European Annals of Otorhinolaryngology, Head and Neck diseases (2011) **128**, 283—289

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ORIGINAL ARTICLE

Outpatient tonsillectomy in children: A 7-year experience

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Available online 28 September 2011

KEYWORDS
Tonsillectomy;
Outpatient;
Child

Summary
Objectives: To report our centre's experience of outpatient tonsillectomy in children over a 7-year period and to evaluate the postoperative complication rate in this type of procedure compared to tonsillectomy performed in the context of conventional hospitalisation.
Material and methods: Retrospective review of medical charts.
Results: From May 2002 to April 2009, 276 tonsillectomies were performed on an outpatient basis, i.e. 55.4% of all paediatric tonsillectomies, in children with a mean age of 5.28 years. Ninety-six children (34.8%) presented clinical OSAS. Development of an early postoperative complication (before H8) required conventional hospitalisation on D0 in six (2.1%) of these 276 children operated on an outpatient basis: early postoperative bleeding in four cases (1.4%), which required reoperation to control bleeding in three cases, refusal to feed in one case (0.3%), and a parental problem in one case (0.3%). Postoperative complications occurring after H8 required readmission in six cases (2.1%): pain and feeding difficulties in two cases (0.7%) on D1 and D5, respectively, bleeding in four cases (1.4%) with reoperation before H24 for one patient, D5 for two patients and D7 for one patient. Only one case of bleeding occurred between H8 and H24. No perioperative respiratory complications were observed in children with clinical OSAS.
Conclusion: The results of this study show that, in line with international publications and meta-analyses, post-tonsillectomy complications between H8 and H24 postoperatively, mainly bleeding, are exceptional. Respiratory complications usually occur in high-risk clinical settings that are not eligible for outpatient surgery. Outpatient tonsillectomy is therefore a safe procedure in children presenting all of the required medical, social and organizational conditions.

Introduction

The conditions currently required to perform outpatient tonsillectomy in children in France were defined during a consensus conference organised by several scientific soci-

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1879-7296/$ - see front matter
doi:10.1016/j.anorl.2011.05.003

eties in 2005 [1]. They were published as clinical practice guidelines for tonsillectomy in children under the aegis of the *Société française d'oto-rhino-laryngologie et de chirurgie de la face et du cou* (SFORL) and the *Société française d'anesthésie et de réanimation* (SFAR) in 2009. Outpatient tonsillectomy can be performed in children over the age of 3 years, in the absence of comorbidity increasing the respiratory risk, clotting disorders, severe obstructive sleep apnoea syndrome (OSAS) and when the usual geographical and family criteria are met, provided a consensus is reached between the surgeon, the anaesthetist and the parents. While high outpatient tonsillectomy rates are reported in other countries (64% in Holland, 67% in Canada, 89% in the USA, 93% in Belgium), most patients undergoing tonsillectomy in France are operated in the context of conventional hospitalisation. In the first half of 2008, the outpatient tonsillectomy rate in French public hospitals and private clinics was 12.9 and 20.9%, respectively, and these figures appear to have remained stable for several years (*Source: PMSI MCO 2006—2007—2008*). In this study, we report the experience of the Bicêtre University Hospital ENT department concerning outpatient tonsillectomy over a 7-year period between May 2002 and April 2009. The objectives of this study were to determine the proportion of tonsillectomies performed on an outpatient basis in our establishment and to study the postoperative complication rate in this type of management compared to tonsillectomy with conventional hospitalisation performed over the same period.

Material and methods

Organization of outpatient tonsillectomy in children at Bicêtre hospital

The Bicêtre hospital Ambulatory Surgery Unit (ASU) is a satellite structure, i.e. a structure equipped with an operating room and dedicated personnel, situated outside of the conventional operating room suite on the hospital campus.

