Abstract 1:

Fibreoptic guided tracheal intubation through supraglottic airway device using an airway exchange catheter in children

N.Willis, T.Engelhardt, G.Rodney, B.McGuire

Introduction and Aims

In August 2012 [1], the APAGBI and DAS jointly published paediatric difficult airway guidelines, aimed at "the non-specialist anaesthetist who wishes to learn or maintain paediatric airway skills, rehearse unexpected difficult airway scenarios and teach good practice." As part of managing unanticipated difficult tracheal intubation, use of a fibrescope to intubate through a supraglottic airway device is recommended as a secondary tracheal intubation plan. This technique is not straightforward, and success in its' use relies upon familiarity with the technique and its' potential risks. To ensure patient safety in this scenario, user education and the use of simulation are vital.

Methods

To facilitate simulation of the technique, a simple, step-wise guide was created to be available with paediatric difficult airway equipment. Photographs of the technique were already available on the Scottish Paediatric Anaesthetic Network website (www.span.scot.nhs.uk). These were used to adapt an already existing guide [2] for intubating adult patients through a supraglottic airway device using the Aintree Intubating Catheter.

Results

The completed document, together with the new APAGBI/DAS guidelines, is available in all areas where children are anaesthetised as part of the department's paediatric airway rescue trolleys. These resources are to be used in the implementation of simulated paediatric airway management aimed at familiarisation with advanced techniques and drills for management of the unanticipated difficult airway.

Discussion and Conclusion

Safe airway management relies on the use of familiar equipment and, as far as possible, uncomplicated techniques. Standardisation through adoption and teaching of national guidelines will improve the planning and approach to the difficult airway and improve patient safety. To complement this, practical techniques recommended in the guidelines should be taught and rehearsed in the simulated scenarios to ensure that, when needed in the clinical situation, they are performed with some recognition of the practical aspects as well as the risks.

References

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2. Padmanabhan R, McGuire B. Fibreoptic guided tracheal intubation through supraglottic airway device using Aintree Intubation Catheter. Awaiting upload to http://www.das.uk.com (document viewed 07/01/2014)

Abstract 2:

Nursing perspectives on changes to Oramorph use in children
K.Pearson, S.Crawley, G.Rodney

Introduction and aims
Following recent MRHA restriction of codeine use [1] our hospital has introduced Oramorph as the post-operative opioid of choice for children both in-hospital and for take home analgesia. Within our hospital we wanted to determine opinion from the staff best placed to comment on administration practicalities, patient and parental acceptance and highlight any issues arising from the recent change in practice.

Methods
A survey was distributed to nursing staff working in the paediatric wards to gauge perspective three months following the change in practice. Comparison of Oramorph to Codeine was sought using a five-level Likert scale, (1=much worse, 2=worse, 3=similar, 4=better, 5=much better) in r elation to: ease of administration, effectiveness as post-operative analgesia and associated side effects. Information was also collected regarding frequency of parental concerns raised regarding Oramorph use.

Results
All nursing staff (n=7) working on our paediatric surgical ward completed the survey with a focused sample (n=9) collected from those working on the general paediatric ward who are most frequently involved in post-operative care. 83% of those surveyed (13/16) felt that they had received adequate information regarding the change in practice. Those who felt they had not all worked on the general paediatric ward. Ease of administration was ranked as similar, better/much better by 81.3% with a scale median of 3 (IQR 3-4). Effectiveness was ranked as better/much better by 75% with a scale median of 4 (IQR 3.25-4.75) and associated side effects as similar or better/much better by 93.8% with a scale median of 3 (IQR 3-4). Frequency of parental concerns were recorded as 'occasionally' by 43.8% regarding in-hospital use, 28.6% regarding at home use and 'never' by the remainder. Concerns raised included safety aspects associated with the drug, potential for over-sedation and the stigma attached to morphine.

