The Journal of Laryngology & Otology
November 2003, Vol. **117,** pp. 910–916

British Association for Paediatric Otorhinolaryngology (BAPO)

Abstracts from the BAPO/ESPO European Trainees Meeting, Oxford, September 2002

Speech and Language Development after Infant Tracheostomy

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Background

The underlying indication for tracheostomy may serve as a predicator of the long-term outcome and certain aspects of child development. It has been demonstrated that individuals diagnosed as having primary neurodevelopmental delay have a high incidence of abnormal speech and language development. However, results in cohorts where this group are excluded are controversial. With no coexisting neurological impairment, some suggested that tracheostomy has little influence on speech development, whilst others showed a clear pattern of language disability.

Objective

To evaluate influence of tracheostomy on speech and language development.

Method

Retrospective study using standardized outcome measures.

Result

We studied a series of 57 paediatric tracheostomies carried out over a period of three years. Among them, 94 per cent of patients were under five years old and 68 per cent were under one-year-old at the time of tracheostomy. In the group where children had a neurological disorder, 91 per cent showed no language or delayed language development. In contrast, of the group of children who had no neurological impairment, 69 per cent had normal language, whilst 30 per cent had delayed language development at review.

Conclusion

Tracheostomy affects speech and language development in those with and without neurodevelopmental delay. Crucial factors affecting speech and language development within the neurologically normal group are age at the tracheostomy and the duration of the tracheostomy until decannulation. Achieving earliest decannulation and encouraging the use of speaking valves improves the chance of a normal speech and language development.

The Natural History of Middle Ear Pathology in Primary Ciliary Dyskinesia

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Primary ciliary dyskinesia (PCD) is an inherited condition affecting one in 20,000 children. Findings include middle ear effusions. We wished to establish the natural history of hearing thresholds and middle ear pathology in children with PCD.

Methods

A retrospective review of the notes of children currently attending a multidisciplinary paediatric PCD clinic was undertaken. Data gathered included serial audiometry, tympanometry and examination. Air conduction thresholds were recorded. Those children with a history of grommet insertion were analysed separately. To prevent bias serial audiograms were averaged to a single annual plot per child per year of follow up.

Results

Data was collected on 45 children with PCD. 23 male, 22 female. Mean age of diagnosis 3.8 years (range 0–16 years). Mean length of follow up 4.6 years (range 0–12 years). Two were excluded. Twenty-two children had had grommets inserted and 21 had had no ear surgery. In the grommet group 15 (79 per cent) had subsequent chronic otorrhoea, four (21 per cent) had dry ears and data was inadequate in three. Of the 22 who had never had grommets, two developed chronic otorrhoea (nine per cent), 20 (91 per cent) did not. Audiometric comparison for three age ranges showed: age four to eight grommets (n = 36) mean 23.4 dB thresholds, no grommets (n = 38) mean 21.9 dB; age eight to 12 grommets (n = 38) 20.1 dB, no grommets (n = 34) 20.8 dB; age 12–16 grommets (n = 24) 16.8 dB, no grommets (n = 20) 22 dB. The latest assessment made on children over 12 years of age was analysed to assess resultant middle ear pathology. Results are shown for those with a history of grommet insertion (n = 16) followed by those with no previous ear surgery (n = 14) in parenthesis: intact drum and aerated middle ear 69 per cent (36), OME 19 per cent (57 per cent), CSOM six per cent (seven), perforation six per cent (seven).

Conclusion

The high incidence of post-grommet otorrhoea has been reported. The striking findings are the mild hearing loss despite persistent effusions, and the high (53 per cent) overall resolution of effusions in the presence of persisting ciliary dysfunction.

Effect of Disposable Instruments on Paediatric Post-Tonsillectomy Haemorrhage Rates

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Background

A government directive aiming to minimize the theoretical risk of acquiring variant Creutzfeld-Jacob Disease from reusable instruments lead to tonsillectomy with disposable instruments becoming standard practice in the UK during

2001. A perceived increase in post-tonsillectomy haemorrhage followed soon after implementation of the directive.

Objective

To determine if the introduction of disposable instruments is associated with a statistically significant change in post-tonsillectomy haemorrhage rates in children.