This unit is open between 7:00 a.m. and 6:00 p.m. The ASU paramedical personnel include, in full-time equivalents, 7.4 nurses (general registered nurses or operating room nurses), three anaesthetic nurses, seven nurse-aids, and three secretaries. Operating lists are performed in three rooms between 8:00 a.m. and 1:00 p.m. The postoperative recovery room comprises six beds and six administrative places are available in the rest room. Note that no bed transfers are performed for patients over the age of 3 years between reception, the operating room, the recovery room and the rest room. Eight surgical specialties share the operating lists with an average of two lists per week. Between 80 and 100 patients are operated in the ASU each week. Outpatient tonsillectomy was initiated in this unit in May 2002.

Outpatient selection

Eligibility for outpatient tonsillectomy was defined by the criteria indicated in Appendix 1. Note that well controlled intermittent asthma (stage I) does not constitute a contraindication to outpatient tonsillectomy. This list of criteria, defined in close collaboration with anaesthetists, was systematically checked by the ENT surgeon proposing the indication and the consulting anaesthetist.

The indication for tonsillectomy was based on the presence of repeated episodes of pharyngitis and/or (adeno)tonsillar hypertrophy associated with obstructive sleep-disordered breathing (SDB). The diagnosis of SDB was based on the presence, on clinical interview of the child and the parents, of nocturnal signs (snoring, respiratory pauses, sweating, nocturia, parasomnia, agitated sleep), signs on waking (difficult waking, irritability, headache or vomiting, anorexia at breakfast) or daytime signs (mouth breathing, asthenia, drowsiness, attention disorders, hyperactivity). A clinical diagnosis of OSAS was adopted in the presence of at least four of the above signs. In the absence of routine complementary sleep studies in children at Bicêtre hospital, the severe nature of OSAS was generally left to the operator's clinical assessment (number and severity of nocturnal and daytime signs, signs on waking, duration of nocturnal pauses), constituting a contraindication to outpatient tonsillectomy. Over the study period, eight children were considered to be unsuitable for an outpatient procedure due to the severity of OSAS on clinical examination.

On the day of outpatient surgery, an outpatient dossier was completed and given to the parents, comprising a description of the operation, the postoperative course, the recommended diet, the telephone number to be called in the event of problems and the postoperative follow-up appointment.

Outpatient anaesthetic management

Preoperative, intraoperative and postoperative anaesthetic management complied with the tonsillectomy anaesthesia guidelines established by the Bicêtre hospital Department of Anaesthesia-Intensive Care (*Protocoles d'anesthésie-réanimation*, Éditions MAPAR 2007).

At the anaesthetic consultation, held one week before the operation, a preoperative assessment including CBC, platelets, PT, APPT, Rhesus group (2 determinations) — irregular antibodies (less than 3 days) was systematically performed. Fasting from fluids for 2 h and solids for 6 h was required before surgery with premedication 1 h before surgery consisting of hydroxyzine (Atarax®) (2 mg/kg), paracetamol syrup, dosed by weight, and lidocaine + prilocaine (EMLA®) ointment on both hands.

The anaesthetic protocol was as follows: monitoring (scope, blood pressure, SpO_2, capnometer, halogen analyzer), intravenous induction (with propofol, which is preferable in the context of obstructive tonsils) or by inhalation (sevoflurane + O_2), followed by optional muscle relaxation, oral intubation with a preformed cuffed tube fixed in a midline position, then maintenance with halogenated anaesthetic by spontaneous or controlled breathing.

At the beginning of the operation, a single dose of dexamethasone 0.1 mg/kg by slow IV (maximum dose 4 mg) was systematically administered for prevention of postoperative nausea and vomiting (PONV). Intraoperative analgesia was also systematically administered: usually paracetamol (Perfalgan®) IV 15 mg/kg + sufentanil 0.1 to 0.2 μg/kg.

Several measures were taken to reduce the risk of intraoperative blood aspiration: use of a cuffed tube inflated with

a manometer to the leak limit, installation in Rose's position after intubation (supine, shoulders raised by a block, head in hyperextension, lowered headrest), using the nasopharynx as a receptacle for blood, packing and gastric aspiration at the end of the operation.

