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British Association for Paediatric Otorhinolaryngology (BAPO) Abstracts from meeting 3 July 1999

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Nitric Oxide Measurements in Paediatric Otorhinolaryngology

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Nitric oxide is a colourless, odourless gas that is a widespread biological messenger controlling most bodily functions. It has effects on blood pressure, on the central nervous system, the lungs, liver, kidneys, gastrointestinal tracts, genitalia etc. Nitric oxide is also used in the immune system where it is cytotoxic against certain bacteria, viruses, parasites and tumour cells. It has been around a long time, nitric oxide was in use 500 million years ago in the horseshoe crab where it prevented blood cells from aggregating. Its importance now is shown by the fact it generates 3000 scientific papers per year.

Formation of nitric oxide occurs from L-arginine by the enzyme nitric oxide synthese. This results in the formation of nitric oxide together with citrulline. There are two isoforms of nitric oxide synthese: endothelial, neuronal and macrophage. The first two are consecutive, the latter is inducible. These are coded for on chromosomes 12, 7 and 17 respectively.

In the respiratory tract the majority of nitric oxide is formed in the sinuses where bactericidal levels of 20 ppm to 25 ppm are reached, levels in the nose are lower and those in the lungs are lower still at around <10 parts/billion. Levels are elevated when any form of inflammation occurs. Measurement of pulmonary and upper respiratory tract nitric oxide is now possible using chemiluminescence. We have applied measurement of nitric oxide to our paediatric rhinitis practice and found it useful in both diagnosis and in the assessment of response to therapy.

Low levels of nitric oxide are seen in primary ciliary dyskinesia (PCD) and also in cystic fibrosis, however these are not completely diagnostic since low nitric oxide also occurs in nasal obstruction from othe causes as we have found in nasal polyposis. Measurement of iNOS may help resolve this since it appears to be absent in PCD but is high in inflammatory polyps.

Inflammation causes raised nitric oxide levels whether the inflammation is allergic or infective. In children with upper respiratory tract problems lower respiratory tract symptoms commonly occur. These can be due to inflammation of the lower tract itself or to secondary effects from the upper respiratory tract. This can be resolved measuring pulmonary levels of nitric oxide.

Topical corticosteroids reduce the elevated nitric oxide levels seen in allergic rhinitis very effectively. If levels remain elevated the first question should be one of compliance with treatment. Interestingly the lower levels associated with nasal polyposis appear to rise after successful corticosteroid therapy.

In summary nitric oxide measurements are simple in children over five, quick and helpful in ENT diagnosis and treatment.

We would like to thank Doctor Dinwiddie of Great Ormond Street who has loaned the nitric oxide analyser to the RNTNE Hospital.

The Acceptance of Hearing Aids for Children with Otitis Media with Effusion

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Introduction

Conservative treatment for otitis media with effusion (OME) led us to consider the use of hearing aids as a way of managing fluctuating hearing loss (Effective Health Care, 1992). This study aimed to assess the compliance of patients and acceptance of hearing aids for the management of children with OME.

Method

Thirty-nine children who had been given binaural hearing aids to manage OME were assessed at routine follow-up after six months. A clinician who did not prescribe the aid administered a questionnaire to assess compliance, change in symptoms and acceptance of the aids.

Results

Thirty-eight parents thought the aids were easy to use and 25 (66 per cent) were completely satisfied with the management. Aided hearing improved by a mean of 17 dB (Range 10–30) over three frequencies and all parents reported subjective hearing improvement in their children. Improvement in speech and behaviour were also reported. The stigma of an aid was reported as minimal under the age of seven.

Conclusion

Hearing aids provide a non-invasive way of managing OME which is acceptable to certain parents and children. Our study agrees with the findings of Flannagan *et al.* who reported an acceptance rate of 77 per cent (Flanagan *et al.*, 1996). Long-term effects and particularly tympanic membrane changes need to be evaluated before they can be recommended.

References

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Justifying Paediatric Grommets – Applying Business Theory to a Surgical Procedure

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Introduction

Paediatric grommet insertion remains a controversial health care and funding issue in both the scientific and popular press, despite evidence of improvements in the standard outcome measures of hearing, ear infections, GP visits, antibiotic courses, school absenteeism, speech and social skills (Karkanevatos and Lesser, 1998).

The empowerment of patients via the Patient's Charter in 1991 encouraged an individual's involvement in their healthcare decisions. This led to 'patient satisfaction' becoming accepted as an alternative outcome measure for surgical treatment (O'Flynn and Irving, 1999).