Methods

A prospective audit of paediatric tonsillectomy with reusable instruments (n = 156) had been undertaken (November 1999–November 2000). All children undergoing tonsillectomy with disposable instruments (n = 115) were also studied prospectively (August 2001–December 2001) allowing the reactionary and secondary post-tonsillectomy haemorrhage rates for the two study periods to be compared. We hypothesized no difference in haemorrhage rates between reusable and disposable instruments. Statistical significance was calculated using Fisher's exact test and confidence intervals were established for the differences between study groups.

Results

Cold dissection was undertaken in 62 children with reusable instruments and in 76 children with disposable instruments with secondary haemorrhage rates of 3.2 per cent (n = 2) and 2.6 per cent (n = 2) respectively. Bipolar diathermy dissection was undertaken in 94 children with reusable instruments and in 39 children with disposable instruments with respective secondary haemorrhage rates of 6.4 per cent (n = 6) and 12.8 per cent (n = 5). No difference was found in the overall secondary haemorrhage rate between reusable and disposable instruments ($p = 0.93$, Diff 1.0 per cent (95 per cent CI; –7.4 to +4.6)). No reactionary haemorrhages occurred with reusable or disposable instruments.

Conclusion

The introduction of disposable instruments has not produced a statistically significant increase in paediatric post-tonsillectomy haemorrhage rates in our centre.

Efficacy of Cefpodoxime in the Prophylaxis of Recurrent Pharyngotonsillitis

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Background

Recurrent acute pharyngotonsillitis remains a common illness in children and young adult and can lead to serious complications if not treated. Cefpodoxime proxetil is a new third generation oral cephalosporin, which shows potent antibacterial activity against both Gram-positive and Gram-negative bacteria, and high stability in the presence of beta-lactamases.

Objective

In this study we want to evaluate the efficacy of third generation cephalosporins in the prophylaxis of recurrent pharyngotonsillitis.

Methods

A total of 180 adults and children > 15 years old with recurrent pharyngitis/tonsillitis were randomized to receive either cefpodoxime proxetil 200 mg twice a day for six days in a month for four months or a placebo.

Results and Conclusion

Our results have shown that treatment with third generation oral cephalosporin may be effective in reducing symptoms of recurrent pharyngitis/tonsillitis and to prevent recurrences without having side effects and not promoting the development of bacterial resistances in the patients under treatment.

Re-Emergence of Acute Epiglottitis in Children

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Background

Introduction of HIB vaccine in 1992, has dramatically reduced the incidence of haemophilus disease in children in the United Kingdom from a peak of 31 per 100,000 children in 1991/2 to 0.63 per 100,000 in 1999. Despite the high coverage rate of vaccination of 92 per cent, there has been a marked increase in reported cases during the recent years.

Case history

We report a series of six cases of invasive *Haemophilus* disease in vaccinated children, over a period of six months (October 2001 to February 2002). The age of children presented varied from eight months to five years. Of the six children, blood cultures confirmed H. influenza type B growth in four cases.

Conclusion

The cause of the rise in number of cases is unclear. The possible mechanisms involved in this worrying increase in number of cases is discussed.

Differentiation and Functional Status of Vascular Smooth Muscle Cells in Nasopharyngeal Angiofibromas

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Background

Recently it was shown, that nasopharyngeal angiofibromas (NA) correspond to vascular malformations with the smooth muscle layers of tumour vessels being architectured very irregular with regard to presence, thickness and outlining. In addition, morphological irregularities could be demonstrated even in individual smooth muscle cells concerning their shape and size.

Objective

Our intention was to find out if the irregular morphology, of the smooth muscle cells is paralleled by an altered expression of contractile proteins and contractile regulatory proteins respectively.