Extubation was performed after ensuring haemostasis of the tonsillar fossae in a fully conscious child and recovery of cough and deglutition reflexes, with the child placed in a lateral decubitus position.

Operative procedure

In all patients, tonsillectomy was performed by dissection, without infiltration, using cold instruments, and haemostasis was ensured by packing ± bipolar cautery. Surgery was performed early in the morning (H0) (no more than two tonsillectomies in the morning) and always by a senior surgeon (10 operators with an equivalent level of experience over the study period). Tonsillectomy was performed alone or in combination with adenoidectomy and/or myringotomy + grommets during the same operation.

Postoperative surveillance

Postoperative surveillance also conducted according to tonsillectomy anaesthesia guidelines (*Protocoles d'anesthésie-réanimation*, Éditions MAPAR 2007).

The duration of postoperative surveillance was at least 7 h: 3 h in the recovery room with close surveillance including continuous ECG, heart rate and SpO_2 monitoring, blood pressure, modified Aldrete score every 15 min, and then 4 h in the rest room. The child was only transferred to the rest room after examination by the surgeon and anaesthetist concerned.

Analgesia was systematically administered: dose-titration of morphine with a loading dose of 50 to 100 mcg/kg then a bolus of 25 mcg/kg (maximum dose 3 mg) in the recovery room, followed by paracetamol (Efferalgan®) syrup, first postoperative dose (dose/kg) at H6 (or, in the case of vomiting IV paracetamol (Perfalgan®) 15 mg/kg) in the rest room. In the case of postoperative nausea and/or vomiting, an antiemetic such as ondansetron (Zophren®) 0.1 mg/kg (maximum dose 4 mg) was administered IV.

Tonsillar fossae were systematically verified at H3 and H6 and feeding (semi-frozen or cold fluids or semi-solids) was authorised at H7 with surveillance for 1 h after feeding.

Discharge from the ASU was only authorised after H8 and patients were systematically converted to conventional hospitalisation in the presence of any of the following criteria: difficult or incomplete intraoperative haemostasis at H8, repeated vomiting, not having taken any fluid or solids 1 h before discharge, poorly tolerated fever $\geq 38.5\,^{\circ}C$, insufficient analgesia.

Discharge prescriptions

Oral analgesia after discharge consisted of paracetamol 15 mg/kg/6 h + codeine (Codenfan®) 1 mg/kg/6 or 8 h for children < 20 kg, paracetamol + codeine 1/2 tab/6 h for children weighing between 20 and 35 kg, paracetamol + codeine 1 tab/6 h for children weighing ≥ 35 kg.

The parents were advised to administer analgesics systematically until D4 or D5. Several written documents were given to the parents on discharge: information sheets providing home care instructions, surveillance criteria, advice concerning feeding and the telephone number to be called in the event of any problems. Patients were asked to attend a follow-up visit between postoperative D6 and D12.

Data analysed

The following data were recorded on retrospective review of the medical charts of each child:

- age at the time of the operation, gender;
- concomitant disease;
- indication for tonsillectomy;
- presence of clinical OSAS;
- mode of hospitalisation, outpatient or conventional and reason contraindicating outpatient tonsillectomy in patients operated by conventional surgery (medical contraindication, related to the patient's environment or to the structure);
- development of early or secondary postoperative complication, reoperation
- secondary readmission.

Results

Over the period from May 2002 (start of outpatient tonsillectomy at Bicêtre hospital) to April 2009, 276 outpatient tonsillectomies were performed, i.e. 16% of all outpatient ENT procedures and 1.5% of all outpatient procedures. The mean age of the children operated by outpatient tonsillectomy was 5.28 years (standard deviation, SD 2.41; range: 3—14; sex ratio = 148 M/118 F). These children did not present any significant medical history. The indication for tonsillectomy was based on the presence of obstructive SDB in 187 cases (67.8%), recurrent pharyngitis in 43 cases (15.6%), pharyngitis and obstructive SDB in 45 cases (16.3%) and Marshall's syndrome in one case (0.3%). Ninety-six children (34.8%) presented clinical features of OSAS.