Discussion
The majority of nursing staff surveyed felt well-informed of the recent change in practice, though focus with further education could be directed towards the general paediatric ward and those less routinely involved in post-operative care. Despite initial apprehension with regards to routine use of a previously controlled drug (raised in the free-text section) this survey has demonstrated a generally positive opinion of Oramorph administration in the post-operative period. Encouragingly, effectiveness for post-operative analgesia and side effect profile were regarded as at least similar or better than codeine using the introductory dosing regime (100micrograms/kg every 4 hours) implemented following collaboration of the paediatric pain team with pharmacy. Parental concern may be alleviated over time via on-going staff education/communication and newly implemented information leaflets, although public perception regarding stigma remains challenging.

References
1. MHRA. Codeine: restricted use as analgesic in children and adolescents after European safety review. *Drug Safety Update* June 2013. vol 6, issue 11

Abstract 3:

Paediatric Quality improvement audit on parent and child information

S.Naithilath, M.Mifsud

INTRODUCTION & AIMS

There is a high incidence of anxiety in parents and children prior to surgery. High preoperative anxiety in children has been shown to adversely affect recovery. Adequate preoperative information and preparation will help allay these concerns and reduce anxiety. Participation in decision making increases parent satisfaction with the care received.

Wishaw General is a district hospital in Lanarkshire and operates on about 500 children in a year, including electives and emergencies.

The author wanted to audit the quality of preoperative parent and child information delivery in this hospital. The aim of the audit was to see how we scored in the suggested indicators from Royal College of Anaesthetists' Raising the standard: a compendium of audit recipes.

METHODS

Data collected by the author (who was not involved with anaesthetic) after the operation were:

- age
- sex
- category of operation,
- details of preoperative leaflet received and where
- anaesthetic interview
- opportunity to ask questions
- satisfaction with leaflet and interview

Inclusion - children

- elective or emergency operations

RESULTS

Data was collected for 31 children from November 2012 to January 2013.

- Age: 3 to 13 years
- Sex: 58% were boys
- Elective procedures: 77% (24/31)

In the elective cases, all children received pre-operative information leaflet from the pre-assessment. For those children undergoing emergency procedures, 71% (5/7) of families received the information leaflet from paediatric ward. In the cases of emergency patients who did not receive it (2/7), the parents said they received verbal information. No children received postal information. All the parents rated the leaflet as satisfactory.

All parents and children were happy with the anaesthetic interview. All of them had the opportunity to ask questions and rated interview as satisfactory.
There were no cancellations in this audit period.

DISCUSSIONS & CONCLUSIONS

We met the suggested indicators in 100 % of elective patients. In emergency patients, 29% did not receive a preoperative information leaflet. All these children were from trauma lists and could not have been sent leaflets by post. The ward nurses should be encouraged to give preoperative information leaflets to children admitted as emergencies. Other forms of information aids like video tapes and educational programmes may be used as it is shown to reduce anxiety and cancellations. Older children may need more information about the surgery.

REFERENCES

Raising the standard: a compendium of audit recipes (RCoA/3rd Edition)

Abstract 4:

Paediatric fasting audit – Is it time for change in trust wide practice in Lanarkshire
S.Naithilath, M.Mifsud

INTRODUCTION & AIMS

The aim of this audit was to assess if we were 100% compliant with Royal College of Anaesthetist's paediatric fasting guidelines. Adequate fasting times are based on a balance of risks between prolonged and inadequate fasting.

Difficulties in planning fasting times can be due to possible list changes, variable operating times and issues with compliance. So most fasting times are based on start time of the list.

This audit was undertaken at Wishaw General Hospital; where there are 2 paediatric lists (ENT & General surgery) weekly. Both are morning only lists. The children are reviewed by surgeon at one of the 3 hospitals in the trust and referred to pre-assessment nurses who gave leaflets and advice as per trust guidelines.

The trust guideline is to fast the child for solids from 0300 hours and for clear fluids from 0600 on the day of surgery.

METHODS

This prospective audit was done over 3 consecutive months ending in February 2013. 25 elective children (3 – 13 years) were included.

Data collected were

- Was child pre-assessed?
- What did parent understand about instructions on clear fluids?
- When did the child wake up?
- Last clear fluid, milk or solids
- Planned order of list
- Time of induction
- Change of order or cancellation due to inadequate fasting

RESULTS

All children were seen in pre-assessment and given written and verbal instructions. There were no cancellations or delays due to inappropriate fasting.