Methods

Thirty-three cases of NA were subjected to immunohistochemistry using antibodies to the following antigens: alpha smooth muscle actin, muscle actin, smooth muscle myosin heavy chain, h-caldesman and basic calponin.

https://doi.org/10.1258/002221503322542999 Published online by Cambridge University Press

Results

All smooth muscle cells of all vessels exhibited expression of alpha smooth muscle actin, muscle actin and smooth muscle myosin heavy chain. The immunohistochemistry for calponin and caldesmon, however, was irregular and mainly restricted to the outer smooth muscle layers of larger vessels. Normal vessels at the tumour periphery ('feeding vessels'), which were investigated for comparison, exhibited the expression of all markers in all smooth muscle cells.

Conclusion

The immunohistochemical profile of vascular smooth muscle cells in NA shows that their irregular morphology is mirrored indeed by an altered protein expression. As a consequence, they correspond to less differentiated cells reflecting a rather early stage of development. Furthermore, the lacking or only focal expression of calponin and caldesmon indicates the impossibility of proper muscle contraction, which will be a main reason for characteristic severe bleedings in NA.

OSAS and Children

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Nearly 10 per cent of preschool-aged children snore, and one per cent of four- to five-year-old children present an obstructive sleep apnoea syndrome (OSAS). Major risk factors for OSAS in children include adeno-tonsillar hyper trophy, neuromuscular disease and syndromes such as Down's or Pierre-Robin's syndrome. OSAS in children differs markedly from adults concerning etiology, clinical symptoms, polysomnographic findings, and course of the disease. Therefore, results of adult sleep medicine cannot easily be applied to children. The disease may result in pulmonary or systemic hypertension, failure to thrive, and neurocognitive misbehaviour. Up to now, there is no consensus concerning diagnosis and therapy.

Traditional methods used in children to assess the upper airway and tissues surrounding the airway include lateral neck radiographs and cephalometry measurements. However, these methods are essentially two-dimensional and provide little information about lateral structures of the nasopharyngeal and oropharyngeal regions. Newer techniques such as acoustic reflection, ultrafast computed tomography and magnetic resonance imaging (MRI) are readily available. Definitive diagnosis is by nocturnal polysomnography while other methods such as cardiorespiratory records and nocturnal pulse oximetry are undoubtedly useful.

Adenotonsillectomy plays a major role in the treatment of OSAS. Nasal continuous positive airway pressure is an alternative in children who show poor response to surgical treatment or in those with craniofacial alterations. In a few cases, nocturnal oxygen administration can be useful.

Quality of Life in Patients and Families of Patients Suffering from Obstructive Sleep Apnoea and Recurrent Tonsillitis

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Background

Tonsil and adenoid surgery remains one of the most common surgeries performed by otolaryngologists. The main indications are obstructive sleep apnoea (OSA) and recurrent tonsillitis (RT).

Objective

To evaluate the effect of either OSA or RT on the quality of life of the patients with these conditions as well as on their families. Also to see whether there was any difference in quality of life between the OSA group and the RT group.

Methods

A prospective analysis of all children between ages one and 12 who were referred for tonsil and adenoid surgery. The study population was divided into two groups – those with OSA and those suffering from RT. The control group consisted of children ages one to 12 who presented to other departments, and who had no ENT related problems. Children with congenital defects or systemic illness, or those who underwent any type of otolaryngology surgery were excluded. Data on quality of life was obtained by the use of a questionnaire filled out by the parents at the time of tonsil-adenoid surgery.

Results

The children (and families) of both study groups had a decreased quality of life when compared to the control group.

Conclusions

Parents of children with OSA were mainly concerned about the sleeping problem, even to the point of being fearful for the child's life, with some concerns regarding school performance and overall growth and development. However, parents of those children with RT tended mainly to be worried about performance issues due to missed school days.

Children's Views on Hearing Aid Use in Otitis Media with Effusion

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Background

Since January 1988 hearing aids as oppose to repeated insertion of ventilation tubes has been offered to children within East Lancashire for persisting otitis media with effusion. Ahmmed *et al.* reported that a major reason for not considering hearing aids as oppose to surgery was that parents and children preferred surgery.

Objective

To determine children's view on the use of hearing aids prescribed for recurrent otitis media with effusion.