In this series of children operated on an outpatient basis, the development of an early postoperative complication requiring conversion to conventional hospitalisation on D0 was observed in six cases (2.1%): early bleeding before H8 in four cases (1.4%), three of whom required return to the operating room for haemostasis, refusal to feed in one case (0.3%), and a parental problem in one case (0.3%).

A postoperative complication occurring after H8 (after discharge from the ASU) required secondary readmission in six cases (2.1%): pain and feeding difficulties in two cases (0.7%) on D1 and D5, respectively, bleeding in four cases (1.4%) with reoperation for haemostasis before H24 for one patient (at 9 o'clock in the morning after tonsillectomy), on D5 for two patients (in another centre) and on D7 for one patient. Two children also experienced minor bleeding (bloodstained sputum, minimal clots), on D4 and D10, respectively, that did not require a haemostasis procedure or hospitalisation. These data are presented in Table 1.

Overall, 12 (4.3%) of the children operated on an outpatient basis required conversion to conventional

Table 1 Post-tonsillectomy complications according to the type of surgery.

	Outpatient	Conventional hospitalisation
Sample sizes	276 children	222 children
Transfer to the inpatient ward on D0 (reason)	6 cases (bleeding = 4, refusal to feed = 1, parental problem = 1)	—
Secondary readmission	6 cases (bleeding = 4, refusal to feed = 2)	5 cases (bleeding = 5)
Bleeding complications (reoperation for haemostasis)		
< H8	4 (3)	2 (2)
H8 to H24	1 (1)	—
> H24	3 (3)	5 (2)

hospitalisation due to early or late postoperative complications, generating a total of 25 days of conventional hospitalisation.

No perioperative respiratory complications were observed in children with clinical OSAS: discharge from the recovery room, based on the modified Aldrete score, was never delayed by respiratory complications (ventilation problem or desaturation) and no significant correlation was observed between postoperative complications and the child's age or gender or the indication for tonsillectomy.

Over the same period, 222 tonsillectomies were performed by conventional hospitalisation. The mean age of children operated by conventional tonsillectomy was 4.76 years (SD 2.81; range: 1—14; sex ratio = 128 M/94 F), a significantly smaller number than those operated on an outpatient basis (Mann-Whitney Rank Sum Test, $T = 49622.5$, $P < 0.001$). The indication for tonsillectomy was based on the presence of obstructive SDB in 175 cases (78.8%), recurrent pharyngitis in 18 cases (8.1%), pharyngitis and obstructive SDB in 25 cases (11.3%), Marshall's syndrome in two cases (0.9%) and parapharyngeal abscess in two cases (0.9%). One hundred and thirty-four children presented clinical OSAS (60.4%), a significantly higher proportion than for children operated on an outpatient basis ($Chi^2 = 31.365$, $P < 0.001$). The contraindication to outpatient surgery was medical in 101 case (45.5%): age < 3 years in 29 cases, asthma in 17 cases, clotting disorders in 15 cases, severe OSAS in 11 cases, craniofacial malformation in seven cases, sickle-cell anaemia/thalassaemia in seven cases, liver transplantation in six cases, neuromuscular disease in six cases, and another reason in eight cases. The contraindication was related to the patient's environment in 88 cases (39.6%): absence of a family car in 33 cases, language/comprehension problem in 23 cases, home-hospital distance in 19 cases, parents' refusal in 14 cases, and the absence of a second accompanying adult in five cases. In the other cases, the contraindication to outpatient surgery was related to the structure, i.e. closure of the ASU during half of the school holidays (13 cases, 5.9%) or was not reported (20 cases, 9%).