The length of fasting for clear fluids ranged from 4 to 15 hours (Mode 14 hours). The length of fasting for solids ranged from 10 to 18 hours (Mode 14 & 15 hours).

CONCLUSION

- In spite of being given written and verbal instructions on fasting, parents failed to understand them in 40% of cases.
- None of the children were fasted as per RCoA guidelines.
- Analysis of the reasons why children had prolonged fasting showed communication issues (40%), child waking up after instructed time of last clear fluid (20%) and compliance issues (8%).

RECOMMENDATIONS

- Communication issues need to be addressed by ensuring that parent understands fasting instructions.
- Change the time of last drink in Paediatric pre-operative instructions from 0600 to 0700 hours as start time of list is 0900 hours. These changes can only be taken at trust wide level as pre-assessment could take place at any one of the 3 hospitals.
- Instruct parent to wake up the child at 0700 and give a drink of clear fluid at specific time (0700).
- Encourage parents to delay the evening meal on the day before the operation.

REFERENCES

'Raising the Standard: a compendium of audit recipes', RCoA 2012.

Abstract 5:

Paediatric Endotracheal tube survey

S.Alcorn, T.Cripps

The choice of cuffed versus non-cuffed endotracheal tubes (ETTs) in paediatric anaesthesia remains contentious despite the introduction of pressure-regulated cuffed tubes. We devised a short survey to obtain a snapshot of current practice, departmental policy, and user experience and preference with both types of ETT across Scotland.

Methods

A 10-question online survey was created using free software and a link emailed to all Scottish Paediatric Anaesthetic Network members. A total of 20 responses from 9 individual institutions were obtained.

Results

A majority of respondents (60%) report using both cuffed and uncuffed ETTs, while 15% solely used cuffed, and 25% solely uncuffed. Over half of all respondents reported no specific situations where they would routinely choose uncuffed over cuffed ETTs, while 15% had an age cut-off below which they would choose uncuffed ETTs. 35% reported certain specific indications where they would choose one type over another, such as in neonates, when using a circle system, or in preparation for the patient retrieval team.

Only 15% were aware of a policy in their department regarding ETT choice, while 80% reported no policy and one respondent was unsure. Specific policies described include the use of cuffed tubes for all ENT cases in one unit following an incident of airway fire, while another mandates the use of cuffed ETTs in all appropriate age groups.

Three anaesthetists (15%) reported issues in their hospitals regarding the use of cuffed ETTs. One reported a case of subglottic stenosis (albeit in a case where no manometry was used) while two reported problems with ETTs kinking during use.

Free text comments revealed a widely divergent range of opinions, with strong preferences for both types of ETT. Several respondents from non-specialist Paediatric centres reported concerns regarding the expectation that cuffed tubes will be used for patients undergoing retrieval and transfer to a specialist centre, with one particularly expressing concern about the use of these ETTs in emergency cases when they are not used routinely in elective work. Another respondent specifically indicated that education from the tertiary centres regarding the use of these devices prior to retrieval would be welcome.

Summary

While many respondents described a change towards increasing use of cuffed ETTs in children there remains a significant divergence of opinion across Scotland. Few units have specific protocols regarding the choice of ETT although many report indications where they would choose one particular device over another. Concerns particularly surrounding cuffed ETTs for paediatric retrieval patients may highlight a demand for guidance for non-specialist centres regarding the use of these devices.

Abstract 6:

Paracetamol dose adjustment in the obese child- pilot study

K.Flatman, T.Geary

Aim

The aim of this survey was to determine the paracetamol dosing practices amongst Anaesthetists in obese paediatric patients.

Method

This pilot study included a survey distributed amongst all Anaesthetic Staff within a busy University Hospital with regular Paediatric lists. It included both staff with routine paediatric lists and those without. The survey presented 4 cases involving one underweight and several overweight children. Staff were asked to calculate the appropriate dose of paracetamol in each case.

Questions also included how the clinician calculated the correct paracetamol does in paediatric patients out with the normal weight range, and if they routinely adjusted the dose in both underweight and overweight children.