Parent satisfaction is synonymous with patient satisfaction in cases of subjective observational studies of children.

For this study we, therefore, adapted marketing business theories used to assess customer satisfaction with a commerical product, to measure parent satisfaction following the insertion of grommets in their child.

Subjects and methods

The study was carried out by means of a simple retrospective forced-answer format questionnaire requiring the placement of ticks in a choice of boxes.

The study group comprised of parents of 200 children who had undergone grommets' insertion longer than one year prior to completing the questionnaire. The response rate was 100 per cent.

Results

One hundred per cent of parents understood the reason(s) for grommet insertion in their child. Ninety-two per cent noted subjective post-procedure benefit in their child's condition. Seventy-six per cent of parents would readily agree to re-use of grommets in their child if clinically indicated. Ninety-nine per cent wished to see grommet insertion remain available as a treatment option within the NHS.

Conclusion

Our study indicates that parental satisfaction with grommet insertion is high. We believe this should influence the decision of healthcare purchasers and providers to maintain grommet insertion as a treatment option for glue ear within the NHS.

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Parental Understanding of Ear Operations

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During our prospective study, parents of children undergoing major (tympanoplasty or mastoidectomy) or minor (grommet insertion) ear operations were asked to fill out a questionnaire. Nursing staff distributed the questionnaire just before the child was discharged from hospital. All parents felt they understood the aims of the surgery their child was undergoing. Almost all parents felt they had been told enough about the relevant operation. The out-patient clinic visit and the day of the operation were the occasions they felt they were given the most information.

Parents whose child was undergoing grommet insertion were more worried about the anaesthetic. In contrast, parents of those having major ear surgery were more concerned with the operation. The majority of parents remembered what was said at the clinic especially relating to deafness. We feel this is a quality issue in relation to pre-admission clinics. Most parents were able to give a reason for their child having the operation, however this differed from what we felt they ought to know about the purpose of surgery. Few parents were able to give possible problems that could occur with the operation.

Swimming and Grommets – Have We Changed Our Practice?

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Introduction

An article in the BMJ published anonymously in 1978 (Anon, 1978) advised that children with grommets should not swim. In 1981, Ludman (1981) gave similar advice. In 1993 Pringle published a review of published work on the evidence for otorrhoea caused by swimming in children with grommets. Since then there have been further studies (Parker *et al.*, 1994; Salata and Derkay, 1996) confirming that there is no increased risk of otorrhoea in children with grommets, whether they swim or not. The aim of this study is to see if current evidence has been implemented into clinical practice.

Method

The 25 consultant Otolaryngologists of the Oxford region were taken as the sample group. Each consultant was sent a postal questionnaire enquiring about their current practice with regards swimming following grommet insertion, and what this practice was based on. A 100 per cent response rate was ensured by subsequent telephone calls.

Results

Ninety-six per cent of consultant Otolaryngologists in the Oxford region allow their children to swim following grommet insertion. Twenty per cent of consultants allowed children to swim in the immediate post-operative period, the rest waited until the first out-patient visit, usually about six weeks post-operatively.

The reasons given for current practice were personal experience for 80 per cent of consultants and evidence from the literature in 76 per cent.

Conclusion

Current best evidence from the literature in the last six years has changed clinical practice and practically all consultants in this sample group now allow their children with grommets to swim. It is uncertain whether the timing of this makes any difference.

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Recommended Clinical Questions for Routine Measurement of Impact and Outcome – a Opportunity

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High and variable rates of glue ear surgery in the past have been ascribed to clinical uncertainty and economic and structural forces, but the lack of convenient and appropriate measures of need and of benefit may also have played a role. Use of such measures is necessary to ensure that benefits from treatments are maxmized by delivering them to the particular children needing them.

The recent call for wider outcome measurement in research (EHCB No. 4 1992) acknowledges that patient benefit can only be assessed fully if measures cover psychosocial outcomes as well as organ function. The recommendation of a small set of suitable questions is by no means new in healthcare, but standardization and quantification have been lacking in ORL. For the TARGET trial, this requirement has been met and the reduction of outcome measures to short forms, suitable for routine clinical use is now complete.

The measure recommended for behaviour problems in OME provides an example. It is short and easy to complete, being composed of only the items showing the strongest concurrent effect of OME on behaviour (cases vs population controls). Cases meeting a 20 dBHL criterion (two occasions three months apart) show a mean displaced from the population mean by ≈ 1 standard deviation. Two versions, (six and 12 items) are available, as are population norms stratified by age. With this and other measures, health-care providers and purchasers can now quantify the baseline impact and the benefit from treatment in a way that is easy to interpret.

