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British Association for Paediatric Otorhinolaryngology (BAPO) Abstracts from meeting 12 September 2003

The Annual Meeting of BAPO was held at the Royal Liverpool Children's NHS Trust Alder Hey Conference Centre

Paediatric ENT radiology: can the radiologist help?

Neville Wright, Consultant Radiologist
From the Royal Liverpool Children's NHS Trust, Liverpool, UK.

Many radiologists are unfamiliar with paediatric practice and problems, especially when it comes to more specialized areas such as paediatric ENT imaging.

It is also important to emphasize that many children seen by ENT surgeons do not require any imaging. So as a paediatric radiologist, why am I here . . .?

This lecture will give an overview of how the radiologist may help the paediatric ENT surgeon in making a diagnosis and planning surgery, the imaging techniques available to make this possible and some of the difficulties encountered in interpretation.

The use of plain films will be discussed, as well as ultrasound, computed tomography, magnetic resonance (including some of the specialized techniques such as MR venography), and more unusual investigations such as bronchography and sinography.

An approach to imaging common problems will be outlined, with illustrative cases, as well as including a few rarities.

A key element to good clinical practice is communication, and both the radiologist and the surgeon benefit from regular clinico-radiological meetings, where discussion and feedback can be most productive.

So hopefully the answer to the question posed is . . . Yes!

Tonsillectomy and adeno-tonsillectomy in children with recurrent sore throat: evidence-based or professional habit?

John Bond
From the Centre for Health Services Research, University of Newcastle, Newcastle, UK.

The cost effectiveness of tonsillectomy and adeno-tonsillectomy for children with recurrent sore throat has not been formally evaluated. Tonsillectomy is one of the most common operations in childhood with a rate for children under 12 in the UK of 2.3/1000. Considerable regional variation in the rates of childhood tonsillectomy has been observed. In observational studies, parents report post-operative benefits, but existing randomized controlled trials (RCTs) of clinical effectiveness have significant methodological weaknesses and long-term benefits are unclear.

The North of England Study of Tonsillectomy and Adeno-tonsillectomy in Children (NESTAC) is funded by the NHS Health Technology Assessment Programme. The aims of the study are:

(1) To investigate the clinical effectiveness of surgical intervention compared with non-surgical intervention in children under the age of 16 with recurrent sore throat.
(2) To investigate the relative costs and benefits of surgical and non-surgical interventions to the NHS and families.
(3) To identify important outcomes for children and parents and to evaluate the impact on children's quality of life.
(4) To investigate older children's and parents' preference for different treatment options.

Study design

This was a prospective pragmatic randomized controlled trial with economic analysis and parallel cohort study of participants declining participation in the trial and opting for surgery.

People studied and setting

It included children aged four to 16 with recurrent sore throat referred to three otolaryngology departments in Liverpool, Manchester and Newcastle.

Outcome assessment

The primary outcome will be the number of reported episodes of sore throat in the two years following date of randomization. Secondary outcomes include the number of recorded episodes of sore throat from primary care practice records, surgical and anaesthetic morbidity, time off school, parental time off work, consumption of antibiotics and analgesics, health-related quality of life, and child and parental satisfaction.

Economic evaluation

A societal perspective will be used. Direct and indirect costs will be collected over the two-year follow-up period and total costs estimated. If surgical management produces a meaningful reduction in recurrence of symptoms, an incremental cost-effectiveness analysis will be undertaken as appropriate. Preferences of older children and parents concerning the trade off between risks and benefits of interventions will be identified.

Management of otitis media in cleft palate patients: evidence

Sam Majumdar, Peter Bull, Keith Hughes, Kevin Gibbin
From the Trent Cleft Palate Otological Advisory Group & Sheffield Children's Hospital, UK.

Introduction

The incidence of otitis media in cleft palate patients is very high. Eustachian tube dysfunction, abnormal attachment of tensor palate and levator palati muscles, and smaller SPA angle have all been described as potential contributors. Management of otitis media with effusion (OME) varies among clinicians. The frequency of myringotomy and insertion of a ventilation tube remains significantly higher in this sub-group. The aim of this project was to search, assimilate and evaluate the existing body of evidence and

guidelines for the management of OME in cleft palate patients.

Method

The existing body of literature was searched systematically using a predefined search protocol. Medline, CINHAL, Cochrane Controlled Trial Register, CSAG and CLAPA site were searched for key words i.e. cleft palate, otitis media, otitis media with effusion, serous otitis media, myringotomy, ventilation tube, grommet, randomized controlled trial, trial, clinical trial. Searches were combined to get maximum yield. The available evidence was ranked on their hierarchy and category.

Results

The search of existing literature did not produce any meta-analysis or randomized controlled trial. The category of evidence was IIa or lower. Although the incidence of otitis media with effusion is common in children with cleft palate, its surgical management remains controversial. The benefit of myringotomy and insertion of a ventilation tube is often short lasting with the potential risk of consequent morbidity. Insertion of a grommet does not have any preventative effect on the long-term complications of untreated OME. Surgery of cleft palate is carried out at 45 centres by 56 surgeons in the UK. However only 35 per cent clinics can call on the advice of an ENT surgeon. There is no clear evidence-based guideline for the management of OME in cleft palate patients.

Conclusions

The strength of the existing body of evidence is category IIa or lower. The effects of temporary auditory deprivation and its consequence on neurodevelopment require further clarification. A prospective, multi-centre, double blind randomized controlled trial to evaluate the role of surgery in the management of OME in cleft palate patients is needed.

The role of computed tomography in the aetiological investigation of children with permanent unilateral hearing loss

Wanda Neary, Stephen Kent*, Chee Yeong*, Lynda Coyne
From the Warrington Primary Care Trust, and North Cheshire Hospitals NHS Trust*, UK.

Introduction

Different authors report varying recommendations regarding the usefulness of the computed tomography (CT) scan in providing information on the cause of permanent unilateral hearing loss in the paediatric population. In this paper we present the radiological findings in 41 children affected with a permanent unilateral hearing loss and attending the Joint Community Audiology and Ear Nose and Throat Services in Warrington. We consider the role of CT in the evaluation and management of the children.

Method

A CT scan was carried out in 39 children affected with a permanent unilateral hearing loss. Axial helical scanning at 0.5 mm collimation, with coronal reconstruction was carried out. Sagittal and oblique multiplanar reconstruction was performed when necessary.

CT was undertaken as it takes only 30 seconds to obtain a high quality scan as opposed to the seven minutes required for magnetic resonance imaging (MRI). It is difficult for young children to remain still enough to obtain an optimal quality MRI scan without a general anaesthetic. The radiation dose of the CT scan is acknowledged, but is balanced against the possibility of making a radiological diagnosis five or six years earlier than would be possible with MRI. Two further children were included in the series. One child had previously had an MRI examination carried out because of a history of severe headaches, and had been found to be affected with a vestibular schwannoma. A further child had undergone linear tomograms in the past.

