

Day case tonsillectomy in children

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Abstract

A pilot study was undertaken to assess tonsillectomy as a day case procedure. The post-operative morbidity following this study was entirely anaesthetic related. A protocol was written to standardise the anaesthetic, paying particular attention to pain, nausea and vomiting. The pilot study admission rate of 65% fell to <3% immediately the new protocol was introduced. To date, 268 tonsillectomy procedures following this protocol have been undertaken as day cases with eight patients admitted directly from the day surgery unit and only one from home. All cases admitted were treated conservatively. This report summarises the policy, practice and outcome of day case tonsillectomy in children carried out since January 1994. The study has been undertaken jointly by the ENT Department and the Day Surgery Unit at Salisbury District Hospital. © 1999 Elsevier Science B.V. All rights reserved.

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1. Background

With the reduction of hospital in-patient beds and the expansion of day surgery as an alternative to the in-patient management of surgical patients, the ENT Department at Salisbury District Hospital suggested that a pilot study be undertaken to look at the feasibility of performing tonsillectomy in children as a day procedure. As recently as 1985 the mean length of stay, in the UK, for tonsillectomy patients was 3.1 days [1]. It is now most unusual for patients to stay in hospital for more than 2 nights unless complications arise. There has been reluctance to continue this trend and to introduce tonsillectomy as a day procedure. Both surgeons and anaesthetists have expressed concern at the incidence of post-operative morbidity and the severity of complications should they occur. However, tonsillectomy as a day procedure has been common practice in North America for some years. It was therefore agreed that an objective view of the advantages and disadvantages should be undertaken.

2. Pilot study

Twenty children between the ages of 5 and 16, who lived within 30 min of Salisbury by private car, were admitted to a pilot study. Patients were excluded if there was no telephone at home, if there was not a dedicated adult, in addition to the driver, available to accompany the child home and to care for the child on the first post-operative night. The patients were placed early on the operating list and were observed for 6 h before being discharged by the ENT staff. The parents were telephoned by the clinical staff that evening and again the following morning. They were also given a contact at the hospital to ring should they be concerned during the night.

No strict anaesthetic technique was followed for the pilot group although all the patients were intubated and the majority given morphine during the peri-operative period. Surgery was performed by experienced surgeons using blunt surgical dissection with the use of bipolar diathermy for haemostasis. Of the 20 patients, 13 (65%) were admitted with severe nausea and vomiting. None

were admitted for pain or bleeding. This admission rate was unacceptably high and arose from anaesthetic rather than surgical complications. The incidence of nausea and vomiting was similar to that reported by Stene et al. of 69% [2]. It was agreed, therefore, to establish a standard anaesthetic protocol which would address the post-operative morbidity. As the single complication from the pilot study was nausea and vomiting, all patients were given ondansetron intravenously after induction of anaesthesia as suggested by Litman [3] although in a smaller dose of 0.1 mg/kg.

3. Anaesthetic protocol

Pre-admission:	A non-milky drink before 07·00
Premed:	Nil other than EMLA cream when requested.
Induction:	Either intravenous with propofol or inhalation with Sevoflurane.
Airway management:	Laryngeal mask routinely unless inappropriate (small mouth) or anaesthetist's choice. Intubation, if chosen, with or without suxamethonium, taking care not to inflate the stomach when administering pre-intubation oxygen.
After induction:	IM morphine 0.1 mg/kg IV ondansetron 0.1 mg/kg slowly
Maintenance:	Spontaneous ventilation with oxygen, nitrous oxide and either enflurane or isoflurane.
After surgery:	Diclofenac suppository 1 mg/kg to nearest 12.5 mg.
Analgesia on discharge:	Paracetamol syrup—four times daily for 7 days. Brufen syrup—four times daily for 7 days. Parents are instructed to give analgesia regularly even if the child is not in obvious pain.