Cochlear Implants in Children Under the Age of Two Years

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Objective

The National Institutes of Health consensus conference on cochlear implants in adults and children concluded that 'children at least two years old and adults with profound deafness are candidates for implantation'. There is now increasing evidence that the under two-year-olds can be successfully implanted without any increased risk (Waltzman and Cohen). The issue of neural plasticity may be crucially important with regard to final outcome, with earlier implantation being advantageous. The aim of our study was to look at the results of cochlear implantation in the under two-year-olds on the Nottingham implant programme.

Method

This was a retrospective study of all children under the age of two years who have received a cochlear implant within the Nottingham programme. The surgical procedure, complications and initial results were examined.

Results

Nine children have been implanted, six males and three females. The age ranged from 17 to 23 months. Four of the children had congenital deafness and five were post-meningitic. The average duration of hearing loss was 18.9 months (16 months post-meningitis, 22.5 months congenital). The duration of use ranged from four to 41 months, with an average of 23.8 months for the whole group. Six of the children had a completely patent cochlea. No early complications were encountered, and scores on the listening progress scale (LIP) and categories of auditory performance (CAP) scales were very encouraging.

Conclusion

These results in children under the age of two years undergoing cochlear implantation indicate that implantation is possible in this age group without increased risks and with promising early results regarding benefit. Further follow-up is required to assess long-term results.

Reference

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Auditory Perception in Children Implanted Under Two Years of Age

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Introduction

Debate continues to exist with regard to cochlear implantation in children under two years of age. Although there is evidence that age at implantation is a significant predictor of the functional outcome following cochlear implantation (Lesinski *et al.*, 1997; Nikopoulos *et al.*, 1999) the literature with regard to children implanted under two years of age is extremely limited. The aim of this study was to determine the viability of implanting children less than two years old and compare the auditory perception following implantation between children implanted under two years old and children implanted from two to five years old.

Materials and methods

One hundred and eight implanted children younger than five years of age were prospectively followed-up for up to two years following cochlear implantation. The 108 children were assigned into two groups. Group A consisted of 99 children implanted between two and five years of age and group B consisted of nine children implanted <two years old (range: 15–23 months). All children were implanted in Nottingham University Hospital with the Nucleus multichannel cochlear implant system. To assess the auditory perception of the implanted children, listening progress scale (LIP) and categories of auditory performance (CAP) were used. T-test and Mann Whitney U test were used for the statistical comparisons. Statistical significance was accepted at the $p<0.05$ level.

Results

In group A the mean outcome in LIP scale was 30 in six months, 37 in one year and 41 in two years following implantation. The respective numbers in group B were 28, 37 and 41. With regard to the CAP, the outcomes were the following: six months (mean 3.4, median 4), one year (mean 4.2, median 4), and two years (mean 5, median 5). The respective outcomes in group B were : six months

(mean 3.8, median 4), one year (mean 4.6, median 5), and two years (mean 5.7, median 5.5). No statistically significant difference was found between the two groups.

Conclusion

Children under two years of age receive substantial benefit from a multichannel cochlear implant and the outcomes in measures of auditory perception up to two years following cochlear implantation are at least similar to the respective outcomes in children implanted between two and five years of age.

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Congenital Nasal Piriform Aperture Stenosis – Not All Infant Nasal Obstruction is Choanal Atresia

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A four-month-old twin was admitted for investigation of failure to thrive with poor feeding and developmental delay. He was found to have holoprosencephaly (a developmental defect of the forebrain causing midline craniofacial dysgenesis), diabetes, insipidus, genital hypoplasia and global delay. Whilst being investigated as an inpatient he developed bronchiolitis (respiratory syncytial virs (RSV) positive) and subsequently had a respiratory arrest. During resuscitation he was found to be impossible to intubate nasally on the left side. Whilst on the ITU he was referred to ENT as a possible case of choanal atresia.

The obstruction in the nose was actually anterior. Computed tomography (CT) scan and examination under anaesthetic showed the posterior choanae to be patent and a diagnosis of congenital nasal piriform aperture stenosis was made – a condition previously reported to be associated with holoprosencephaly (Burstein *et al.*, 1995; Hui *et al.*, 1995; Krol *et al.*, 1998). Initially nasal stents were placed for 10 days. Definitive surgery was then carried out through a sub-labial approach. Nasal stents were left in place for six weeks and then removed under general anaesthetic. The nasal airway has remained patent and although he has not caught up developmentally with his twin brother – the baby is making progress.