Results

CT scans were carried out in 39 children. The CT scans were abnormal in 11 children. Dilatation of the vestibular aqueduct (DVA) was present in two children. In a third child there was aplasia of the cochlea, dysplasia of the semi-circular canals and a small internal auditory canal. In a fourth child there was a narrow internal auditory canal on the side of the unilateral sensorineural hearing loss. In a fifth child there was occlusion of the central neural foramen by a bony septum, and a small internal auditory canal. In a sixth child there were enlarged vestibules and severe dysplasia of the semi-circular canals. In the seventh child, who was affected with a unilateral, mixed conductive/sensorineural hearing loss, CT indicated the presence of a small middle ear, abnormal ossicles and dysplastic semi-circular canals. The CT scans on four cases of permanent unilateral conductive hearing loss showed various degrees of abnormality of the external auditory canals, middle-ear structures and semi-circular canals.

Conclusion

We conclude that CT has a valuable role in the management of permanent unilateral hearing loss. CT improves the diagnostic yield and gives useful information about prognosis.

Appreciation of music in children with cochlear implants

J. Fong, S. Mirza, S. A. Douglas, P. Lindsey, M. Hawthorne
From the North East Cochlear Implant Programme, North Riding Infirmary, Middlesbrough, UK.

Introduction

The cochlear implant has been designed primarily to enhance speech discrimination and the awareness of environmental sounds. However, music is important in the lives of many individuals with both normal and impaired hearing. Our aim was to subjectively assess the appreciation of music after cochlear implantation in our paediatric patients.

Patients and methods

Questionnaires were sent to the parents of 57 children with a minimum age of six years, who had received a cochlear implant in the North East Programme between 1990–2002. Questions examined music listening habits and music enjoyment on a grading system of 0–10 (where 0 = not at all, 10 = maximum enjoyment). In addition, parents were sent a questionnaire for a similarly aged friend of their child or sibling with normal hearing to complete, in order to provide a control. Thirty-eight (67 per cent) patients responded and 12 controls replied.

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Results

The mean age of questionnaire responders was 9.6 years (range six–16 years). There were 21 boys and 17 girls. The majority of children (35/38 = 92 per cent) listened to music after implantation and enjoyment of music was scored a mean of 5.1/10. There was a mild correlation between enjoyment of music and Categories of Auditory Performance (CAP) scores with the higher the CAP, the higher the music enjoyment ($r = 0.49$, $p = 0.045$). The 12 implantees, who had controls, had no significant difference in age now, age at implant, gender, CAP or enjoyment of music compared to the implantees without controls and can therefore be considered representative. Comparison of the 12 implantees with their controls found no difference in the importance to parents that their child could enjoy music, but the controls had a significantly greater frequency of listening (t-test $p = 0.009$) and enjoyment of music (t-test $p = 0.015$) than the children with cochlear implants.

Conclusion

Enjoyment of music in children with cochlear implants is reasonably good. Their enjoyment however is significantly less than that of normal hearing children.

Do parents still have a right to refuse cochlear implantation?

N. Julian Holland, Sarah J. L. Edwards*
From the Royal Devon & Exeter Hospital, and the Centre for Ethics in Medicine, University of Bristol*, UK.

Introduction

A recent case in the USA (October, 2002) made frontline headlines when two children, while wards of the court, were directed by the court to have the surgical procedure of cochlear implantation (CI). This action caused outrage in the deaf community and also protest from certain civil rights groups who felt that the procedure was 'elective' and that parental autonomy and right to privacy was being denied. Proponents of cochlear implantation argued that when such a procedure has been shown to be effective, having such a dramatic effect on a child's future development and prospects, that the child's 'right to an open future' (future autonomy) should be respected and cochlear implantation so directed if the parents refuse.

Method

A thorough review of both the surgical and bioethics literature has been performed to elucidate key areas of controversy and areas of new evidence and changing points of view. An ethical analysis was performed using contemporary techniques in biomedical philosophy, including both consequentialist (focusing on utility) and deontologic (duties and rights) approaches.

Results

When parents refuse implantation for a suitable child they impact on that child's 'right to an open future' and future autonomy, and undermine their right to act as legitimate surrogate decision makers. Parents do not own their children to meet their own ends or those of certain deaf-rights activists who may oppose CI but must act in the best interests of their child to meet its ends. There has been a reduction in opposition to cochlear implantation in the deaf community who are now more accepting of CI and less likely to exclude CI candidates from their community. Parents have a right to privacy to act as legitimate surrogate decision makers as proxy for their children according to their beliefs, but they are ultimately restricted to actions, which are in their children's 'best interests'.

Conclusion

Final decisions regarding implantation are made in a multidisciplinary setting and ultimately parental decisions are respected. With improving CI technology and habilitation programmes outcomes are improving and so to not implant a potential candidate may be seen increasingly to breach the child's 'right to an open future' and may in the future attract more attention in the courts.

Sedation in paediatric otoacoustic emission screening

I. Ahmed, K. P. Manning, P. F. Keogh, J. E. Fenton
From the Midwestern Regional Hospital, Limerick, Ireland.

Introduction

Otoacoustic emission is a non-invasive and integral tool in the diagnostic evaluation of infants and children with congenital hearing loss. Infants and young children are generally unable to co-operate fully resulting in a sub-optimal or failed test.

General anaesthesia is not considered the most appropriate form of sedation as the equipment may interfere with the assessment.

Sedation is the preferred method and in our department until October 2001 Vallergan was used as the sedating agent at the dosage recommended for pre-medication (2 mg/kg). The yield of successful sedation was poor. Since November 2001 chloral hydrate has been used as the sedative resulting in more successful tests.

The aim of this study was to compare the efficacy of Vallergan and chloral hydrate as sedating agents in otoacoustic emission.

Method

A retrospective review of all patient records that underwent otoacoustic emission between the years 1999 to 2002 was carried out.

Results

Between the year 1999 to October 2001 twenty-two otoacoustic emission tests were performed under sedation using Vallergan. Four were unsuccessful due to lack of sedation (18.1 per cent). A total of 53 tests were carried out between November 2001 and May 2003 using chloral hydrate. Three were unsuccessful (1.59 per cent).

Conclusion

Chloral hydrate was found to be more suitable as a sedating agent for objective audiometry than Vallergan and resulted in a more successful outcome.

Management of acute otitis media: Alder Hey experience

M. K. Aneeshkumar, S. De, S. Ghosh, R. W. Clarke
Alder Hey Children's Hospital, Eaton Road, Liverpool, UK.

Introduction

Acute otitis media (AOM) is a common cause of morbidity in the paediatric age group. Between 65 and 95 per cent of children will have one or more attacks before the age of seven years. We set out to assess the management of children with AOM in our hospital.

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Method

All patients who either attended the accident and emergency department (A & E) or were admitted with a primary diagnosis of AOM between 1 January 1999 and 31 December 1999 were identified using the computerized hospital coding system. All admitted patients and 10 per cent of A & E attendances (n = 69) were studied.