Method

Following hearing aid fitting (six to eight weeks after fitting) children were sent a questionnaire to complete and return to the clinic. The results of this postal survey are presented in this paper.

Results

Over 85 per cent of children wore their hearing aid(s) all the time in the classroom and over 65 per cent in the home. Over 50 per cent felt a little or more self-conscious yet 60 per cent reported they wore their hearing aid(s) when with

https://doi.org/10.1258/002221503322542999 Published online by Cambridge University Press

friends. The majority of children reported that they preferred a hearing aid to surgery and those who wanted surgery only wanted it if the middle ear problems would be treated for good.

Conclusion

Hearing aid provision is a suitable and acceptable alternative to surgery for persisting OME providing children are selected carefully and monitored closely.

Referrals to a Children's Hearing Assessment Centre: A Five-Year Prospective Review

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Background

There is evidence that children with congenital hearing loss may not be detected by universal neonatal screening. There is evidence which suggests that parents suspect a hearing loss in fewer than half of the cases of severe or profound congenital hearing loss.

Objective

To ascertain the routes of referral for assessment of hearing loss in childhood prior to the implementation of universal neonatal hearing screening.

Methods

Analysis of prospectively gathered data on all patients referred for hearing assessment in Bristol, UK, with reference to the number of referrals for hearing assessment, indications for referral, tympanometric and audiological findings and initial assessment outcomes.

Results

Between 1994 and 1999, 29 216 children were referred for assessment. The commonest reason for referral (38 per cent) was failure of one of three screening tests. An additional 20 per cent were referred due to parental concern. Regardless of whether referral followed a screening test or resulted from concern by parents the outcomes were similar. No cases of severe or profound hearing loss were identified by the intermediate or school screens.

Conclusions

Improvement in the quality and dissemination of information to parents rather than the reliance on these screening tests might produce a cost effective improvement in the management of children with suspected hearing impairment.

Insertion of Grommets in Recurrent Acute Otitis Media. A Retrospective Study on 27 Patients

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Background

Acute otitis media (AOM) is described as middle ear inflammation, arbitrarily limited to three weeks. Signs include otalgia, otorrhoea, fever, irritability, anorexia, vomitting, or diarrhoea. Diagnosis depends on high index of suspicion, symptoms, and otoscopic signs.

A review of the literature showed four randomized controlled trials supporting the use of grommets for recurrent otitis media. Other treatments include prophylactic oral antibiotics, and their use for infections when they occur, and adenoidectomy.

Objective

To ascertain the success of grommet insertion in recurrent AOM.

Methods

A retrospective analysis of 27 consecutive patients from 1997–2001 with recurrent AOM is presented. The diagnosis based on patient's history if the child had pain exceeding three days and had been pyrexial. Pain associated with otorrhoea confirmed the diagnosis. All patients exceeding three episodes a year for at least two years, or 18 episodes in 18 months, had insertion of grommets.

Results

The majority (55.6 per cent) had coexisting OME for more than six weeks confirmed by audiometry and tympanometry (mean age: 6.4 years, range: two to 40 years). Grommets lasted a mean period of 14 months (range: eight to 24 months). Eighteen patients (66.7 per cent) had complete resolution in their attacks of AOM, five patients (18.5 per cent) had marked reduction in the frequency of AOM, and two patients (7.4 per cent) had recurrent otorrhoea, which resolved with topical antibiotic ear drops. One patient initially had reduced frequency of AOM, however required two more sets of grommets as his symptoms recurred following extrusion. He subsequently developed cholesteatoma. Two patients were immunosuppressed on high dose steroids for renal transplantation and severe asthma.

Conclusion

This is an observational study which supports the use of grommets in recurrent AOM as over 90 per cent of patients' symptoms improved. In conclusion, grommets are useful in aborting or reducing the frequency in recurrent AOM.