References

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Day-Stay Adenoidectomy – A Two Centre Audit

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Introduction

Adenoidectomy is commonly performed as a day-stay procedure. Patients must satisfy strict entry criteria for day-stay adenoidectomy to be safe and cost-effective. The Audit Commission in 1990, Royal College of Surgeons in 1992, and NHS Management Executive in 1993 all recommended that 50 per cent of surgery be carried out as a day case. We audited our figures and explored methods of meeting the recommended national guidelines.

Method

An audit of adenoidectomy was carried out over a six-month period for the two centres within the Royal Free NHS Trust.

(1) The Royal Free Hospital which also has day-case surgery and clinics in Barnet General Hospital and outreach clinics in Edgware General Hospital.
(2) The Royal National Throat, Nose and Ear Hospital (RNTNE) which has outreach clinics in Newham General Hospital.

A new protocol for day-case adenoidectomy was introduced at the RNTNE and the results were re-assessed over the following six months.

Results

Seventy-eight per cent of adenoidectomies carried out at the Royal Free/Barnet site were done as day-stay procedures as compared with 13 per cent of those carried out at the RNTNE. A retrospective review of the notes of RNTNE patients revealed that many patients were excluded because they lived too far from the hospital. Following the introduction of a new protocol at the RNTNE and the allocation of specific day-surgery unit theatre slots for adenoidectomy, the day-stay adenoidectomy rate increased to 27 per cent.

Conclusion

This study demonstrates the value of audit in bringing about change in surgical practice. It also highlights the importance of assessing national guidelines in the context of the local facilities and patient population. The target figure of 50 per cent day-stay adenoidectomy does not apply to all units, but is a reasonable average figure.

Carhart's Notch: A Finding in Otitis Media with Effusion

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Introduction

A false depression of bone conduction (BC) thresholds is a recognized feature in cases of middle-ear conductive defects. This is known as Carhart's notch (CN). This study has been designed to look at this phenomenon and its clinical significance in cases of otitis media with effusion (OME), in children.

Patients and methods

Clinical records of 54 children with OME were analysed retrospectively. The first 24 were picked up in out-patients and the rest were from 100 consecutive cases of OME. The criteria was taken as a minimum depression of 10 dB in BC at any frequency. Myringotomy findings were noted and results of pre- and post-operative tympanograms and audiograms were compared.

Results

There were 33 boys and 24 girls. Their ages ranged from five to 17 years. All had myringotomy and insertion of ventilation tubes. The character of fluid after myringotomy

was thick glue in 43 (75.4 per cent), serous in 10 (17.5 per cent). There was no fluid in three cases. Oedematous, granular or polypoidal appearances of middle-ear mucosa were noted in 44 (77 per cent) cases. A normal mucosa was seen in eight (14.0 per cent) and no comments were available in five cases. Pre-operative tympanograms were of type B in 50 (87.7 per cent) and type C in seven (12.2 per cent) cases. The loss of BC thresholds ranged from 10 dB to 40 dB. The affected frequencies comprised of 2000 Hz in53 (92.9 per cent), 4000 Hz in three (5.2 per cent) and 1000 Hz in one of the cases.

Post-operative audiograms showed improvements in BC thresholds in all cases. In an analysis of 100 consecutive cases of OME, the incidence was found to be approximately 33 per cent (33/100).

Conclusions

In this study the presence of thick fluid and abnormal middle ear mucosa in two-thirds of the cases, explained the reduction in ossicular chain mobility resulting in a reversible depression of the BC thresholds i.e. Carhart's notch. We recommend that BC should be the part of pre-operative audiograms in all cases of OME.

Paediatric Epistaxis: the Alder Hey Experience

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Over a four-month period, all new referrals of epistaxis seen in the ENT out-patient department were included in this prospective audit. Eighty-eight children were assessed and treated (nine per cent of the total 1023 new referrals). Parents were asked to fill out a questionnaire on arrival in out-patients (first visit) with particular reference to the length and frequency of epistaxis. No attempt was made to influence the clinician's management. Some children required nasal cautery; some were given naseptin cream. Review appointments were set if indicated. Three to four months after the initial consultation parents were asked to fill out a postal questionnaire to ascertain if they thought their child's management had been helpful; 65 per cent responded. Most parents (74 per cent) thought topical chlorhexidine and neomycin cream (Naseptin) was useful. At the same time information was gathered by phone from 88 per cent of general practitioners to ascertain whether the child had returned to the surgery because of epistaxis. Ninety-one per cent of patients did not consult their general practitioner regarding epistaxis again. The majority of children tolerated cautery under local anaesthetic, even two-year-olds. During the same four-month period four children required admission for epistaxis via the accident and emergency department. There was no mortality associated with epistaxis.