Results

There were 738 A & E attendances and 51 admissions with AOM. The median age of patients who attended A & E was three years while that of admitted patients was one year and seven months. Most of the patients attending A & E were girls (58 per cent) but 65 per cent of admitted patients were boys. The majority of patients had not received antibiotic treatment prior to attending hospital. Only 46 per cent of admitted patients had a clear diagnosis of AOM at the time of admission. The remaining patients presented with febrile convulsions (15 per cent), general malaise, high temperature and vomiting (26 per cent) and respiratory infection (13 per cent). Most cases were admitted under the care of the paediatric team (86 per cent) while only 14 per cent were admitted under the care of the ENT team. Investigations done included ear swabs (10 per cent), full blood count (28 per cent) and blood cultures (33 per cent). Twenty-five per cent of admitted patients received intravenous antibiotics (cefotaxime in 70 per cent). On discharge 87 per cent were given cefaclor and 16 per cent received ear drops. One-fifth of admitted patients were referred to ENT either as an in-patient or an out-patient.

The majority (88 per cent) of patients seen in A & E were treated with oral antibiotics primarily cefaclor. Only seven per cent received antibiotic ear-drops. In only 12 per cent of cases was an ENT out-patient appointment arranged.

Conclusion

Acute otitis media can be managed effectively by general practitioners or by the A & E department. We propose an algorithm for A & E doctors. An ENT referral is helpful in cases where there is diagnostic difficulty or where there is a history of recurrent infections.

Chondrodysplasia punctata: case report and review of audiological and ENT features

Louisa Murdin, Haytham Kubba, Ben Hartley, Tony Sirimanna
From the Great Ormond Street Hospital for Children, NHS Trust, London, UK.

Introduction

Chondrodysplasia punctata is a term referring to a clinically heterogeneous group of bone and cartilage dysplasias that cause characteristic epiphyseal stippling.

Case report

The patient had clinical features of chondrodysplasia punctata including nasal abnormalities, recurrent stridor and ichthyosis. Diagnosis was confirmed by arylsulfatase E gene mutation analysis and skeletal survey. He had a moderate to severe conductive hearing loss requiring amplification. Otoscopy and tympanometry were normal, diagnostic of ossicular fixation. Microlaryngobronchoscopy (MLB) was carried out at age 20 months, and demonstrated the following features. There were possible calcific nodules on both vocal folds, with a single calcific nodule in the membranous posterior tracheal wall at about 2–3 cm below the glottis. Both vocal folds were fully mobile. Mild (30–40 per cent) long segment tracheal stenosis was noted comprising concentric narrowing of the distal half of the trachea without evidence of complete tracheal rings or extrinsic compression or malacia of cartilage. The epiglottis was normal. He had active rhinitis but no evidence of nasal airway narrowing or choanal stenosis. At the time of writing (age 21 months) his stridor is beginning to improve, and is restricted to times of exertion and excitement. His motor development is normal and he is able to walk. His speech is delayed. He is babbling but has not yet produced any recognizable words.

Discussion

Chondrodysplasia punctata is known to involve the upper airways and can cause significant and complex obstruction at multiple levels including the nasal bridge, choanae, larynx, trachea and distal airway. Hearing loss has been noted in a small number of cases in both conductive and sensorineural forms.

Conclusion

A patient diagnosed with chondrodysplasia punctata is at risk of developing airway problems in the first few months of life. If elective MLB is considered, marked tracheal stenosis must be borne in mind when intubating these children.

Long-term paparella II grommet use in the management of persistent childhood otitis media: Five-year follow-up study

D. S. Kim, P. L. A. Moore, T. J. Rockley
From the Queens Hospital, Burton upon Trent, UK.

Introduction

Although about 70 per cent of childhood chronic otitis media (COM) resolves after a single intubation, recurrence necessitating several further grommets remains a relatively common problem. Long-term grommets were developed over the years to address this problem. There are only three studies with Paparella II grommets. The aim of this study was to provide a five-year long-term clinical experience based on clinical practice.

Method

The case notes for all children who underwent Paparella II grommet insertion at the Queens Hospital, Burton-upon-Trent, during the period from 1992 to 1997 were reviewed. Each grommet was followed up for a period of at least five years. The following data were recorded pre-operatively: the diagnosis, indication for surgery, and presence of hearing impairment, history of previous grommet insertions, adeno-tonsillectomy, and age at operation. Complications were recorded at each review visit. Particular attention was paid to infective episodes and perforations.

Results

A total of 110 Paparella II grommets were inserted in 53 children. The vast majority (1.8 per cent) of children had two or more grommets placed previously. The average functional period was 3.65 years. A total of 47 (46.1 per cent) grommets remained *in situ* for the whole five-year duration of the study. Overall, infection occurred in 57 (55.9 per cent) and 24 (23.5 per cent) perforations were observed. There was no difference in the perforation rate between those spontaneously extruded and those elec-

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tively removed. There is a tendency to greater morbidity with increased grommet duration, in particular, after 36 months *in situ*.

Conclusion

The average functional duration, re-intubation rate is comparable with figures reported by other Paparella studies. However, the infection and perforation rates are higher than those previously reported. A correlation between complication rates and the duration of tubes *in situ* was demonstrated, with a dramatic increase in complication rates after 36 months of function.

Prevention of early post tympanostomy tube otorrhoea: survey of practice in the United Kingdom

S. Ghosh, D. Dunne, C. Webb, A. Panarese
From the Royal Liverpool Children's Hospital NHS Trust, Alder Hey, Liverpool, UK.

Introduction

Early post-tympanostomy tube otorrhoea (PTTO) is defined as discharge from the ear within the first two weeks following tube insertion. The incidence has been quoted as between 10–29 per cent. Early PTTO is usually caused by either an already pre-existing infection or by contamination of the ear canal at the time of the operation. We conducted a survey of consultant practice in the United Kingdom with regard to their techniques at the time of tube insertion.

Method

The practice of 150 consultants in 37 UK hospital trusts was obtained by means of a telephone survey. Information gained pertained to use of the following possible prophylactic interventions against early PTTO; Preparation/sterilization of the ear canal, insertion technique used, usage of topical drops both at time of insertion or as a post-operative take home prescription.

Results

Seventy-eight consultants (52 per cent) use no prophylactic interventions whilst inserting tympanostomy tubes. Fifty-seven (38 per cent) consultants use one intervention, 11 (7.3 per cent) consultants use two interventions and three (two per cent) consultants practise three interventions. Ear sterilization was practised by 2.6 per cent (four) of consultants, 26 per cent (39) used a 'no touch' technique of tympanostomy tube insertion. Twenty-six per cent (39) of consultants used ear drops routinely at the time of insertion and 10 routinely sent patients home with ear drops. Aminoglycosides were the most common intra-operative drop preparation used (36 consultants), ciprofloxaxin was used by two consultants (unlicensed for use in UK), and one person used saline drops. In terms of post-operative prescriptions, aminoglycosides were used by eight (5.3 per cent) people and ciprofloxacin was advocated by 2.6 per cent of consultants questioned. The length of the prescription course varied, with five consultants giving three day courses and three consultants prescribing seven day courses. Two consultants varied the course of prescribing depending on the perceived risk of PTTO.