Results

All responders to the survey were Consultants, 33% (4/12) of which have a routine paediatric list. A total of 58% (7/12) routinely alter the dose of paracetamol in obese children, and 67% (8/12) in underweight children.

In the underweight group, drug dose was calculated using 15mg/kg actual body weight. In the obese, clinicians used the (age + 4) x2 formula to calculate expected weight and administered 15mg/kg, others suggested the use of Ideal Body Weight based on age and height, or an online calculator to calculate Lean Body Weight.

In the obese infant case the median dose prescribed was 15mg/kg with IQR 10-17.5 and RMS 2.2.
In the underweight case the median dose prescribed was 17.9mg/kg with an IQR of 14 -24.6, and RMS 3.2.
The two overweight paediatric cases included a median Dose 17mg/kg and IQR 10.9 – 21.9 and RMS 3.6, and median Dose 18.4mg/kg and IQR 9.9 -19.8, with a RMS 3.9.

Discussion and Conclusions

This study highlighted that although the paracetamol doses calculated for each case varied amongst Anaesthetist, the RMS variance was +/- 3.2mg/kg. Whilst this was only a small deviation, the concern with worsening obesity and therefore awareness of and consideration of dose adjustment in the obese paediatric population is important.

The RCOA Safe Anaesthesia Liaison Group have information on the safe use of paracetamol in underweight children, however there are no standardised local or national guidelines available to advise the correct dose adjustments in obese paediatric patients.
The New South Wales Health Policy Directive has suggested 'the recommended dose in an obese child is based on lean body weight relative to the age and height of the child. The 'ideal weight' for dose calculation purposes for a child may be approximated using growth charts'.

Paediatric Trials Network is currently producing a drug database that provides specific dosing information for obese children.

References

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3. https://pediatrictrials.org/whats-happening-now/other-data-based studies/copy_of_studying-obesity-and-drug-dosing-in-children

Abstract 7:

Checking anaesthetic equipment

L.Jack

The pre-operative checking of anaesthetic equipment is essential for patient safety. In response to the increasing use of computerized and more sophisticated anaesthetic machines, the AAGBI published an updated guideline, *Checking Anaesthetic Equipment 2012*. (1) This guideline focuses on the outcomes of equipment checking rather than detailing the processes as well as including ancillary equipment necessary for providing safe anaesthesia. (1) It also stipulates that checks should be performed prior to each case as well as at the start of the list. (1)

In view of these recent changes and the frequent changes between breathing circuits in paediatric anaesthesia, a review of current practice was undertaken.

Methods

A questionnaire was compiled based on the criteria in the AAGBI guideline. This was distributed to all consultants in the anaesthetic department of a tertiary paediatric centre, and was followed up by an email reminder three weeks' later. At the end of four weeks, seven responses were received, out of a possible seventeen.

Results

	Yes	No
Did you check the anaesthetic machine and breathing circuits you plan to use before the start of the list? (Gas supplies, flowmeters, flush, soda lime, auxiliary gas outlet, ventilator, scavenging, suction)	6	1
Did you record this in the book attached to the anaesthetic machine?	0	7
Did you record this in the patient's anaesthetic chart or notes?	6	1
Did the anaesthetic assistant check the anaesthetic machine and breathing circuits before the start of the list?	6	1
Did he/she record this in the book attached to the anaesthetic machine?	3	4
Did you check the monitors were configured correctly and appropriate alarm limits set?	3	4
Did you check the airway equipment?	5	2
Did you check the provision of a self-inflating bag in both the anaesthetic room and theatre?	1	6
Did you perform the following checks **before each case?**		
Breathing system	3	4
Ventilator	2	5
Airway equipment	3	4
Suction	2	5
Did you check the breathing circuit on the trolley to recovery?	4	3

Nearly all anaesthetists check the anaesthetic machine and breathing circuits before the start of an operating list. None recorded this in the book attached to the machine but most did record it in the anaesthetic chart, which, locally, has a preprinted space for this.

