

Analgesic regimen and readmission following tonsillectomy

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Introduction:

- ❖ Tonsillectomy frequently results in a significant degree of post-operative pain, occasionally requiring readmission for analgesic management.
- ❖ New Department of Health rules imposing financial penalties on hospitals for emergency readmissions means all departments should carefully analyse the causes of such events.
- ❖ Post-tonsillectomy pain at Brighton and Sussex University Hospitals (BSUH) Trust was identified as a readmission cause amenable for analysis.

Aim:

- ❖ To analyse the patient and operative details of post-tonsillectomy readmission cases.
- ❖ To define the analgesic regimen given following tonsillectomy.
- ❖ Investigate any association between analgesic regimen and readmission

Methods:

- ❖ A retrospective review of case notes was performed for patients undergoing tonsillectomy between February and August 2011.
- ❖ Microsoft® Access database was created including the following patient details:
 - age, gender, operation type, indication, medications on discharge, details of readmission
- ❖ Data was assessed for correlations, particularly that between readmission and analgesic regimen given following tonsillectomy.
- ❖ Readmission/complication rate was compared to national audit data (ENT BAO)¹

Results: Demographic features

N=125 Patients
M-37.6%, F-62.4%
Age range 3 months – 65 years (mean 13.8)

	Brighton	ENT-BAO
<5 years	26.4%	23%
5-16 years	33.6%	49%
>16 years	39.2%	28%

Table 1: Demographic data from study and comparison of age ranges to national audit data

Type of surgery

❖ 125 operations were identified in the study period

- ❖ 63.2% (n=79) - tonsillectomy
- ❖ 28.8% (n=36) - adenotonsillectomy
- ❖ 8% (n=10) - adenotonsillectomy + grommit insertion