Conclusions

There is heterogeneity of practice with regard to prevention strategy of early PTTO in the UK, with the majority of practitioners (in our survey) using no interventions. Topical aminoglycosides have been shown to be effective at reducing otorrhoea, however, many studies advise against their use due to potential ototoxicity, there is no licensed alternative in the UK at present. Further work is required in this area to determine best clinical practice.

Complete tracheal rings: two different clinical presentations

M. K. Aneeshkumar, S. Ghosh, E. Osman, R. W. Clarke
From the Royal Liverpool Children's NHS Trust, Alder Hey, Liverpool, UK.

Introduction

Respiratory distress in a child presents both diagnostic and therapeutic dilemmas. As the trachea is in between the upper and lower respiratory tract, obstruction at this level is often difficult to diagnose clinically. The value of tracheobronchoscopy in such cases cannot be overstressed.

Method

Case 1

An eight-day-old female baby born with Down's syndrome, Hirschsprung's disease, right lung agenesis and dextrocardia was referred to the Paediatric Otolaryngology department for specialist opinion of respiratory distress. The baby was showing signs of upper airway obstruction including sternal and intercostal indrawing. A clinical diagnosis of subglottic stenosis was made and the baby was taken to theatre for laryngo-tracheo-bronchoscopy with a view to performing a cricoid split or tracheostomy. The trachea showed severe narrowing for about 2.5 cm in length allowing only a size 2 endotracheal tube, but was of normal diameter below this constriction. The tracheostomy was abandoned and the child was kept intubated. CT scan confirmed complete tracheal rings.

Case 2

An 11-year-old boy born with multiple congenital anomalies such as agenesis of right lung, absence of left kidney, dextrocardia was diagnosed as asthmatic by the general practitioner. But there was no significant improvement with inhalers. He was referred to the ENT department by the anaesthetist due to difficult intubation during a laparoscopic procedure which he underwent for the investigation of his kidneys. Laryngo-tracheoscopy showed narrowing of the trachea due to complete tracheal rings and the absence of the right main bronchus.

Conclusions

Congenital complete tracheal rings are extremely rare tracheal deformities. The condition may present with signs of upper or lower airway obstruction and should be considered as a possible diagnosis. It usually presents in the newborn but diagnosis can be delayed until adolescence. Correct diagnosis is important to provide definitive treatment. Hence, laryngo-tracheobronchoscopy should be performed in doubtful cases since it provides definitive diagnosis. Imaging may also be helpful.

Outcomes of choanal atresia repair 1992–2002

Alex Bennett, Haytham Kubba, C. Martin Bailey
From the Great Ormond Street Hospital for Children, NHS Trust, London, UK.

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Introduction

Choanal atresia is rare, occurring in 1/10 000 births. As a result, few large series and no controlled trials have been published. We present the largest surgical series so far with an attempt to identify some predictors of outcome.

Method

We reviewed the records of all patients who had undergone their first operation for choanal atresia in our hospital over the period 1992–2002. We used three outcome measures: children who were asymptomatic at their last follow up, length of time over which surgery was required, and total number of operations.

Results

One hundred and twenty-nine children underwent choanal atresia surgery over the study period. Records were available for 108 (84 per cent). Sixty-nine (64 per cent) were female. Fifty-five (51 per cent) were bilateral, 35 right-sided and 18 left-sided. Of the 55 bilateral atresias, 34 (62 per cent) were in girls. Thirteen (24 per cent) had CHARGE association and 10 had other congenital anomalies. Fifty-two (95 per cent) were diagnosed within the first month of life. The children underwent a median of three surgical procedures for the atresia (range 1–37) over a period of up to 10 years (median eight months). They were followed up for a median of six months (range 0 months to five years). Thirty-five (64 per cent) were asymptomatic at the last follow up, eight (15 per cent) are still under review for ongoing symptoms, six (11 per cent) have been lost to follow up and six (11 per cent) have died, two in the early post-operative period. Palatal perforation occurred in three children and one had a post-operative bleed. The use of topical steroids, mitomycin C and KTP laser were associated with poorer outcomes, probably reflecting their use in difficult cases who had already undergone multiple unsuccessful procedures. Outcomes were no worse in children with CHARGE. Of the 53 unilateral atresias, 35 (66 per cent) were in girls. Seven (13 per cent) had CHARGE association and five had other congenital anomalies. Only 18 (34 per cent) were diagnosed in the first month, the median age at diagnosis being three months (range 0–14 years). Diagnosis was significantly delayed in two cases after symptoms were attributed to a nasal foreign body. The children underwent a median of three procedures (range 1–8) over a period of up to 10 years (median five months). They were followed up for a median of five months (range 0–10 years). Thirty-nine (74 per cent) were asymptomatic at their last follow up, three (six per cent) are still under review for ongoing symptoms, 10 (19 per cent) were lost to follow-up and one died. Two patients were returned to the operating-theatre within the first two weeks due to stent-related problems. No consistent effect on outcomes was found for the use of mitomycin C, KTP laser, steroid nose drops or stents.

Conclusions

Surgery is successful in a high proportion of children, but often only after multiple procedures. Deaths were usually due to co-existing disease, but two neonates died of post-operative complications. Outcomes are better in children with unilateral atresias. Prospective multi-centre studies will be needed to demonstrate the effect of surgical innovations such as mitomycin C and the KTP laser on outcome.

Laryngeal cleft repair: techniques and outcomes

Daren Gibson, Haytham Kubba, C. Martin Bailey, Ben Hartley
From the Great Ormond Street Hospital for Children, NHS Trust, London, UK.

Introduction

Our unit has previously published a series of children who had undergone surgery for repair of laryngeal cleft from 1979–1992. There has been an increasing use of endoscopic repair and interposition grafting with three-layer repair for this difficult condition.

Method

We studied the records of all children having surgery for laryngeal cleft over the period 1992–2003. Clefts were classified according to Benjamin and Inglis.

Results

Thirty-seven children were identified. Twelve (32 per cent) were grade 1, 13 (35 per cent) grade 2, 10 (27 per cent) grade 3, and two (five per cent) grade 4 (laryngotracheo-oesohageal). Only data for laryngeal clefts (grades 1–3) are shown. Of the 12 children with grade 1 clefts, cleft repair was carried out at a median age of eight months (range two–65 months). Nine repairs were done endoscopically, three open. Five had complications of surgery comprising two pneumonias, one aspiration, one respiratory arrest and one emergency re-intubation for stridor. Three children had endoscopic resuturing of the cleft for residual symptoms (twice for two children, three times for one). There were no deaths in this group. At a median follow up of 12 months (range eight to 66 months) one child still has a tracheostomy, and all are predominantly orally fed.