References

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Creating a 'Virtual' Back Office

Jim Ochi, M.D.

The management of information can be overwhelming to practising doctors. Each patient record can quickly amount to dozens of pages, which is cumbersome to review and transport between offices and hospitals. Creating a 'virtual' back office can reduce operating costs and increase productivity and efficiency, all at the same time. The practice continues to communicate with the outside world in the usual ways, but communication 'within' the practice is performed electronically with a 'virtual' back office. This allows for small practices to collect, manage and use information in ways that larger organizations cannot do easily.

Cimetidine Treatment for Recurrent Respiratory Papillomatosis

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The management of recurrent respiratory papillomatosis (RRP) is essentially one of maintaining the airway while awaiting spontaneous resolution of the condition, as there is no described treatment which can reliably produce long-term complete involution of papillomata following its withdrawal. The mainstay of treatment is laser vaporization of the papillomata, avoiding collateral damage to normal tissues. Effective adjuvant treatment for RRP is at present limited to alpha-interferon, which may have significant side-effects including febrile reactions, decreased growth rate, leukopenia and rebound growth of papillomata following its withdrawal. Furthermore it has to be given by regular injection and is expensive.

From treatment of patients with the Zollinger-Ellison syndrome, high dose cimetidine is known to have immunomodulatory side-effects and has been reported as a useful adjuvant treatment for cutaneous viral warts. We report a case of a 10-year-old girl with very advanced RRP with tracheobronchial-pulmonary involvement, treated with a trial of adjuvant cimetidine because of the life-threatening nature of her condition. She had been previously treated with interferon without improvement and has a tracheostomy. Prior to treatment she required laser bronchoscopy every three weeks to maintain her airway.

She was treated with a dose of 40 mg/kg for four months without obvious side-effects. The patient enjoyed a remarkable improvement in her clinical condition following treatment. The tracheal load diminished significantly and for the first time it was possible to pass the bronchoscope in to both main bronchi. The improvement has been maintained for two months after the cessation of treatment.

Cimetidine shows some promise as a low morbidity, systemic, orally administered adjuvant treatment for RRP. The fluctuating nature of the condition, however, means interpretation of the efficacy of any treatment should be made with some caution. A second advanced case of RRP has also been recently commenced on this form of medication and its clinical course will be followed with interest.

The Role of Fibreoptic Laryngoscopy in Neonates and Young Children

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Background

Stridor in children often requires an endoscopy of the airway to reach a definitive diagnosis. Traditionally microlaryngoscopy and bronchoscopy (MLB) is performed in order to evaluate the airway. This requires a general anaesthetic and therefore an associated morbidity and mortality.

Since 80 per cent of stridor in neonates and young children is due to laryngomalacia, we have investigated the use of fibre-optic laryngoscopy under local anaesthetic (LA) as a day-case as a means of making the diagnosis in children with mild to moderate stridor. Fibre-optic laryngoscopy does not evaluate the airways below the vocal folds, so follow-up is essential. Those that fail to thrive are admitted for MLB. The remainder, however have been spared an anaesthetic.

Aim

The aim of this study is to demonstrate a safe and cost-effective method of investigating neonates and children with stridor.

Method

A retrospective analysis of the case records of all neonates and children who underwent fibre-optic laryngoscopy under LA, between 1998 and present was performed. Details of the initial diagnosis, subsequent clinical course and any change in diagnosis was obtained. From a managerial point, the cost involved for a day-ase fibre-optic laryngoscopy and in-patient MLB was also compared.

Results

The results showed that the combination of fibre-optic laryngoscopy with follow-up is a safe and cost-effective method of assessing stridor in this group. Laryngomalacia was the commonest clinical diagnosis.

Conclusion

Our series show that fibre-optic laryngoscopy is a useful and cost-effective method of assessing stridor in neonates and young children in the first instance and allows many to avoid the risk of general anaesthetic.

Oesophageal Perforation in a Child

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The objective of this study was to review the history and management of oesophageal perforations in children.

Method

A Med-Line literature search from 1966–1999 for oesophageal perforations in children was carried out.