Aseptic Surgical Technique and Post Grommet Otorrhoea

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Background

Myringotomy and grommet insertion is one of the most common operations performed in Europe today, with an estimated 70 000 being carried out annually in Britain alone. Otorrhoea is a common post-operative complication, usually occurring in the early post-operative period. Methods of aseptic surgical technique for this procedure differ a lot from surgeon to surgeon. Some perform this operation wearing sterile gloves, masks, and even gowns. Others wear only clean non sterile gloves, or even no gloves at all. The consensus among many Otolaryngologists is that the former method does not confer any particular advantage. It is also much more expensive. However no objective study has been published to consider the efficacy of either method.

https://doi.org/10.1258/002221503322542999 Published online by Cambridge University Press

Objective

The aim of this study was to evaluate the efficacy of two different methods of aseptic technique, taking early (within two weeks) post-operative otorrhoea as an end point, and to determine whether this very common operation could be carried out in a more cost efficient way.

Method

Using each patient as their own control grommets were inserted into one ear with the surgeon wearing sterile gloves and masks, and into the other with the surgeon wearing only clean unsterile gloves. All the grommets were inserted using a no touch technique. The ears were randomized on an alternate basis. All the patients were reviewed in the outpatients clinic within a two week period.

Results

Discharge within the first 14 days occurred in only five ears, three cases belonging to the former group and two to the latter. The two groups of ears and their discharge rates were compared using McNemars tables for paired alternatives and a Chi squared test.

Conclusion

The results indicate that there is no significant difference in the incidence of post-operative otorrhoea using either of the above methods, and demonstrate that this very common operation may be performed in a safe, but more cost efficient manner.

Two-Stage Neonatal Hearing Screening with OAE and AABR Using an Automated Measuring Instrument

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The necessity of universal hearing screening is undisputed. At present, solely recording auditory brainstem responses (AABR) does not seem the most cost-effective option owing to the increased time required for the measurements and the higher costs of technical equipment. However, recording TEOAE alone may not be sufficiently specific.

The Echoscreen TA with a screening mode for both methods makes it possible to combine the advantages of these two methods in a two-stage screening procedure using a single handheld device. The following measurements have been carried out to evaluate the system: a) OAE and AABR in 200 neonates after the second day of life, b) OAE and AABR in 100 children at risk, c) comparison of the screening results (pass yes/no) in 20 children with suspected hearing impairment (aged 0.1 to six years) and the children at risk, with comparison of results obtained with full EABR measuring systems.

After testing and retesting neonates exclusively using OAE, 6.7 per cent still have a 'fail' result. With the two-stage procedure employing two methods (OAE/AABR), the 'fails' decrease to 1.6 per cent. In three cases of 'high-risk children' with delayed development, OAE were earlier measurable than AABR. One of these children was diagnosed hearing impaired. In eight children, who are still receiving ENT treatment, hearing impairment could not be ruled out. Retesting children with suspected hearing impairment revealed good correspondence between the pass criteria of the screening devices and auditory brainstem responses obtained by using conventional devices. Sensitivity, specificity of the methods and the cost-effectiveness are determined for this analysis, which is still continuing as part of a neonatal hearing screening project. To date, the measuring system has proved very practicable in clinical routine.

Is Myringotomy a Minitympanotomy?

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Background

Otitis media with effusion (OME) is a common condition which is sometimes persistent and may need grommet insertion. Pre-operative tests and operative findings at myringotomy for grommet insertion, may help predict the cases likely to have recurrence needing follow-up at a consultant led clinic and the rest could be followed up by a General Practitioner.

Aim

To look for a relation between the condition of the middle ear mucosa and the type of fluid at myringotomy, and the inter-relation between the hearing threshold and the type of fluid or mucosal variety. The relation between mucosal and fluid variety and its relation to recurrence is also noted.

Methods

Eighty-one patients from the age of two to 16 years who underwent grommet insertion by a single surgeon, were included in this study. The pre-operative audiograms and tympanograms were recorded and the air-bone gap calculated for each ear. The operative findings regarding the condition of the mucosa and the consistency of the glue were tabulated with the relevant audiological investigations.