Thirteen children had grade 2 clefts. The children underwent cleft repair at a median age of 11 months (range two to 67 months). Six repairs were done endoscopically and seven open, of which two had three-layer repairs with interposition grafts. Ten suffered complications: three pneumonias, three aspirations, one stridor managed conservatively and one emergency tracheostomy. Three children had revision surgery. There was one death from cardiac failure at age nine months. At a median follow up of 24 months (range one to 192 months) two children still have a tracheostomy, nine are predominantly orally fed and one is gastrostomy fed (three unknown).

Of the 10 children with grade 3 clefts, repair was performed at a median age of eight months (range 0–21 months). All repairs were carried out open, five as a three-layer repair, with interposition grafting. Complications comprised two pneumonias, two aspirations, one mediastinitis and one tracheostomy for failure to wean from ventilation. Three children required revision surgery. There was one death of unknown cause. At a median follow up of 31 months (range two to 104 months) six children still have a tracheostomy, seven are predominantly orally fed and one is gastrostomy fed (two unknown).

Conclusions

Most grade 1 clefts, and some grade 2 are now repaired endoscopically. More severe clefts are now often repaired in three layers with an interposition graft. The surgery remains challenging, with overall rates of complication, revision and death of 84, 36 and eight per cent respectively.

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Controversies in the management of atypical mycobacterial infections of major salivary glands

K. R. S. Prasad, S. E. Kent
From the North Cheshire Hospitals NHS Trust, Warrington, UK.

Introduction

Management of atypical mycobacterial infections (AMI) of major salivary glands, in children is controversial. In this paper we report our experience with two widely divergent protocols and review the current literature.

Method

The first patient presented with a four-week history of a lump in the submandibular triangle, which was insidious in onset, soft, fluctuant and measured 4×2 cm. It was treated with a six-month course of 100 mg of rifabutin and 160 mg of azithromycin. The contents discharged spontaneously and the lump regressed. But the sinus healed and residual scarring was cosmetically good. The second patient presented with a five-week duration of swellings in the parotid and submandibular regions, measuring 2.5×2.5 cm and 1.5×2 cm, respectively. Incision and curettage alone was performed. However there was significant residual induration and poor scarring.

Discussion

Factors influencing the choice of treatment of AMI include adequacy of cure, duration of therapy, preserving the integrity of the VIIth nerve and cosmesis. Some favour chemotherapy in all cases. Clarithromycin or amikacin and rifampicin or ciprofloxacin with, or without, co-trimoxazole has been tried. Unfortunately, organisms show only limited susceptibility or are resistant. Alternatives include needle aspiration along with chemotherapy, and incision and drainage or open biopsy of the affected glands. But both are associated with sinus formation, slow resolution and unsightly scarring. Curettage of lesions is simple, relatively safe and does not preclude other treatment modalities. But the most popular of all methods has been a complete excision. This implies partial parotidectomy to remove diseased glandular parenchyma and nodes, in case of affection of the parotid gland. Involvement of the submandibular gland or peri-ductal nodes however, entails complete sialadenctomy and lymphadenctomy. This surgery has certain drawbacks: the disease usually involves the overlying skin, which generally must be excised. There is the possibility of keloid formation or wound breakdown. Finally and most importantly, fibrosis means difficult dissection and a serious threat of injury to branches of the facial nerve. Other options mentioned in the literature but not appropriate are – a wait and watch policy, steroids and radiotherapy.

Conclusion

Clinical circumstances may vary and affect the choice of treatment. Localized disease is better dealt with by excision or curettage. For multiple sites, spontaneously ruptured disease or potential for injury to important neuro-vascular structures, chemotherapy is preferable to aggressive interventions, notwithstanding its limitations.

Guidelines for airway management in syndromic craniosynostosis

Susanna Leighton, Victoria Ward, Pandora Hadfield
From the Great Ormond Street Hospital for Children NHS Trust, London, UK.

Introduction

The aim was to establish the prevalence and management of sleep-disordered breathing in a series of patients with syndromic craniosynostosis.

Method

Over 200 children with a diagnosis of syndromic craniosynostosis were identified and their charts reviewed. Data was collected regarding symptoms and signs of sleep-disordered breathing, age of presentation with airway problems, otolaryngologic status and the results of polysomnography.

The options for airway management are illustrated; the indications for adenotonsillectomy, continuous positive airways pressure via a mask at night, the use of a nasopharyngeal airway and tracheostomy are discussed as are the potential complications of these various steps. The role of early corrective craniofacial surgery is examined.

Results

The factors predisposing these children to sleep-disordered breathing are discussed and the prevalence and severity of problems in Apert's, Crouzon's, Pfeiffer's, Saethre-Chotzen and Antley-Bixler syndromes are presented.

The results of intervention are presented for this group of patients.

Conclusion

Based on this series, guidelines for airway management are proposed.

Can a protocol be developed for the safe decannulation of tracheostomies in children less than 18 months old?

Jo Cooke, Haytham Kubba, Ben Hartley
From the Great Ormond Street Hospital for Children NHS Trust, London, UK.

Introduction

Our unit has previously published a five-day protocol for the ward decannulation of children in which, on successive days, the tracheostomy tube is downsided to Shiley size 3, blocked, and then removed, followed by a further 48 hours of observation. This protocol has been in use successfully for the last five years, with children as young as 18 months being decannulated. Children are becoming suitable for decannulation at a younger age.

Method

Case 1

This girl underwent tracheostomy at 10 months of age for airway obstruction due to a ganglioneuroblastoma in the right root of the neck. Ten days later the lesion was excised through a combined cervico-thoracic approach. At 13 months of age she was decannulated by the standard protocol including blockage of a size 3 tracheostomy tube. She remains well six months later with no stridor.

Case 2

After resection of a congenital cystic adenomatoid malformation of the lung soon after birth, mild tracheomalacia necessitated a tracheostomy at four weeks of age to aid weaning after the ventilator. Trials of decannulation at six and eight months of age failed due to respiratory difficulties when the size 3 tube was blocked. At 13 months

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of age, she was decannulated by downsizing the tracheostomy to size 2.5 before blocking and subsequent removal. She remains well two months later.

Case 3

This girl had a tracheostomy soon after birth for airway compression due to an extensive lymphatic malformation (cystic hygroma) of the neck. The lesion was excised at four months of age. Despite normal airway endoscopy, a trial of decannulation at five months of age failed due to severe respiratory difficulties when the size 3 tube was blocked. Despite this, the consultant otolaryngologist elected to remove the tracheostomy tube. The girl did well, and was discharged four days later. She remains well seven months later with no stridor.

Case 4

This girl underwent tracheostomy at two months of age because of airway compression from a large parapharyngeal lympathic malformation. OK432 injection of the lesion three days later produced complete clinical resolution. At four months of age she was successfully decannulated using the modified protocol with a size 2.5 tube. Six months later she is completely asymptomatic during the day but remains under observation due to mild nocturnal stertor.