Case presentation

A 10-year-old male underwent flexible oesophagogastroduodenoscopy (EGD) for a two-year history of intermittent emesis that had now become bloody. The first two attempts at passing the scope into the oeophagus were complicated by laryngospasm that necessitated positive pressure ventilation. On the third attempt, the scope passed easily. Two hours after the procedure the patient developed inspiratory chest pain. Physical examination revealed subcutaneous emphysema of the right neck. The lateral neck film demonstrated retropharyngeal air. Flexible laryngoscopy was normal. Gastografin swallow demonstrated no extravasation. A barium study confirmed the absence of a perforation. Oral feeds were discontinued and intravenous antibiotics administered. The patient remained afebrile and oral feeding was resumed five days later. After tolerating an oral diet for over 24 hours, he was discharged home without any sequelae.

Discussion

A literature search identified 85 articles discussing oesophageal perforation in children. The prevalence of oesophageal perforations is low which precludes any one institution from having a large experience. Oesophageal perforations may be classified into three different types: pseudodiverticulum, submucosal and complete. Important factors affecting management and outcome include pre-operative medical condition, perforation location and size, presence of underlying oesophageal disease and time necessary to make the diagnosis and initiate treatment. Generally, oesophageal perforations in children are more likely to be contained. The incomplete perforation is thought to be secondary to more resistant mediastinal tissues. The paper reviews the literature regarding the presentation, diagnosis and management of oesophageal perforations in children.

Conclusion

The management of oeosphageal perforations in children will depend on the aetiology and severity of disruption.

Management of Obstructive Sleep Apnoea Syndrome in Children with Pyknodysostosis: a Review of Three Cases

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We report the cases of three children with pyknodysostosis suffering from obstructive sleep apnoea syndrome (OSAS). Pyknodysostosis is a rare autosomal recessive condition with several abnormalities including craniofacial anomalies. The complex multiple aetiology and management of their OSAS is discussed.

Disordered Breathing During Sleep in Patients with Mucopolysaccharidoses

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Obstructive sleep apnoea has been identified as a feature of children with mucopolysaccharidoses (MPS). However, the incidence and severity of OSA with respect to disease type is poorly defined. The aim of the present study was to measure objectively the degree of OSA in a group of children with a range of MPS syndromes.

In a cross-sectional study, cardiopulmonary sleep studies were performed during unsedated sleep in 26 children with MPS over a period of two years. Obstructive sleep apnoea was present in 24/26 patients, and ranged in severity from mild to severe. OSA was most marked in MPS type IH (Hurler's syndrome), followed by type IHS (Hurler-Schele syndrome) and II (Hunter's syndrome). Frequent arousals and poor sleep quality, not suspected clinically, were noted in several patients. Scores of OSA severity based on clinical history and upon objective sleep data were made in each case. There was agreement between the two scoring systems in only 17/26 (65 per cent) patients with clinical history scores tending to underestimate the most severe cases (five out of 26) cases and overestimate the severity in mild cases (four out of 26).

These results show that obstructive respiratory problems are frequent in MPS patients, and that there are differences in severity of OSA between the various MPS types. Assessments of the severity of OSA based upon clinical history alone are inadequate. Our results suggest

that objective sleep studies are necessary to evaluate these cases prior to embarking on corrective surgery, in order to monitor clinical outcome and to assess the effects of therapeutic intervention.

Patient Eligibility and Parental Attitude for Day-Case Paediatric Adeno-tonsillectomy

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Introduction

There is a growing trend towards paediatric day-case surgery and departments are constantly under pressure from health trusts to perform more procedures as day cases. Adenoidectomy and tonsillectomy are being performed as day-case procedures in many centres and literature has suggested that these are safe enough procedures for this.

There is the second criteria, however, of patient eligibility for day-case surgery and various figures (50 to 60 per cent patient eligibility) have been quoted. We wanted to estimate the percentage of patients in our catchment population who would be suitable for day surgery based on the recommended social and medical guidelines.

Method

A prospective study of 100 consecutive patients presenting to our department for in-patient tonsillectomy and/or adenoidectomy was undertaken. Parents were asked to fill in a questionnaire on admission. A detailed medical and social history as well as parental attitude to day surgery was obtained both pre- and post-operatively.

Results and Conclusions

Only 27 per cent of our patients passed the social and medical eligibility criteria for day surgery and only nine per cent of parents preferred day surgery as an option. There is a marked difference amongst our group and those previously reported in the literature. A large percentage of our patients are from deprived areas and this needs to be taken into consideration before expanding day-surgery procedures.

Treatment of Sialorrhoea: the Sheffield Experience

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Sialorrhoea is a common problem in the neurologically impaired child. Various surgical procedures have been reported over the last 30 years for patients failing to respond to conservative measures. We report our experience with salivary duct relocation that is the treatment of choice in our centre.