Most anaesthetists knew whether or not the machine and breathing circuits had been checked by the anaesthetic assistant but more than half did not know if this check was recorded in the anaesthetic machine book.

More than half do not check monitors and alarms, and 5/7 checked the airway equipment. Only one checked the provision of a self-inflating bag in theatre and the anaesthetic room. And the majority did not perform the AAGBI recommended checks before each case.

Discussion

Equipment checking is a vital part of administering safe anaesthesia and will minimize the incidence of equipment related critical incidents. Between 2006 and 2008 there were 1029 equipment related critical incidents, with 2.9% resulting in moderate or severe harm. (2) Almost 40% were related to monitoring and 27.5% due to ventilator and breathing circuit problems. (2) In the safe environment of theatre, the advent of high-tech anaesthetic machines and working as part of a competent anaesthetic team, the anaesthetist may become complacent about performing and documenting these checks. The AAGBI recommends that the anaesthetist has primary responsibility for ensuring equipment checks are carried out pre-operatively and in between cases and that a record of these checks should be made.

Anaesthetic departments should therefore be striving to ensure that the AAGBI equipment checklist is carried out in 100% of cases.

References

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http://www.aagbi.org/sites/default/files/checking_anaesthetic_equipment_2012.pdf
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Abstract 8:

Paediatric anaesthetic experience among Scottish trainees. Are we doing enough?
R.Gill, F.Harding, P.Winton

Paediatric anaesthesia is an essential part of the curriculum for training in anaesthesia, but exposure to paediatrics can vary greatly during training. As a result of the reduction in working hours and the centralisation of paediatric surgical services, there are less opportunities to gain experience in paediatric anaesthesia out with tertiary centres. We sought to gain more information regarding experience in paediatric anaesthesia amongst Scottish anaesthetic trainees, to determine if simulation based training was available to them and whether they felt they would benefit from such training.

Method:
All anaesthetic trainees in Scotland were invited to complete a short survey via email. This consisted of nine questions relating to their training in paediatric anaesthesia. The results were then compiled.

Results:
A total of 57 trainees participated in the survey. This included a mixture of training grades, and all the anaesthetic schools within Scotland were represented. Experience varied between grades, but 89% of trainees had 6 months or less experience. Respondents were asked if they had completed any paediatric emergency training courses. The most popular was the APLS or EPLS courses with 67% having completed one of these. Only 4 respondents (7%) had completed a course specifically for paediatric anaesthetic emergencies. The survey asked respondents to rate their confidence in managing some paediatric anaesthetic emergencies. Laryngospasm was on average the emergency that trainees felt most confident with, however respondents felt less confident managing head injury, trauma and croup. Confidence managing paediatric emergencies out of hours was on average rated quite low. However the results showed a bimodal distribution, which probably represents training grade.

An overwhelming majority (98%) felt they would benefit from a simulation course designed for anaesthetists in paediatric emergencies, with a high proportion (73%) feeling this should be before or during their intermediate block. Many trainees (31%) had experienced difficulty in completing a training course in paediatric anaesthesia due to a lack of availability, with the highest proportion from the south east region

Discussion:
Currently paediatric resuscitation courses are widely available, however this survey illustrated that there is a lack of courses available specifically tailored for paediatric anaesthesia within Scotland. Simulation is a valuable tool that gives an opportunity for both learning and assessment and can be invaluable in practicing for uncommon scenarios. It is routinely used in many facets of adult anaesthetic training, but is not as common within paediatric anaesthetic training. There was a clear lack of confidence in managing many paediatric emergencies that anaesthetists are often called upon. Courses already exist for paediatric anaesthetic emergencies. This may be a way to standardise exposure to paediatric emergencies, and as a result improve training.

Abstract 9:

An audit of perioperative fluid management in children

A.Singh, M.Chandran, S.Hivey

To compare the existing practise of intravenous (iv) fluid management at specialist children hospital in accordance with the gold standard as suggested by APAGBI.

Methods

A prospective data collection was done for one month period which included 50 patients in elective and emergency list. We excluded children less then one month old as they have complex fluid requirements. We recorded fasting times, weight, type and volume of fluid, maintenance and resuscitation bolus, and frequency and timing of electrolyte measurements as required.