Conclusions

Children 13 months of age may tolerate a blocked size 3 tube, but younger children may not even if the airway is normal. We suggest a modified protocol for children under 13 months. A size 2.5 tube should be tried initially and then blocked. If this is not tolerated, and normal airway anatomy has been confirmed, the clinician may occasionally consider removing the tube under the immediate supervision of a senior doctor who remains with the child for half an hour, and available in the hospital for the rest of the day. Facilities for endotracheal intubation must be available.

Complications of tracheocutaneous fistula closure in children

Marcel Geyer, Haytham Kubba, Ben Hartley
From the Great Ormond Street Hospital for Children NHS Trust, London, UK.

Introduction

Decannulation of a child's tracheostomy usually, but not always, results in spontaneous closure of the tract. If the fistula persists for some months from decannulation, excision of the tract with primary closure is often recommended. Published series have been small, but complications such as surgical emphysema, emergency recannulation and wound infection have been reported.

Method

Since 1992, every surgical procedure performed at Great Ormond Street Hospital has been immediately entered into a computer database by the operating surgeon at the time of surgery. We attempted to identify all patients who underwent closure of tracheocutaneous fistula in the period 1992–2002 and review their case notes.

Results

One hundred and thirty patients were identified, and we obtained clinical data for 94 (72 per cent). There were 53 boys and 41 girls. They were aged 0–13 years at the time of tracheostomy (median five months). The initial diagnosis was subglottic stenosis in 39, vocal fold palsy in 10, subglottic haemangioma in 10, tracheobronchomalacia in seven, micrognanthia in seven, lung disease of prematurity in six, neck masses in five, and other laryngeal pathology in nine. At decannulation the children ranged in age from 13 months to 18 years (median four years). The tracheocutaneous fistula was surgically closed after it had been present for between three months and 12 years (median 12 months) and at the time of surgery the children were aged between 21 months and 18 years (median five years). In every case, the scar was excised, and the tract dissected and divided flush with the tracheal wall. The trachea was closed with absorbable sutures in all cases except two, where non-absorbable sutures were used. The strap muscles were sutured to cover the tracheal closure in 57 cases (67 per cent), and a drain was placed in 14 (17 per cent). Perioperative antibiotics were used in 14 (11 per cent). Complications occurred in 11 (eight per cent), including surgical emphysema (four cases), wound infection (three), emergency recannulation (two), bleeding (one), pneumothorax (one) and apnoeic episodes (one). Only one patient (with surgical emphysema) required a return to the operating theatre. Due to the small number of adverse events, it was not possible to demonstrate a statistically significant effect of any surgical factor (muscle closure, drain, antibiotics) on complications.

Conclusions

Closure of tracheocutaneous fistula is generally safe and effective, but surgeons need to be aware of the possible complications. In the absence of evidence to the contrary, it would seem prudent to minimize the risks by undertaking pre-operative overnight oximetry with the fistula occluded to prevent the need for emergency recannulation; suturing muscle over the tracheal closure and inserting a drain to guard against surgical emphysema; and considering antibiotics to reduce wound infection.

Management of congenital pre-auricular sinus

P. K. D. Kapoor, Srikumar, B. N. Kumar
From the Royal Albert Edward Infirmary, Wigan, UK.

Introduction

Pre-auricular sinus is usually an isolated condition with the most common being the anterior marginal helicine type. This constitutes 90 per cent of the cases and presents as an inconspicuous opening at the anterior margin of the ascending limb of the helix. It is a congenital condition that shows an incomplete autosomal dominant transmission with variable penetrance. It occurs as a unilateral or bilateral condition in the ratio of 2:1. The reported incidence in Europe is around 0.25 per cent whereas in Orientals it is around four to six per cent. The incomplete fusion of the hillocks around the first branchial groove (Intertubercular Hypothesis of His) is the most acceptable explanation of its development. The most commonly presenting complaint is intermittent or persistent discharge from the sinus; with pain and swelling as the next most frequent complaints. Various techniques have been described to deal with this problem. The standard technique consists of using a probe and methylene blue to excise the tract with the sinus. In the other technique using the supra-auricular approach all the tissues superficial to the temporalis fascia, anterior to the helical cartilage; including a piece of cartilage is removed. The recurrence rate with the first procedure is quoted to be

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higher than the second. We used a modification of the above techniques using a microscope to help delineate the tract and determine the extent of the excision but as with the supra-auricular approach to excise all the tissues surrounding the tract including a piece of auricular cartilage.

Methods

The case notes of 10 children with congenital pre-auricular sinus, who underwent the modified technique, over three years, were reviewed with particular emphasis on recurrence. The ages ranged from five years to 17 (mean: seven years). The surgical technique is described.

Results

The mean follow up was 22 months. Of the 10 patients nine had no further problems and one patient had minor symptoms of occasional discharge. He was a 17-year-old who had undergone a simple sinectomy 10 years earlier and at the time of the revision procedure was found to have multiple tracts. He declined further surgery as he reported his symptoms to be greatly improved overall in the three years after his revision operation with the modified technique.

Conclusions

The supra-auricular approach has been quoted to have a recurrence rate of between three and five per cent. The recurrence rate for the standard technique is between 30 and 40 per cent. Using a combination of the above techniques and the addition of the operating microscope helps to improve the surgery reducing the chance of recurrence in the longer term.

Otoplasty: review of the evidence

A. Jebreel, S. D. Richards, R. Capper
From the ENT Department, Doncaster Royal Infirmary, Doncaster, UK.

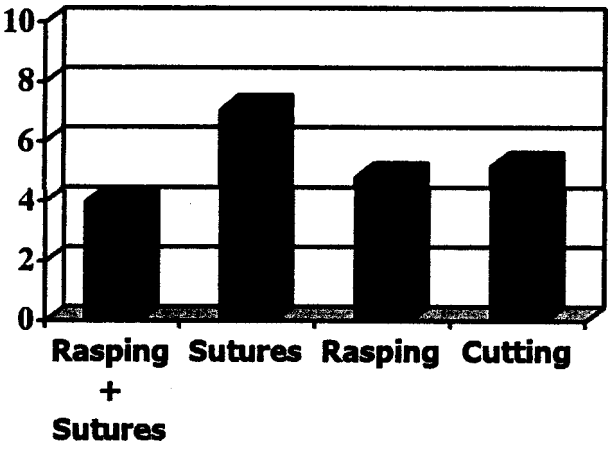
Introduction

Otoplasty is a procedure performed by a number of different surgical specialties practising facial plastics. There are two fundamental faults with pinna shape, an underformed antihelical fold and a deep conchal bowl. Many papers have been written describing different nuances of a few basic techniques. A search of all English language literature published over the past 15 years was performed to identify the best technique. The following inclusion criteria were used:

(1) Post-operative follow-up was for a minimum of six months.
(2) A consistent surgical technique was applied to all cases in each study.
(3) Cases should be for primary otoplasty rather than revision.
(4) Post-operative outcome should be categorized as a minimum reporting standard.