4. Main study

A further 50 patients were studied using the same exclusion criteria but following the standardised anaesthetic procedures above. Of the 50 patients, 32 also had their adenoids removed. No patient was admitted following tonsillectomy. Only one patient, from the whole series, was admitted following a slight bleed from the adenoid site. She required no further surgical intervention. No patient was re-admitted to hospital following their discharge home from the Day Surgery Unit. The incidence of post-operative nausea and vomiting had ceased to be an issue and it was decided to continue to

treat children requiring tonsillectomy as day cases, provided they met the criteria for admission.

5. Recent experience

Day case tonsillectomy is now accepted practice in Salisbury for selected patients and 268 day case tonsillectomies have been performed following the above protocol. Of the eight patients admitted to the in-patient ward from the day surgery unit, all had adenoids removed as well as their tonsils. Four patients were admitted for surgical complications, one returned to the day surgery theatre directly from the recovery room for bleeding, the other three were managed conservatively and required no further surgical intervention. One patient was admitted because tonsillectomy was not anticipated but was found to be necessary in addition to the planned adenoidectomy. Two patients were admitted for nausea and vomiting and one was admitted because she refused to eat or drink before discharge. Only one patient was admitted from home after being discharged from the Unit. She had vomited blood during the night and her mother was advised to bring the child in to be assessed. On examination there was an organised thrombus on the adenoid bed and no further treatment was required. The incidence of re-admission has been lower than that of patients having tonsillectomy as an in-patient procedure. This latter group includes all patients over 16 years of age, when one would expect the incidence of surgical complications to be higher than in children. This is the subject of a new study.

Patients are not discharged until they can drink freely and have had something to eat. The importance of eating is stressed as it discourages the slough on the tonsillar bed to accumulate which is a common cause of secondary haemorrhage.

Post-operative analgesia was initially a problem with 50% of the first group of patients, returning pain scores of between 7 and 10 on a scale of 1–10 on a postal survey carried out after 48 h. After the introduction of the strict paracetamol/brufen regime, the mean score dropped to 3 with the highest score being 5. In most cases the pain was assessed by the parent.

Parental confidence is fundamental to the success of paediatric day surgery for any surgical procedure and tonsillectomy is no exception. No parent is put under pressure to consent to this method of treatment. Once the details had been fully explained only the parents of two children requested that the operation be done as an in-patient procedure. A questionnaire sent to the parents of 50 consecutive patients which asked the question "would you be happy for any other children in your family to have their tonsil removed as a day case?" revealed that only two of the 50 would not wish this to be the case.

6. Discussion

Reluctance to move appropriate surgical procedures from the in-patient to the day surgery environment is based on the belief that day surgery does not meet the same gold standards as in-patient surgery. Until day surgery units can demonstrate that both the physical environment and the clinical skills on offer are superior to the in-patient alternative then it is only right that quality should be the deciding factor. Whilst tonsillectomy is not a procedure regularly undertaken in day surgery units, the operation of adenoidectomy frequently is despite it being, in some cases, a technically more difficult operation, as it is performed blind and haemostasis is often more difficult to achieve. In this study, 50% of the surgical complications were associated with the removal of adenoids. Prejudice and historical practice are not arguments for failing to explore the full potential of day surgery.

Successful day surgery units are obsessional about the quality of peri-operative care, paying particular attention to the pre- and post-operative management of the patient. Careful assessment and patient confidence are fundamental to this success. The latter is achieved by ensuring the patient is fully informed on every aspect of the care plan, which is reinforced by detailed instructions on the post-operative period including effective analgesia.

Tonsillectomy in children as a day case procedure demonstrates how prejudice can be addressed safely and successfully. This initiative came from surgeons who were prepared to look objectively at ways of

maintaining activity. They reviewed practice elsewhere and suggested the initial pilot study. They have been consistent in their support and the quality of their surgical input, ensuring that only fully trained surgeons are responsible for the operations. The Day Surgery Unit has developed a protocol which not only minimises post-operative morbidity but ensures the full confidence and co-operation of the parents.

This report demonstrates that with attention to detail, enthusiasm and the co-operation of patients, surgical procedures, often dismissed as inappropriate within a day surgical environment, can safely be undertaken as day cases.

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References

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