In these children operated by conventional hospitalisation, development of an early postoperative haemorrhagic complication (< H8) required return to the operating room for haemostasis in two cases (0.9%). Secondary readmission was required in five cases of secondary bleeding (2.2%) with reoperation for haemostasis on D7 for two patients. One child also presented a clot in a tonsillar fossa that only required gentle suction on D1. The mean postoperative length of hospital stay was 2.38 days. These data are presented in Table 1.

No significant correlation was observed between postoperative complications and the child's age or gender, the indication for tonsillectomy or the presence of clinical OSAS.

Discussion

Data concerning the feasibility of outpatient tonsillectomy have been published for many years [2] and have been confirmed by more recent publications [3—6]. Complications that can occur between 6 and 24 h after the operation, requiring overnight hospitalisation after tonsillectomy are mainly haemorrhagic and respiratory.

In this series of 498 tonsillectomies in children, the outpatient surgery rate was 55.4%. Six cases of early bleeding before H8 (1.2%) were observed and requiring reoperation for haemostasis in five cases. Eleven cases of secondary bleeding (2.2%) occurring after H24 were observed requiring reoperation in five cases. In one case of outpatient tonsillectomy, bleeding occurred between H8 and H24, after discharge from the unit. This case constitutes a failure of outpatient management in that hospitalisation of this child would have allowed more rapid management.

Data of the literature show that early bleeding before H24 is rare and generally occurs during the first 6 h post-tonsillectomy. This bleeding is easily detected when examination of the tonsillar fossae is performed just before authorisation to leave the ASU. The meta-analysis by Bennett et al. [7] reported a bleeding rate before the 24th hour post-tonsillectomy of 1.4%, and the very great majority of these cases occurred before the 8th hour. The incidence of bleeding between the 8th and 24th hours is very low, of the order of 0.1% of cases (95% CI: 0.08—0.16) and, according to the results of this study, 833 patients hospitalised during the first 24 postoperative hours would be

necessary to identify one case of bleeding after the 8th hour. In a British prospective audit concerning a total of 33,921 tonsillectomies, Lowe et al. [8] reported overall early and secondary bleeding rates of 0.6 and 3%, respectively. Depending on the haemostasis technique used, the early bleeding rate ranged from 0.4% (bipolar cautery) to 1.1% (monopolar cautery) and the secondary bleeding rate ranged from 1% (packing after cold instrument techniques) to 5.5% (monopolar cautery). No death was observed in this large series. In practice, serious haemorrhage, accompanied by haemorrhagic shock requiring resuscitation or major medical treatment, is exceptional. Windfuhr et al. [9] collected data concerning 55 children under the age of 18 years managed in various centres in Germany in the context of serious post-tonsillectomy haemorrhage and showed that, in 95% of cases, serious haemorrhage occurred after the 24th postoperative hour and, in 75% of cases, was preceded by repeated episodes of tonsillar fossa bleeding. In this series of 498 patients, the development of post-tonsillectomy haemorrhage associated with acute anaemia on D5 required transfusion of three units of packed cells in one case.

Early postoperative respiratory complications must be anticipated by precise evaluation of the child's respiratory risk at the preoperative visit by the surgeon and the anaesthetist.

Several situations can be considered to present a potential respiratory risk in candidates for tonsillectomy: age less than 3 years [10,11], craniofacial or upper airway malformation, neuromuscular disease with pharyngeal hypotonia [12], signs of right heart failure and pulmonary artery hypertension, morbid obesity [13], metabolic disease with infiltration of the submucosal connective tissue of the upper airways, respiratory tract disease such as recent upper or lower respiratory tract infection with bronchial hyperresponsiveness. These situations constitute contraindications to outpatient surgery (*Recommandation pour la pratique clinique amygdalectomie de l'enfant SFORL*, 2009).