Results

Results were obtained on 50 patients which were mix of 30 emergency and 20 elective patients. In the elective group the age range was from 1-9 years and weight range from 5.6kgs to 58.4kgs. Average fasting times for solids ranges from 6-14hrs and for clear fluids 2.5-7hrs.The average fasting times for clear fluid ranged from 2.5hrs to 7hrs.0.9%Nacl with 5% Dextrose was used in all patients and the rate of infusion was calculated according to Holiday and Segar method.Intraoperative average time in theatres ranged from 1hr to 10hrs and Hartmann's solution was used as maintenance fluid. No patient received glucose containing solutions but only 50% of these had their blood sugar checked. Postoperative fluid was calculated according to 4-2-1 rule. In the emergency surgery group the age range was from 5weeks-12years and weight range from 3.1kgs-42kgs. Average fasting times for solids were 20 hrs and for liquids 11.5hrs.Preoperatively 87% of the patients received fluids but U&E was checked only in 76%.Most commonly used fluids were 0.45%Normal saline +5%dextrose, Hartman's and Normal saline and no hypotonic fluids were used for bolus.Intraoperatively the average time in theatres was 91 minutes and 90% patients received fluids. Rate of fluid administration was calculated using 4-2-1 rule and most commonly used fluids were Hartman's followed by gelofusion, 0.9%NS and albumin. Postoperatively 90% of patients received fluids using 4-2-1 rule but only 90% of patients had their U&E's checked daily. Majority of our patients receive isotonic fluids post operatively as recommended by NPSA.

Discussion

Our audit showed that our current practise is in accordance with guidelines of APAGBI, but there are many recommendations that need to be followed to improve the patient care. Firstly, the fasting times needs to be addressed in this patient population although many of these were fasting due to surgical reasons but care can be improved in the other category by improving communication with the ward and surgical team so that patients can have clear fluids upto two hours before surgery. Secondly it's mandatory to monitor blood glucose in prolonged procedures ie more then three hours and patients who are on intravenous fluids preoperatively should have mandatory U&E's monitored as recommended by NPSA.

References

2. APA Consensus Guideline on perioperative fluid management in children. 2007.

Abstract 10:

Pre-list Debriefings in Children' Surgery
A.Dalton, G.Rodney

Introduction and aims
Effective teamwork and communication lies at the heart of providing safe surgical care. Through the reliable implementation of the 5 step approach to safer surgery (Briefing, three stages of the WHO Surgical Safety Checklist, and Debriefing)[1] and by paying greater attention to crucial human factors in perioperative practice, significant improvements in outcomes for patients as well as a better and more efficient working environment for staff can be realised.

Following the successful implementation of the WHO surgical checklist[2] and pre-theatre briefing (which has achieved 100% compliance), the Paediatrics team have introduced a post-list debrief.
The aim of the post list debrief is to aid communication and teamwork, and highlight areas for improvement. The compliance target is 95% compliance.

Methods
Debriefs were introduced by the two Senior Charge Nurses and the process was widely communicated with the whole theatre team.
Post theatre debriefs are undertaken Monday to Friday in the Paediatric theatres, and are held prior to the last patient leaving theatre, in the presence of team members that include a ward nurse, theatre nurses (including anaesthetic nurses), surgeon(s) and anaesthetist(s).
A communication diary was initially established to capture any issues identified by the debrief. This has recently been upgraded to a formalised proforma for mandatory completion.
We reviewed the debriefing process, both in terms of compliance and also what issues were documented as having been raised.

Results
Figure 1 displays compliance since the introduction of debriefs eight months ago. It shows a steady increase in compliance in the early months when debriefs were being driven by the Senior Charge Nurses. Recently, however there has been a slight dip, requiring renewed effort and vigilance of all staff.