Results

On analysing the association of the mucosal variety with the severity of air-bone gap, 56 per cent with thick mucosa had an air-bone gap of more than 25 decibels and 89.4 per cent with normal mucosa had an air-bone gap of less than 25 decibels. Assessing the risk of recurrence in relation to normal, by applying the odds ratio formula, an ear with a thick mucosa is four times more likely and an ear which has thick fluid is 7.5 times more likely to have OME again.

In the group needing repeated grommet insertion, 58.4 per cent ears had thick middle ear mucosa with thick fluid at the first operation. Four ears (6.4 per cent) had no fluid and normal mucosa, while the rest had a varied combination.

Conclusions

At myringotomy patients noted to have thick middle ear mucosa with thick glue need hospital follow-up.

Congenital Microtia in Children, New Methods of Surgical Correction

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Aims

The effectiveness of different methods for ear reconstruction of congenital aural disorders has been discussed in many publications. The aim of present study was to evaluate the correlation between the kind of surgery and functional and cosmetical results.

https://doi.org/10.1258/002221503322542999 Published online by Cambridge University Press

Methods

The authors compared clinical and diagnostical characteristics in 100 children with congenital aural anomalies, atresia of external ear canal and microtia. Eighty-seven surgeries were performed during 1997/01: 33 meatotympanoplastic surgeries, 30 implantation of silicon, nine implantation of cartilage, 15 aural plastic surgeries. Five years follow-up including regular clinical examination and audiological assessment was performed.

Results

Four methods of aural cosmetic surgery were used and demonstrated functional and cosmetic results. Improvement of hearing (20–30 dB) in children with congenital disorders was possible only in those cases, when hearing loss thresholds were 50–60 dB without sensorineural hearing loss, tympanic cavity was pneumatical, aural osseous were differentiated on computed tomography, the pathology of internal ear and facial nerve was not revealed (37 cases). Comparing two kinds of the implants (cartilage and silicon) the authors demonstrated that cosmetical results were higher in cases with silicon implants. The author's methods of skin grafts plastic surgery for forming a new auricular made possible to use only one free skin scrap for aural plastic surgery.

Conclusions

Believed that correct selection for each kind of surgery for patients with congenital atresia and microtia is very important. Especially the important role of computed tomography was marked. In cases with unilateral ear disorder and negative prognosticators for successful corrective surgery for hearing loss it was advised to perform only cosmetic surgical intervention.

A New Absorbable Pressure-Equalizing Tube

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Objective

Pressure-equalizing (PE) tubes are the mainstay of surgical treatment of otitis media with effusion (OME) and eustachian tube dysfunction. The ideal PE tube should remain in place for the time frame selected by the surgeon, with no need of a subsequent removal procedure. We investigated the possibility of using a new concept in PE tubes, made of biodegradable, absorbable material, in an animal model.

Methods

PE tubes made of poly-bis(ethylanate)phosphazene (P-PE) were inserted in 35 ears of 18 Hartley guinea pigs after myringotomy. In vivo reactions between P-PE tubes and the tympanic membrane (TM) were studied. Patency of P-PE tubes, time to disintegration, TM histopathologic changes and healing processes were evaluated with light and scanning electron microscopy. The middle ears (MEs) were examined for inflammatory reactions and resorption of the P-PE tubes.

Results

At 10 days, all tubes were intact. At 30 days, 52 per cent of the tubes had disintegrated; in 15 per cent of ears TMs had already healed and absorption was complete. No inflammation or post-operative otorrhoea was encountered. Neither polyps nor granulation tissue formation within the ME were noted.

Conclusion

These new P-PE tubes elicited no inflammatory response and did not promote infection in any of the animals. Although half of the tubes had disintegrated by 30 days in this study, disintegration can be controlled by varying the thickness of the tube or the formulation of the polymer. A variety of tubes with predictable absorption rates would allow the surgeon to adapt treatment to each patient.

The Third and Fourth Branchial Pouch Anomalies

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Congenital sinuses arising from the pyriform fossa are rare. They may present as neck cysts, recurrent neck abscesses, or thyroiditis. It is not uncommon for children to undergo multiple surgical procedures before diagnosis is made. There is often confusion as to whether the congenital origin of this anomaly is from the third or fourth branchial pouch.