In Sheffield, from 1990 to 1998, 23 patients underwent submandibular duct relocation (six males and 17 females). The age range was from five to 23 years. The aetiology of the neurological damage causing sialorrhoea was in 13 cases cerebral palsy, in two Down's syndrome while the remaining cases were done to a number of different causes (Cornelia de Lange syndrome, spastic quadriplegia, facio-palato-glossal weakness etc.).

Of the 23 patients, five were lost to follow-up (22 per cent). Of the 18 cases available for follow-up, 16 were post-operatively better or much better (88 per cent) while two were no better. The two patients who did not improve subsequently underwent excision of the submandibular glands.

There were two post-operative complications: one child had aspiration pneumonia requiring treatment with intravenous antibiotics (full recovery), while the other child had persistent post-operative swelling of one submandibular gland which eventually required excision of the gland. Our results are similar to other series reported in the literature and confirm that salivary duct transposition is an effective treatment of sialorrhoea in neurologically-impaired children with good long-term results and low morbidity.

Kimura's Disease in Childhood, a Case Report

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A case of Kimura's disease associated with steroid-resistant mesangioproliferative glomerulonephritis is reported in a seven-year-old boy of Indian extraction. The typical presentation is in a young Oriental male with painless subcutaneous swellings in the head and neck region, regional lymphadenopathy, peripheral eosinophilia and elevated serum IgE levels. Kimura's disease is rare in the non-Oriental paediatric population. The literature is reviewed, summarizing presentation, aetiology, imaging, differential diagnosis and treatment options. This poster presentation is the first report of Kimura's disease occurring in the paediatric Indian population.

Cholesteatoma of the Maxillary Antrum

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Cholesteatoma of the maxillary sinus, also known as keratoma, primary epidermoid tumour, epidermoid cyst, and keratocyst is a rare entity, with a clinical presentation that is difficult to differentiate from malignancy. Although cholesteatomas are common in the temporal bone this is not the case in the paranasal sinuses. A case of cholesteatoma of the maxillary sinus is reported in a three-year-old girl without any history of predisposing factors. The patient presented with an expanding lesion of the right maxillary antrum radiologically resembling a mucocele. The differential diagnosis, aetiology, treatment and histopathology will be described. While it is a rare entity the diagnosis of cholesteatoma should be considered for any slowly expanding lesion of the maxillary antrum.

An Unusual Lateral Dermoid Cyst of the Neck

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Dermoids are benign teratomatous lesions. Composed of mesoderm and ectoderm, they usually contain epidermal appendages such as sebaceous glands and hair follicles. They are very uncommon and only one to 3.5 per cent affect the head and neck region. The common site of a dermoid in neck is in the midline; laterally placed dermoids are very rare. These usually present as a single, smooth cystic swelling in the submandibular triangle deep to the mylohyoid muscle and superficial to the hyoglossus muscle.

We describe a case of a lateral neck swelling in a 15-year-old girl that presented as a smooth bilobed cystic lesion. Pre-operatively it proved to be a single cyst lying upon the mylohyoid muscle and being indented laterally by the diagastric muscle central tendon to give it a bilobed

appearance. Histopathological examination showed it to be a dermoid cyst. This is both a very unusual location and a novel clinical presentation for a dermoid.

Jugular Vein Phlebectasia

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Two boys aged 20 months and four years presented with intermittent otherwise asymptomatic bilateral swellings of the neck. The swellings appeared momentarily while the children were crying and straining and in the second case could be demonstrated following Valsalva's manoeuvre. No mass was felt on palpation. Ultra-sound demonstrated normal dimensions of the jugular vein at rest but with massive dilatation during Valsalva. The wall of the jugular vein appeared structurally normal and there were no collateral veins. In one case the external jugular was also involved. Colour Doppler studies showed normal venous flow.

Internal jugular phlebectasia is an isolated saccular or fusiform dilatation of the jugular vein that increases in size with crying or straining. The majority of the lesions are noted within the first decade of life as cystic swellings anterior to the sternocleidomastoid muscle. Possible aetiological factors are congenital or mechanical obstruction of the jugular veins. Usually phlebectasias are diagnosed during surgical exploration for an alternate aetiology. Ultrasound is able to demonstrate the abnormality due to its dynamic nature. Computed tomography and magnetic resonance at rest will fail to demonstrate the cause of the swelling. Once confirmed, asymptomatic phlebectasias do not require treatment. These cases demonstrate the importance of pre-operative imaging for all neck swellings where the diagnosis is in doubt.