Results

One hundred and forty-nine papers were identified using the search terms otoplasty, pinnaplasty, prominent ears and bat ears on the Medline® database. Twelve papers fulfilled all inclusion criteria. These reported on a total of 1298 patients. Four fundamentally different surgical techniques were identified and papers were collated into these four groups. Four papers used rasping and sutures, three sutures alone, two cartilage rasping alone and three



cartilage cutting techniques. Five papers attempted to categorize the results in an objective manner, through measuring cephalo-auricular projection at defined points, or by applying McDowell and Wright's assessment criteria. However the technique used varied sufficiently to prevent direct comparison. Thus, subjective outcome had to be used. The Chi-squared test showed no significant difference between the four techniques. Surgeon's assessment of outcome was unsatisfactory twice as often as the patient's (7.7 per cent *vs.* 4.3 per cent). All papers had low complication rates and had reoperation rates less than six per cent.

Conclusion

There is no best technique in otoplasty. Patients are more satisfied than surgeons with the outcome of otoplasty.

Functional endoscopic sinus surgery in children: retrospective review of 200 patients

Yousuf Saleem, Rande H. Lazar
From the LeBonheur Children's Medical Center, Memphis, Tennessee, USA.

Introduction

There are very few articles in literature regarding long-term surgical follow-up of functional endoscopic sinus surgery (FESS) in children. These series do not differentiate their outcome based on significant underlying diseases such as asthma, nasal allergy, cystic fibrosis or immunodeficiency. We have evaluated our results based on these underlying diseases. The age range of the children at the time of surgery was 15 months to 16 years and the mean follow-up time was 12 months post-operatively. All patients tolerated the procedure very well and there were no major complications. Eighty-two per cent of the patients with chronic sinusitis only, had complete improvement of their symptoms. We suggest that FESS is an effective procedure in treatment of chronic sinusitis refractory to medical treatment in children.

Methods

Two hundred consecutive paediatric patients were evaluated who underwent FESS between January 1999 and January 2002. Patients whose symptoms persisted despite medical treatment and who had positive findings on computed tomography (CT) scans were scheduled for a FESS. Using the modified Messerklinger technique similar to that of adults, we performed bilateral FESS for 200

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patients. The outcome of surgery was based on the doctor's written assessment in chart and the patient's or the carer's evaluation of the quality of life after surgery. The patients were divided into five groups, patients with chronic sinusitis in Group 1, patients with chronic sinusitis and nasal allergy in Group 2, patients with chronic sinusitis and asthma in Group 3, patients with chronic sinusitis, nasal allergy and asthma in Group 4 and patients with chronic sinusitis with immunodeficiency/cystic fibrosis in Group 5.

Results

There were 122 boys and 78 girls. The age range of the patients at the time of surgery was 15 months to 16 years. Half of the patients were under five years. There were a total of 112 patients in Group 1 (56 per cent), 39 patients in Group 2 (19.5 per cent), 26 patients in Group 3 (13 per cent), nine patients in Group 4 (4.5 per cent) and 14 patients in Group 5 (seven per cent). Results were evaluated individually in each group. A total of 127 patients had their adenoids removed along with FESS, these patients were scattered uniformly in all the five groups. The best results were seen in Group 1, with statistically significant improvement ($p<0.05$) compared to the other four groups.

Conclusions

The data from our series demonstrate that FESS is an excellent treatment for chronic or recurrent sinusitis in children without any other systemic related diseases and that the procedure is indicated whenever a child fails to respond to optimal medical treatment and had evidence of sinusitis on the CT scans.

Periorbital and orbital cellulitis in children

Vivek Kaushik, Riad Shahab, V. R. Srinivasan
From the Arrowe Park Hospital, Wirral, UK.

Introduction

Periorbital (preseptal) and orbital cellulitis are relatively common paediatric conditions. The latter is associated with severe complications. This study was conducted to evaluate the outcome of our paediatric management protocol for cases of periorbital and orbital cellulitis.

Method

This was a retrospective review of 76 children admitted to Arrowe Park Hospital with periorbital or orbital cellulitis over a five-year period, between March 1997 and March 2002. Factors assessed included clinical presentation, radiological findings, microbiological data, management, and outcome (length of stay, complications).

Results

There were 40 boys and 36 girls. The mean age at presentation was 4.6 years, ranging from four days to 15 years. Most cases occurred during winter. Sixty-seven patients had periorbital cellulitis, eight orbital cellulitis and one had a subperiosteal abscess. One child developed meningitis, and two frontal sinus osteomyelitis. There were no cases of cavernous sinus thrombosis, and no children suffered permanent visual impairment. The majority of cases were secondary to sinusitis, 11 were due to external ocular infections, six caused by trauma, and one due a locally infected wound. There were no odontogenic cases. One child, presumed to have orbital cellulitis, was subsequently diagnosed as having Langerhans' cell histiocytosis involving the orbit. *Staphylococcus aureus* was the commonest organism cultured from nose, eye and operative sites. Blood cultures were taken in 80 per cent (61) of cases but were positive in only three. All patients were hospitalized and treated with intravenous antibiotics. Seventy-one per cent of patients were treated with a single antibiotic (usually Augmentin or ceftriaxone) while 29 per cent underwent multiple antibiotic therapy. Computed tomography (CT) was performed in 17 cases. Five cases required surgical intervention, consisting of sinus irrigation, debridement of a locally infected wound, and in one case endoscopic ethmoidectomy.

Conclusions

The protocol we use is based around aggressive medical treatment and includes non-surgical management of a certain proportion of subperiosteal abscesses, surgery being reserved for selected cases. This study suggests that this policy is effective; only a minority of cases developed serious sequelae, the use of CT was minimized and only 6.5 per cent of cases needed surgery. Endoscopic approaches were used whenever possible. Paranasal sinus disease remains the commonest cause. In this study cultures from infected paranasal sinuses or pus from abscesses were most likely to yield positive results. Blood cultures were not helpful.

Outcomes of submandibular duct relocation: Belfast experience

Mriganka De, R. Adair, K. Golchin, M. J. Cinnamond
From the Department of Otolaryngology, Belfast City Hospital, Belfast, Northern Ireland.

Introduction

Drooling is common in patients with neurological disability and a major factor affecting quality of life. Management of this problem is carried out by a team approach using both surgical and non-surgical methods. Submandibular duct relocation is a simple procedure with low complication rate.

Methods

The procedure was performed in 56 patients over 15 years at the Belfast City Hospital by the senior author. All the patients underwent physiotherapy for six months before they were selected for surgery. All the patients were followed by a questionnaire regarding the symptomatic improvement, parent satisfaction and complication rate. We also reviewed the notes for the same as well.

Results

The mean age was eight years. Cerebral palsy was the commonest condition, found in 57 per cent children. The drooling was significantly reduced in 87 per cent cases. The main complication was ranula formation seen in five cases. The most significant area of parental concern was post-operative pain.

Conclusions

It is important to counsel the parents regarding the post-operative pain relief and as well as the failure rate of the procedure. It can therefore be concluded that this procedure is safe and highly successful, and significantly improves the quality of life.

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Size matters: tonsil size is related to recurrent acute tonsillitis

Chris Webb, Eslam Osman, Somit Ghosh, Stephen Hone
From the Royal Liverpool Childrens Hospital, Liverpool, UK.