Some data also suggest that the intraoperative respiratory risk is increased by the presence of severe OSAS in children [11,14]. However, there is a major problem concerning the definition of OSAS in children, as the presence of nocturnal and/or daytime symptoms associated with adenotonsillar hypertrophy is essential, but insufficient for a definitive diagnosis of OSAS [15]. Studies based on clinical questionnaires (clinical interview ± clinical examination) have concluded on the poor reliability of clinical examination for the diagnosis of obstructive SDB in children [15—17]. The definitive diagnosis of OSAS is based on polysomnography (repeated episodes, during sleep, of partial or complete upper airway obstruction, responsible for apnoeas or hypopnoea associated with arterial oxygen desaturation of at least 4%), but no consensus has been reached in the literature concerning the cut-off of respiratory events on the polysomnographic recording to define severe OSAS. In view of the difficulties of access to sleep laboratory polysomnography in children in France and the absence of a validated alternative investigation (polygraphy), routine assessment of the severity of obstructive SDB is based on subjective clinical evaluation. In our centre, children presenting a high respiratory risk and severe OSAS are considered to be unsuitable for outpatient surgery. None of the 96 children with clinical OSAS (tonsillar or adenotonsillar hypertrophy associated with at least four daytime or nocturnal symptoms on clinical interview) operated on an outpatient basis presented any perioperative respiratory disorders: discharge from the recovery room, based on the modified Aldrete score, was never delayed by respiratory complications (ventilation problem or desaturation). In fact, the severity of OSAS would be more closely correlated with anaesthetic induction difficulties and recovery difficulties than with sleep polysomnographic recording. When such respiratory events are detected during anaesthesia, the outpatient procedure should be converted to conventional hospitalisation (*Recommandation pour la pratique clinique amygdalectomie de l'enfant SFORL*, 2009).

Postoperative nausea and vomiting (PONV) are frequent in children and tonsillectomy constitutes an additional predisposing factor due to swallowed blood which induces gastrointestinal irritation and due to stimulation of certain nerve afferents during use of the electrical scalpel in the tonsillar fossae [18]. Prevention of PONV therefore represents one of the key points for good management of outpatient tonsillectomy. Several simple procedures can limit the risk of intraoperative blood aspiration: use of an endotracheal tube with an inflated cuff, installation in Rose's position after intubation (supine, shoulders raised by a block, head in hyperextension, lowered headrest, using the nasopharynx as a receptacle for blood), packing and systematic gastric aspiration at the end of the operation. A strong consensus has also now been reached in favour of intraoperative administration of dexamethasone and serotonin antagonists, that have been demonstrated to be effective on the prevention of PONV (*Recommandation pour la Pratique Clinique Amygdalectomie de l'enfant SFORL*, 2009). In our centre, only slow IV administration of dexamethasone 0.1 mg/kg at the beginning of the operation is systematically performed for prevention of PONV in children undergoing tonsillectomy, while serotonin antagonists are administered on demand in the recovery room. In our series, no failure of outpatient tonsillectomy was attributed to PONV. Note that a randomized recent study showed that higher doses of corticosteroids (0.5 mg/kg) for prevention of PONV were associated with a higher risk of postoperative bleeding [19].

Return of oral feeding, particularly fluids, is limited by odynophagia. There is no consensus concerning the duration of postoperative fasting after tonsillectomy. Six hours of postoperative fasting is systematically observed in all children in our centre. Discharge after outpatient tonsillectomy is authorised at H8, after 1 h of surveillance postfeeding, if the child is fully conscious with no breathing difficulties, in the absence of tonsillar fossa bleeding, and when the child has been able to drink without repeated vomiting. No consensus has been reached concerning the optimal time prior to discharge in children: in series published in the literature, this period ranges from 8 h [20] to 1 h [21], but is generally situated around 4 h [5,6]. In practice, as the rare cases of early postoperative bleeding observed in our experience occurred between H4 and H5, it would be unreasonable to allow discharge from the ASU before H6. This period corresponds to the surveillance period recommended

