and PONV has been specifically studied. The study was declared on www.clinicaltrials.gov (NCT02380430). Participating centres to all included patients provided an information letter. Statistical analyses were performed using STATA version 13 (StataCorp LP, 4905 Lakeway Drive, College Station, Texas 77845 USA).

One hundred and twenty-four centres with children out of total 210 centres were included. Five hundred and sixty one patients under 16 years old (median per centre: 3, range 1–5) out of 7382 patients were enrolled in this study. The distribution by age child was 0–2 years: $n = 92$ (16%), 3–4 years: $n = 119$ (21%), 5–10 years: $n = 183$ (33%), 11–15 years: $n = 167$ (30%). The characteristics (ASA score and type of anaesthesia) were shown in Table 1.

Half of the paediatric ambulatory activity was performed in university hospitals, and half in public and private hospitals. In children, ENT was the most represented 30%, followed by stomatology 19% and urology 14% (compared to adults: ophthalmology 22%, endoscopy 20% and orthopaedics 19%).

An anxiolytic premedication was used in only 10% children and 12% adults; indeed, other non-sedative premedication technique was particularly useful in children [4].

The pain assessment was performed in children compared to adults with Visual Analogue Scale in 24% versus 35%, Numeric Scale 20% versus 35%, Verbal Pain Scale 20% versus 23%, Hetero rating scale in 3% children. Nonetheless, hetero rating is highly recommended before 6 years old [5]; only 3% were evaluated so while patients less than 4 years represent 37% of the sample. The evaluation of pain was at arrival at the ambulatory unit 12% versus 26%, in recovery room 59% versus 77%, at discharge time 58% versus 71%, and at home 16% versus 25%. The management of pain was summarised Table 2.

Skin surgical infiltration was respectively performed in 28% of children and 21% of adults. At home, non-steroidal Anti-Inflammatory Drugs was less prescribed medication in children, despite the high efficiency of NSAIDs in children [6], and a rescue analgesic was scheduled in only 27% of the children versus 41% in adults. Evidence to guide safe and effective management of postoperative pain in children is increasing [7]; nonetheless a difference continues to exist with adult's patients in mixed ambulatory units. Indeed, there was a need for a standardised management, with increased multimodal analgesia prescribing, to ensure that children receive adequate postoperative analgesia during recovery period and at home.

Postoperative nausea and vomiting were respectively managed in children and adults as follows: risk assessment by Apfel score 20% versus 33%, perioperative prophylaxis 30% versus 36% and discharge time evaluation 51% versus 66%. Despite the fact that

Table 1

%	Children	Adults
ASA I	84	40
ASA II	15	44
ASA III	1	16
General Anaesthesia	81	52
GA and regional anaesthesia	15	3
Regional anaesthesia	4	42*
Sedation	0	3

* Spinal 6%, peripheral regional catheter 4%.

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Table 2

%	At arrival		Intra-operative		Recovery room		Discharge time		At home	
	Children	Adults	Children	Adults	Children	Adults	Children	Adults	Children	Adults
Acetaminophen	6	13	54	54	11	24	32	41	55	67
NSAIDs	4	4	27	31	7	13	8	16	17	27
Nefopam	–	1	12	29	2	8	1	6	–	–
Tramadol	1	2	12	12	7	10	9	12	10	25
Morphine	0	1	2	3	1	4	3	2	–	–

incidence of PONV is small in very young children, increases throughout childhood, reaching a zenith in adolescents [8], the management of nausea and vomiting was similar to the adults.

The discharge was validated with an objective score in 54% of cases in children compared to 68% in adults, despite a paediatric Chung score validated [9]; when a score is planned, the score was Chung score in respectively 71% and 80% centres.

In conclusion, this study highlights the need for rigorous organisation, i.e. discharge score, and pain management, i.e. specific paediatric protocols in general ambulatory units.

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