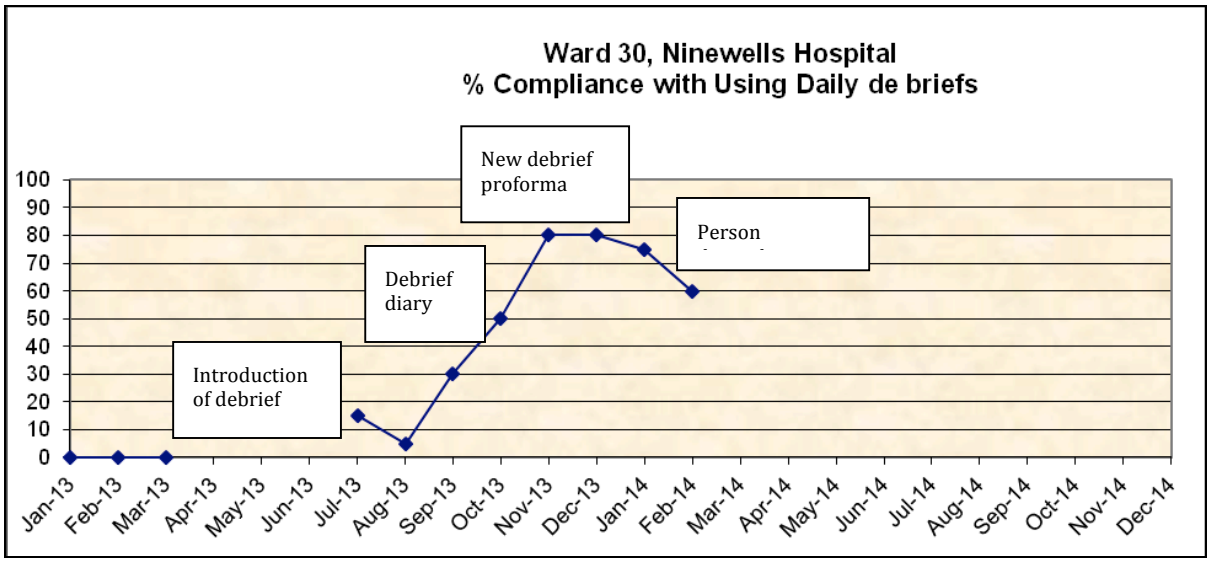

Figure 1: Compliance with surgical debrief

Discussion and conclusion
The debrief diary and pro-forma have identified issues for discussion including lack of equipment, wrong order of patient lists, potential wrong site surgery (the consent form and skin marking were

different), absence of signed consent (only noted after induction), as well as other organisational and patient issues. Debriefs have lead to improved communication and teamwork within the theatre team and with ward staff. It is our view that with this improved debrief culture, the overall safety of lists will be improved, as problems identified will be able to be incorporated into future pre-list briefing/checklists to hopefully eradicate/minimise these problems and therefore the chance of recurrence. The recent slight reduction in compliance with the debrief does however highlight the importance of ongoing monitoring and continued education to ensure that this service improvement becomes part of the long term routine care that will contribute to overall safer peri-operative care.

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2. World Health Organisation. Implementation Manual for Surgical Safety Checklist. http://www.who.int/patientsafety/safesurgery/tools_resources/SSSL_Manual_finalJun08.pdf?ua=1 (assessed 20 March 2014)

Abstract 11:

Paediatric Post-op Temperature Audit (PPoTA)

M.Gallagher

Introduction and aims

Hypothermia is known to be detrimental to the recovery of all patients[1] and in the paediatric population rapid cooling and warming can be achieved due to the large surface area-mass ratio. Following a recent case of poor outcome secondary to post-op hypothermia it was decided to carry out a local audit looking at our current practice and for potential areas of improvement.

Method

Using the college audit recipe book[2] as a guide a prospective audit was carried out in paediatric theatres over a two week period. Data was collected looking at age, weight, length of surgery, warming methods, temperature monitoring used and temperature on arrival to recovery (checked with a tympanic temperature probe). The standard set by the college was that all children should have a temperature in recovery in the range 36-37^{o}C was used. Data was collected by myself and by the anaesthetic nurses working in recovery.