- ❖ 88.8% (n=111) - bipolar dissection
- ❖ 11.2% (n=14) - cold steel dissection

Indications for surgery n=143

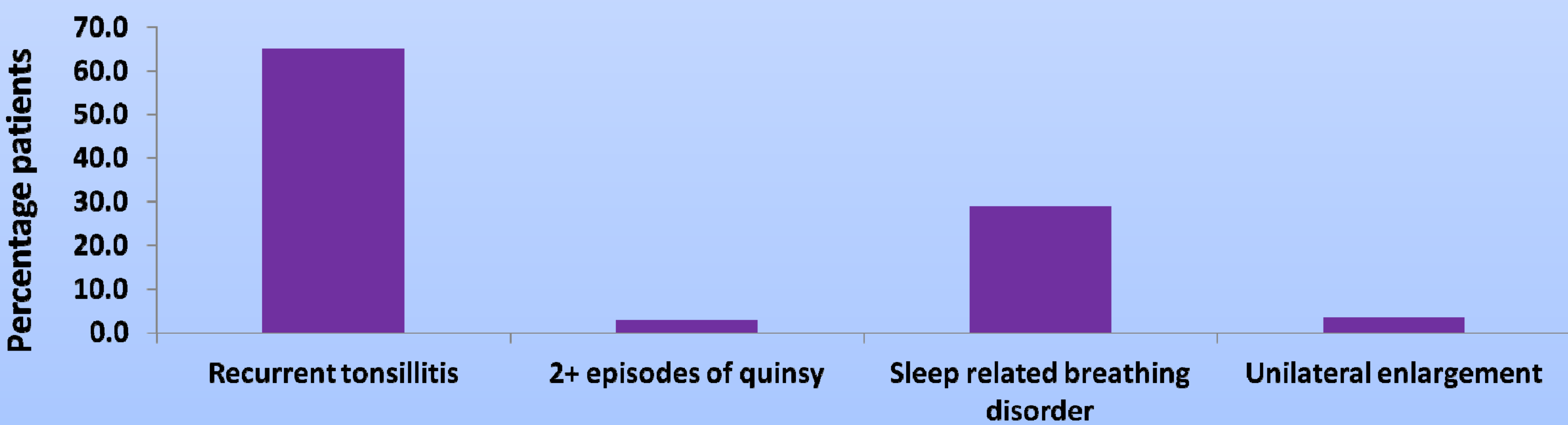
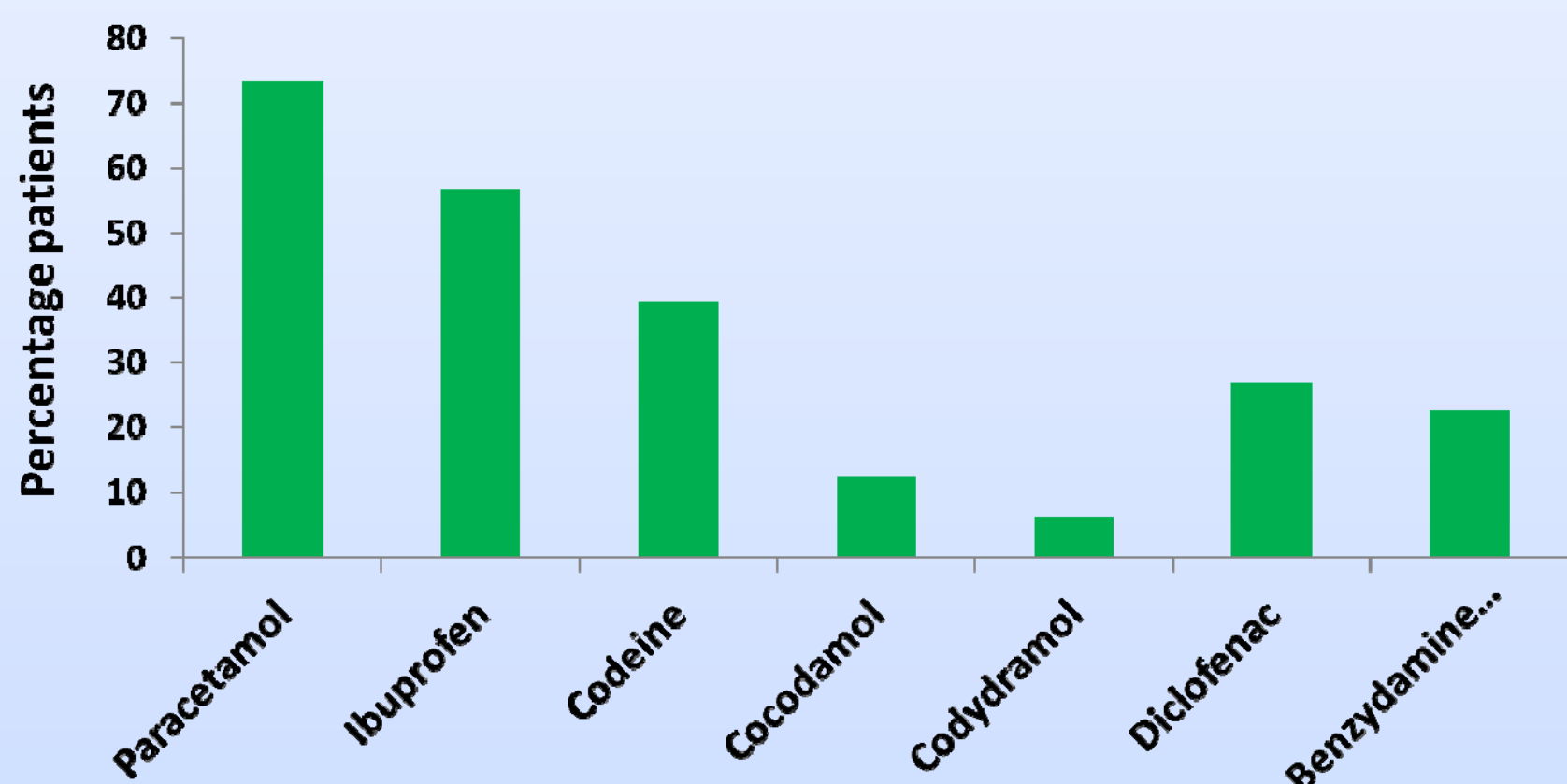