Introduction

It has been generally accepted that tonsil size does not correlate with recurrent acute attacks of tonsillitis. Current guidelines state that patients must suffer five or more attacks of tonsillitis a year, symptoms must be present for at least one year, and the attacks must be disabling and prevent normal functioning. We have looked at clinical features in patients with recurrent acute tonsillitis, to see which patients should be considered for tonsillectomy sooner rather than later.

Method

A prospective controlled study was designed in which patients were placed into two groups depending on a history (or lack of history) of recurrent acute tonsillitis. Patients who had suffered an acute attack of tonsillitis in the preceding two weeks, or those patients with obstructive sleep apnoea were excluded. The clinical features examined were: tonsil size as graded on the Brodsky scale; tonsil symmetry; hyperaemia of the anterior tonsil pillars; and presence of cervical lymphadenopathy. A pilot study was performed using the same criteria as the main study, and used as the basis of a power calculation, indicating that 195 patients would be needed for meaningful statistical calculations.

Results

The two groups of patients were matched for age and sex. Patients who regularly suffered from recurrent acute tonsillitis had visually larger tonsils (mean grade = 2.447, 95 per cent confidence interval 2.2 to 2.7) than those who did not suffer (mean grade = 1, 95 per cent confidence interval 0.8 to 1.2) ($p<0.001$, $z = 4.2607$). Tonsil asymmetry was almost exclusively a feature of recurrent acute tonsillitis ($p<0.001$, $z = 4.9307$). Hyperaemia of the anterior pillars was also more common in recurrent acute tonsillitis ($p<0.01$, $z = 2.8512$). Finally cervical lymphadenopathy was more common in patients with recurrent acute tonsillitis ($p<0.001$, $z = 4.7372$).

Conclusion

Visually larger tonsil size, as well as asymmetry is an important clinical finding in patients with recurrent acute tonsillitis. This is in contradiction to other similar published studies. No other study we found included a power calculation, it may simply be that previous studies were underpowered. We accept that visually larger tonsils are not necessarily larger in volume, they may just be sitting in shallow tonsil fossae, but the results of this study indicate that tonsils which protrude more into the oropharynx are seen more commonly in patients with recurrent acute tonsillitis. It is possible that 'bigger' tonsils offer a larger surface area to the oropharynx they are likely to expose more crypts and therefore more frequently collect food debris with subsequent increased risk of tonsillitis. Finally, the authors' conclude that patients who have been referred for tonsillectomy and have larger tonsils, asymmetrical tonsils, or cervical lymphadenopathy should not have to wait for the mandatory one year period of observation.

Post-tonsillectomy trismus: predictor of complications and morbidity

A. Pandey, S. De, M. A. Siddiq, N. O. Turner
From the Manor Hospital, Walsall, UK.

Introduction

The aim of the study was to assess if post-tonsillectomy trismus is a scientific tool for patient assessment and whether it can predict complications and morbidity.

Method

This pilot study involved 13 children undergoing bilateral tonsillectomy at the Department of ENT at Manor Hospital, Walsall. Patients undergoing unilateral tonsillectomy or tonsillectomy for suspected malignant disease were excluded.

Tonsillectomy was performed by various surgical grades from trainees to consultants and a variety of methods including dissection, bipolar and monopolar diathermy were used. Patients were routinely discharged the following morning.

The ability to open the mouth (distance between right incisor teeth measured in mm) was recorded pre-operatively and 24 hours post-operatively. The pain score was recorded at the same time using a visual analogue scale of 0 to 10 with 10 indicating maximum pain.

Information regarding the duration of pain, return to normal activity, GP visits and any subsequent treatment received, was collected by telephoning patients two weeks post-operatively.

Results

It was found that there was a statistically significant correlation between post-tonsillectomy trismus and the degree of pain. A trend was demonstrated between post-tonsillectomy trismus and duration of pain and the time taken for full recovery. There was no correlation between post-tonsillectomy trismus and complications.

Conclusions

Our study was found a significant correlation between pain intensity and trismus. This pilot study has formed the basis of a prospective trial currently underway at the Manor Hospital, Walsall.

Group and save for paediatric tonsillectomy: is it required routinely?

Mary-Louise Montague, Michael S. W. Lee, S. S. Muscheer Hussain
From the Ninewells Hospital and Medical School, Dundee, UK.

Introduction

The aims of this study are: (1) To establish current UK practice with respect to group and save of serum for paediatric tonsillectomy and (2) to determine the need to group and save prior to routine paediatric tonsillectomy.

Methods

Members of the British Association of Otolaryngology and Head and Neck Surgery were surveyed by e-mail. A prospective study (November 1999–August 2002) of all children undergoing tonsillectomy or adenotonsillectomy was undertaken. Outcome measures included reactionary and secondary post-tonsillectomy haemorrhage rates, blood transfusion requirements and return to theatre rates.

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Results

Four hundred and sixty-four members were surveyed. The response rate was 52 per cent (n = 242). Twenty-five members (10.3 per cent) indicated that they do undertake group and save prior to tonsillectomy or adenotonsillectomy in children. Two hundred and seventeen (89.7 per cent) indicated that they do not. Of those who do group and save children, 20 members (80 per cent) do so routinely. The remaining five members (20 per cent) do so only in children weighing less than 15 kg (n = 4) or less than 10 kg (n = 1). During the study period 325 children underwent tonsillectomy or adenotonsillectomy. The reactionary haemorrhage rate was 0.6 per cent (n = 2) and the secondary haemorrhage rate 5.5 per cent (n = 18). The two reactionary haemorrhages were returned to the operating-theatre immediately for control of haemostasis. All secondary haemorrhages were managed conservatively. No child required blood transfusion during the study period.

Conclusion

Routine group and save of serum in children undergoing elective tonsillectomy or adenotonsillectomy seems unnecessary. We recommend that it be undertaken only in special circumstances.

Current consensus on paediatric otolaryngology in the UK

Eslam Osman, M. K. Anneeshkumar, S. Gosh, R. W. Clarke, M. McCormick
From the Royal Liverpool Children's NHS Trust, Alder Hey, Liverpool, UK.

Introduction

Approximately half a million children in England and Wales receive inpatient or day-case surgical treatment annually. In its important document *Children's surgery: a first class service*, The Royal College of Surgeons of England sets out recommendations on how children's service should be delivered in the UK.

Otolaryngology is the largest provider of surgical care for children in the UK with 30–50 per cent of our total volume of work being paediatric, and we felt that it was important to assess our current paediatric ENT practice.

Method

A postal questionnaire was sent to all UK-based ENT consultant, members of The British Association of Otorhinolaryngologists – Head and Neck Surgeons (BAO-HNS). The questionnaire was designed to assess the current attitude and practice of paediatric otolaryngology in the UK.

Results

The questionnaire results will be presented.

Conclusion

This study has shown that there is still a lack of consensus in the current practice of paediatric otolaryngology in the UK.

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