Results

Data was collected on 36 patients, with temperature readings in recovery for 35 of these (one child was unable to have a tympanic temperature checked). Of these patients 26 (74%) had their temperature within the range set by the college, of the remaining patients 2 had temperatures below the range and 7 had temperatures above the range (mean 37.3^{o}C).
A warming mattress was used for 89% of patients used with the rest receiving no active warming. In-theatre temperature monitoring was only performed on 23 patients with most having a single reading and only one patients receiving continuous temperature monitoring. Duration of surgery was only recorded for 28 of the 36 cases, of these 11 were <30mins, 7 were 30-60mins, 8 were 1-2hrs and 2 were longer than 2hrs. There did not seem to be any obvious connection between the duration of surgery and the incidence of temperature greater than 37^{o}C, but both of the patients with low temperatures in recovery had surgery which lasted for over 1hr.

Discussion and Conclusion

It would seem from this brief audit that we are falling far below the current standard for best practice with 26% of patients having temperatures outside the range. However, more patients are being over-warmed than are becoming hypothermic, this would suggest that we are more worried about post-operative hypothermia than the potential to over-do active warming. The lack of continuous monitoring may have contributed to the failure to achieve target, however with so many cases less than 30mins then 100% may be too high a target.

References

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Abstract 12:

Paediatric Tonsillectomy

P.Farquharson, C.Kennedy, G.Rodney

Introduction and Aims

The Department of Health suggests tonsillectomy as a suitable day case procedure[(1)]. Tonsillectomy is associated with significant postoperative pain and side effects[(2)].

Surgical technique, management of postoperative pain and avoidance of nausea and vomiting (PONV) are important. Following a previous audit undertaking in our hospital it was found that more analgesia was required during hospital stay, pain was significant up to 7 days postoperatively and PONV and haemorrhage were not a significant problem. The aims of this audit were to evaluate pain management, function (eating and drinking), side effects, and surgical complications using diaries for completion by parents at home.

Methods

Premedication, analgesic and antiemetic drugs were documented by the anaesthetist. Pain, sedation and nausea scores were documented by ward nursing staff during hospital stay and by parents at home. Parents were provided with an information sheet and diary and asked to record pain scores using a simple 4 point verbal rating scale (none, mild, moderate, severe), quantity of analgesia given and whether their child was eating and drinking normally. They were also encouraged to report any other concerns. Nursing staff also provided telephone follow up.

Results

From the 35 diaries provided to parents 27 (77%) were returned. Preoperative paracetamol was given to 26 (96%) cases. Intraoperative opioids were used for all cases with morphine 65%, fentanyl and morphine 8%, the remainder receiving fentanyl only 27%. With regards to anti-emetics dexametasone and ondansetron were given in 73% cases, triple anti-emetics in 3% cases, dexametasone in 12% cases and no antiemetics in 9% cases. In hospital, 82% children reported having mild/no pain. For the first 6 days postoperatively more than half the children were reporting pain as moderate/severe. Peak pain scores were reported on day 4 with 78% of children having moderate/severe pain. On this day only 33% of children received 4 doses of paracetamol and 59% received maximum dose of ibuprofen. On day seven, 37% were still reporting pain as moderate/severe. 78% of children required codeine during the postoperative period. 93% of parents reported that their child was not eating and drinking normally. There were no reports of PONV. There were 2 cases of secondary haemorrhage, 1 readmission due to pyrexia and 1 prescription of antibiotics. Four parents contacted their GP for further doses of codeine.

Discussion

During their hospital stay the majority of children had mild/no pain suggesting that perioperatively analgesia administration was sufficient. Diarised pain scores revealed the majority of children were reporting moderate/severe pain for the first 6 days post-operatively, a significant percentage were requiring codeine and a high percentage were not eating/drinking normally indicating that postoperative pain is significant. Despite advice and education, administration of simple analgesia is not been given in optimum doses. Due to recent MHRA restriction on codeine use for children our department has now substituted codeine for oramorph[(3)]. We suggest that 10 doses of oramorph may provide better pain relief than 5 doses of codeine which were provided during the time of this audit. A re-audit is currently underway to determine adequacy of oramorph and deteremine whether new pain leaflets and renewed effort to give optimum doses of ibuprofen and paracetamol are effective.

References

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