First Branchial Groove Anomaly

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First branchial groove anomalies are very rare. We report a case of a first branchial groove anomaly presented as a cyst in an 11-month-old child. Shortcomings are noted in the present classification by Work and a suggestion is made to add a third type in order to include those defects with combined features of Work type 1 and type 2 (Work, 1972). Management of these lesions are complicated because of its close association with the facial nerve. Surgical management of these lesions must include identification and protection of facial nerve. Embryology and facial nerve disposition in relation to the anomaly is reviewed.

Reference

Work, W. P. (1972) Newer concept of first branchial cleft defects. *Laryngoscope* **82:** 1581–1593.

A New Technique: Bipolar Scissors Tonsillectomy

P. Kirkland.

Introduction

In the paediatric population, bipolar forceps diathermy is commonly used in tonsillectomy. Bipolar scissors diathermy has been described in the literature using large gynaecological scissors. We describe the technique using smaller, modified scissors, that are more suitable for children.

Study design

A prospective study comparing this new technique with the more traditional bipolar forceps. Patients were allocated into one of the two treatment arms. Tonsillectomies were performed by three surgeons (one consultant and two registrars).

Results

Of the 75 patients included in the study, scissors were used in 36 patients and forceps in 39. The mean age was 6.6 years in the scissors group and 7.4 years in the forceps group. The mean operative time was nine minutes for the scissors group and 11 minutes for forceps. Time to first drink was comparable between the two groups. The mean time to first food was 127 minutes with scissors and 176 minutes with forceps. There were no operative complications in either group.

Conclusions

Advantages of bipolar scissors over forceps include reduced operative time, decreased tissue trauma/burning and hence post-operative pain. The technique is safe and easy to learn. There is also negligible blood loss and all patients are discharged on the same day as surgery.

Deaf Children in Education: Comparison Between Children with Hearing Aids and Cochlear Implants

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Introduction

In a previous study (Archbold *et al.*, 1998) it was found that children implanted early, before an educational decision has been made, are more likely to go to mainstream schools, than those implanted when already in an educational setting. The aim of the present study was to compare the educational placement between implanted children and children using hearing-aids.

Materials and methods

The differences in educational placement were investigated between 535 profoundly deaf children who were implanted in the UK and were in educational settings in 1998, and 2312 profoundly deaf and 2282 severely deaf children with hearing-aids in the UK who were in educational settings in 1998 (BATOD Survey, 1994). From 220 profoundly deaf children who have been implanted in our programme, 80 have reached the three-year interval following cochlear implantation. The educational placement of these children was also assessed and compared to the respective educational placement of severely or profoundly deaf children with hearing-aids. Chi-square test was used for the statistical analysis and significance was accepted at the $p<0.05$ level.

Results

Two hundred and thirty-three children (10 per cent) out of 2312 profoundly deaf children with hearing aids were in mainstream schools, whereas 958 (41 per cent) were in a unit of a mainstream school and 1121 (49 per cent) children were in schools for the deaf. With regard to profoundly deaf children with cochlear implants, 90 children (17 per cent) were found in mainstream schools, whereas 327 (61 per cent) were in a unit of a mainstream school and 118 (22 per cent) children were in schools for the deaf. From the 2282 children with severe deafness and hearing-aids, 808 (35 per cent) were in mainstream schools, whereas 1001 (44 per cent) were in a unit of a mainstream school and 473 (21 per cent) children were in schools for

the deaf. From the 80 children who were implanted in our programme and had reached the three-year interval, 27 were in pre-school settings at the time of implantation. Three years following implantation, 11 (41 per cent) were found in mainstream schools, 14 (52 per cent) in units, and two (seven per cent) in schools for the deaf.

The statistical analysis revealed that profoundly deaf children with cochlear implants are more likely to attend mainstream schools or units in mainstream schools than profoundly deaf children with hearing-aids. Children with severe deafness and hearing aids were found to attend mainstream schools or mainstream units in a similar percentage (79 per cent) with profoundly deaf children with cochlear implants (78 per cent). However, profoundly deaf children with implants were more likely to be found in a unit of a mainstream school (61 per cent) in comparison with severely deaf children with hearing aids (44 per cent). On the other hand, profoundly deaf children who were implanted when they were still at pre-school, three years following implantation were found in mainstream schools in a similar or even better percentage (41 per cent) than profoundly deaf children with hearing-aids.

Conclusion

Although there are inherent limitations of such studies, as children in the various groups have different demographic data or rehabilitation support, it seems that profoundly deaf children with cochlear implants, and especially those who were in pre-school when implanted, have a similar educational placement to severely and not profoundly deaf children with hearing-aids.

References

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