Figure 1: Graph showing indications for surgery for each operative case

Post-operative analgesia and readmission

Figure 2: Graph showing percentage of patients receiving each analgesic drug



- 17 different analgesic regimens
- 29.1% patients not prescribed post operative analgesic regimen

Age	Indication	Operation	Analgesic regimen	Reason for readmission
10	Rt	Tonsillectomy (bipolar, ties)	none	bleeding
34	Rt, Quinsy	Tonsillectomy (bipolar, ties)	paracetamol, ibuprofen, codeine, benzydamine	bleeding
9	Rt	Tonsillectomy (bipolar, ties)	None	bleeding
16	Rt	Tonsillectomy (bipolar)	cocodamol, diclofenac	bleeding
20	Rt	Tonsillectomy (bipolar, ties)	codydramol, diclofenac	bleeding, temperature
18	Rt	Tonsillectomy (bipolar, ties)	paracetamol, diclofenac, codeine, benzydamine	pain
8	Rt	Tonsillectomy (bipolar, ties)	paracetamol, ibuprofen, codeine	bleeding
31	Rt	Tonsillectomy (bipolar)	cocodamol, diclofenac	bleeding, temperature
17	Rt	Tonsillectomy (bipolar, ties)	paracetamol, ibuprofen, codeine	bleeding
4	Rt, stridor	Adeno-tonsillectomy (bipolar)	paracetamol, ibuprofen	bleeding
3	Rt	Tonsillectomy (bipolar, ties)	none	pain dysphagia, pain, neck swelling
25	Rt	Tonsillectomy (bipolar, ties)	paracetamol, ibuprofen, codeine, benzydamine	swelling
31	Rt	Tonsillectomy (bipolar)	cocodamol, diclofenac, benzydamine	pain

Figure 3: Table documenting features (including analgesic regimen) of patients readmitting following tonsillectomy (n=13)

Discussion:

Readmission:

- ❖ 30.8% of readmission s for pain: (3.2% readmissions in total)
 - > National average 23% (2005 ENT-BAO national tonsillectomy audit).
 - > Greater number patients in older age group may contribute to this
- ❖ Readmitting patients on a variety of analgesic regimens
 - > Trend towards stronger analgesic therapy
- No correlation between readmission with pain and analgesic regimen, including those discharged with simple verbal analgesic advice.
 - > Readmission due to pain caused by intrinsic patient/pathological factors

Analgesic regimen:

- > 17 patients no regimen documented:
 - Age range 3-17 years
 - Parents advised acetaminophen (paracetamol)/ibuprofen (over the counter)

Perioperative pain relief ? Evidence to show can reduce pain scores Homer *et al.* 2002
Steroids? Cochrane review – reduces nausea /vomiting and pain post operatively Steward *et al.* 2011

• Rationale to develop a stepwise uniform regimen?

Peri operative:
acetaminophen (*paracetamol*) (20mg/kg); **diclofenac** (1mg/kg) + **dexamethasone** (0.1 -0.4mg/kg)

Post operative: (7 days)
acetaminophen (*paracetamol*) (20mg/kg qds oral/PR); **diclofenac** (1mg/kg tds PO/PR); **codeine phosphate** (0.5mg/kg as required)

Conclusion:

- Post-tonsillectomy pain is a rare but important cause of hospital readmission.
- Readmission is more likely due to intrinsic patient factors than analgesic regimen.
- A stepwise analgesic regimen is proposed to reduce confusion for ward and dispensing staff, ensuring all patients and parents receive similar post-operative advice.

References:

- 1)Royal College of Surgeons of England/British Association of Otorhinolaryngologists. National prospective tonsillectomy audit. 2005
- 2)Homer JJ, Frewer JD, Swallow J, Semple P. An audit of post-operative analgesia in children following tonsillectomy. J Laryngol Otol. 2002 May;116(5):367-70.
- 3)Steward DL, Grisel J, Meinen-Derr J. Steroids for improving recovery following tonsillectomy in children. Cochrane Database Syst Rev. 2011 Aug 10;(8):CD003997.