for all patients undergoing outpatient tonsillectomy [1]. In this series of 276 children undergoing outpatient tonsillectomy, postoperative pain and feeding difficulties required conversion to conventional hospitalisation on D0 in one case and secondary readmission (after discharge from the ASU) in two cases, on D1 and D5, respectively. The child readmitted on D1 can be considered to be a failure of outpatient surgery, as, if this child had been hospitalised in the conventional ward, this complication would have occurred during hospitalisation and analgesia would have been improved, allowing deferred discharge after several hours, with no loss of chance for the patient. Note that none of the children operated by conventional hospitalisation were secondarily readmitted for pain and/or feeding difficulties.

Outpatient surgery is associated with a number of advantages

The main advantage for the patient is more rapid recovery after the operation, followed by convalescence at the patient's own rate in a familiar environment. Various surveys have shown that 90% patients are satisfied after an outpatient surgical procedure (*Enquête PNIR - Conditions de développement de la chirurgie ambulatoire* (October 2003) — www.ameli.fr). The survey conducted by French National Health Insurance in February 2007 (Ipsos omnibus telephone survey performed on 16 and 17 February 2007 on a sample of 1013 representative subjects) indicates that a very large majority (81%) of the French population would be willing to personally undergo outpatient surgery. Another advantage for the patient is the absence of hospital admission fees.

It has also been demonstrated that the risk of wound infection was five times lower in outpatient surgery than during conventional hospitalisation (INCISO network report 2006 — Wound infection surveillance and prevention programme, November 2006).

On the purely economic level, outpatient surgery represents a significant cost reduction, as this surgery requires fewer personnel and generates savings in relation to other types of expenditure: hospital running costs, room maintenance, catering costs, etc. As the diagnosis-related group (DRG) rating for tonsillectomy in a level 1 (no associated comorbidity) patient under the age of 18 years is currently 628.69 euros, whether the procedure is performed on an outpatient basis or by conventional hospitalisation (fee convergence), it would be clearly beneficial in terms of health economy to develop this type of outpatient surgery.

Conclusion

The results of this study show that post-tonsillectomy complications occurring between H8 and H24 are exceptional. On the basis of all medical, social and organizational criteria, outpatient tonsillectomy is a safe procedure in children. In our experience, tonsillectomy in children can be performed as an outpatient procedure in more than 55% of cases, which is much higher than the outpatient tonsillectomy rates reported in French public hospitals. However, only the various personnel, working in the same unit, can jointly define the list of outpatient procedures adapted to their experience and their structure. This list can be adapted to changes in surgical activities, organization and experience, but cannot be made mandatory by regional hospital administrations simply on the basis of administrative criteria.

Disclosure of interest

The authors declare that they have no conflicts of interest concerning this article.

Appendix A. Appendix 1. Bicêtre Hospital outpatient tonsillectomy eligibility criteria

Contraindications to outpatient surgery:

	YES	NO
Age < 3 years	❒	❒
OSAS and preoperative respiratory distress or small for age > 2—3 SD	❒	❒
Facial dysmorphia	❒	❒
Neuromuscular abnormalities	❒	❒
Trisomy 21	❒	❒
Heart disease	❒	❒
Asthma	❒	❒
Severe allergy	❒	❒
Clotting disorders even when compensated	❒	❒
Respiratory tract infection during the months before the operation	❒	❒
Parents' refusal	❒	❒
Insufficient level of education of the parents	❒	❒
Limited fluency of the parents in French	❒	❒
Home situated more than 1 h or more than 30 km from hospital	❒	❒
No family car	❒	❒
No telephone at home	❒	❒
No second accompanying adult other than the driver	❒	❒

The operation cannot be performed as an outpatient procedure if any of these squares is ticked.
Date: Name and signature of the ENT surgeon and the anaesthetist:

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