We present the experience at Great Ormond Street Hospital from 1991–2001. A search of the departmental diagnostic database and retrospective notes review was undertaken. Telephone follow up was made if indicated.

We identified six third arch sinuses and one fourth arch sinus that had been operated on. All were left sided. Six girls and one boy were affected. Their mean age at presentation was four years (range three to six years). Five presented as recurrent neck abscesses, whilst two were initially diagnosed as having 'thyroglossal cysts'. All underwent multiple incision and drainage procedures or cyst excision prior to definitive diagnosis. The mean number of procedures prior to diagnosis was seven (range two to 13).

Diagnosis was aided by a barium swallow in five cases, by pharyngoscopy in three cases, by ultrasonic identification of the fistula in one case, and at surgery alone in one case. Mean age at definitive surgery was 10 years (range five to 17), with mean delay to diagnosis five years (range one to 13). Definitive treatment involved complete excision of track and cyst in six cases. By a transcervical approach the pyriform fossa mucosa was exposed with retraction or excision of the thyroid alar cartilage. Thyroid lobectomy was performed where required. One case was treated with endoscopic diathermy to the sinus opening.

Increased awareness of the diagnosis, and operative requirements of these cases will reduce morbidity. Specific diagnosis of a third branchial pouch sinus can be made if it exits the pyriform fossa cranial to the superior laryngeal nerve (the nerve of the fourth arch). A fourth branchial pouch sinus will exit caudal to the nerve.

Results of Cochlear Implantation and Continued Hearing Aid Use in Teenage Identical Twins

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From the ENT Department, Oxford, UK.

We report a case of identical twins with congenital sensorineural deafness who both underwent cochlear implantation in their teens. Both were educated in mainstream schools making good academic progress using hearing aids. However on starting secondary education they found that larger class size and consequent increase in background noise made hearing and comprehension more difficult. Both underwent cochlear implantation which improved their high frequency thresholds. In addition to

https://doi.org/10.1258/002221503322542999 Published online by Cambridge University Press

this they continued to use their hearing aid in the contralateral ear thus improving their low frequency thresholds. We show the results following surgery on pure tone and speech audiometry.

Major Ear Surgery in Paediatric Day Care Unit

G. Rowlands, R. Harris, J. Hern, J. Knight

Traditionally major ear surgery in children has been regarded as an in-patient procedure. We have been carrying out major ear operations on children routinely for six years in a dedicated children's day unit and examined our data to find out whether it was feasible to perform major ear surgery in children on a day-case basis with a low rate of unplanned admissions.

We also examined our data to ensure that the outcomes of day-case mastoid surgery, in terms of complications rates and overall success rates, were comparable with surgery performed on an in-patient basis and in addition evaluated the factors associated with admission.

One hundred and eighty two patients were operated on between February 1994 and November 2000. One hundred and fifty patients undergoing a variety of major procedures were planned as day cases, the main outcome measure being the unplanned admission rate, whilst 32 patients underwent mastoid surgery and had a bed booked on a provisional basis. We found that the unplanned admission rate for surgery, excluding mastoid surgery, was 6.7 per cent and that procedures such as myringoplasty, meatoplasty, ossiculoplasty, bilateral pinnaplasty, meatoplasty and tympanotomy with excision of cholesteatoma, were eminently suitable for day surgery.

Thirteen patients (40.6 per cent) out of 32 undergoing mastoid surgery were suitable for discharge later on the day of surgery. Of these seven had undergone simple atticotomy or cortical mastoidectomy. Children can undergo mastoid operations safely and effectively on a day-case basis but should still have a bed booked pre-operatively as the majority will require admission.

The main factor related to admission following mastoid procedures was the type of operation performed. Duration of anaesthesia and time of arrival back on the ward did not appear to be associated with in-patient admission. With improvements in surgical and anaesthetic techniques and other advances, operations such as atticotomy may become a standard day-case surgical procedure in paediatric patients.

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