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Recurrent acute otitis media in children: prospective study of outcome following a six-week course of oral antibiotics

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Objectives

Recurrent acute otitis media is defined as three or more episodes of acute otitis media over a six-month period. Antibiotic therapy and ventilation tube insertion, with or without adenoidectomy, are the main treatment options. Our objectives were to analyse outcome following a six-week, low-dose antibiotic course in children with recurrent acute otitis media, and to identify factors affecting response to this treatment.

Methods

Children diagnosed with recurrent acute otitis media were recruited prospectively. Data collected included age of onset, passive smoking, attendance at day-care facilities, response to a six-week antibiotic course and the need for ventilation tube insertion.

Results

A total of 41 children with recurrent acute otitis media were included in the study (a male to female ratio of 1.2:1). The mean age of onset was two years and one month. Thirty-five patients were prescribed a 6-week course of oral antibiotics and the recurrent acute otitis media resolved in 28 (80 per cent) of these patients. The remaining 7 (20 per cent) did not respond and went on to have a ventilation tube inserted. Only 50 per cent of the children whose parents smoked responded well to antibiotics compared to 88 per cent of those whose parents did not smoke ($p = 0.04$).

Conclusions

A prolonged, low-dose course of oral antibiotics remains effective in the management of recurrent acute otitis media and should be considered prior to ventilation tube insertion. Antibiotic prophylaxis appears to be less effective if children are exposed to environmental cigarette smoke.

Primary endoscopic dacryocystorhinostomy: are silicone tubes beneficial?

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Objective

This study aimed to evaluate the outcome of primary endoscopic dacryocystorhinostomy (DCR) with and without the use of lacrimal silicone tubes, and thus to identify whether silicone tubes after primary endoscopic DCR are necessary.

Study design

Seventy-six consecutive endoscopic DCRs were performed in 63 patients at two centres during the period 2007–2011, by the same ENT surgeon. In 33 patients operated on at one centre, bicanalicular silicone stents were inserted, and in 30 patients operated at the other centre, no silicone stents were inserted.

Results

The overall success rate after endoscopic DCR was 89 per cent (56 out of 63 procedures). The success rate of endoscopic DCR was 94 per cent (31 out of 33) with silicone tubing and 83 per cent (25 out of 30) without silicone tubing.

Conclusion

Our analysis showed no significant statistical differences between patients with and without stenting ($p = 0.184$). A prospective multicentre, randomised study is needed to shed further light on the benefit of stents.

Interventions for the prevention of post-operative ear discharge after ventilation tube insertion in children

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Objective

To assess the effectiveness of prophylactic interventions in reducing the incidence of otorrhoea following grommet insertion in children.

Study design

A Cochrane review was performed which found 15 eligible randomised, controlled trials (2476 children) that compared the efficacy of prophylactic interventions against placebo, control and/or other prophylactic interventions for post-operative otorrhoea in children.

Results

Two high quality trials showed that the risk of otorrhoea was reduced by the use of multiple saline washouts at 2 weeks (from 30 to 16 per cent; relative risk = 0.52, 95 per cent confidence interval (CI) = 0.27–1.00; number needed to treat to

benefit = 7), and by antibiotic or steroid ear drops (from 9 to 1 per cent; relative risk = 0.13, 95 per cent CI = 0.03–0.57; number needed to treat to benefit = 13).

Conclusions

Various interventions are effective in reducing otorrhoea up to two weeks post-operatively. However, clinical practice commonly limits beneficial interventions of this type to a number needed to treat to benefit of 5–6; correspondingly, prophylaxis should be limited to high-risk children.

The role of sentinel lymph node biopsy in the staging and management of oral and oropharyngeal squamous cell carcinoma

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Objective

This review aimed to evaluate the role of sentinel lymph node biopsy in the staging and management of node-negative (N₀) necks in oral and oropharyngeal cancers.

Methods

An extensive literature review of the current available evidence on this subject was carried out, searching various databases via MetaLib. The outcomes reviewed were the sensitivity, specificity and negative predictive value of sentinel lymph node biopsy in oral and oropharyngeal cancers. An initial search identified 512 articles, 83 of which were considered relevant. A total of 11 articles were included in this review based on the inclusion criteria, relevance and findings.

Results

All of the included studies were prospective trials supporting the use of sentinel lymph node biopsy in the management of oral and oropharyngeal squamous cell carcinoma (SCC). The sensitivity of sentinel lymph node biopsy ranged between 80 and 100 per cent, and the specificity in predicting local cervical metastasis in these patients ranged from 90 to 100 per cent, with a negative predictive value of 95 to 100 per cent.

Conclusion

The available evidence supports the use of sentinel lymph node biopsy in the accurate staging and management of patients with early oral and oropharyngeal SCC. This avoids morbidity associated with elective neck dissection and adjuvant chemoradiotherapy in patients with N₀ neck disease. However, the delay of much awaited multicentric trials has resulted in limited application of sentinel lymph node biopsy for overall head and neck cancer management.

Cholesteatoma surgery in children: 10-year retrospective review

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Objective

To review outcomes following paediatric cholesteatoma surgery performed between 1999 and 2010 in a tertiary paediatric ENT unit.

Study design

Retrospective case note review.

Results

A total of 137 mastoid procedures were recorded. Fifty-four per cent of children were observed to have disease involving the entire middle-ear cleft and mastoid complex. The revision rate was 25 per cent. Time to recurrence was 1–3 years in 17 patients, 3–6 years in 5 patients, and 6–9 years in 3 patients. Eight of 25 revision cases demonstrated spontaneous improvement in air conduction thresholds following primary surgery. A high facial ridge and inadequate meatoplasty correlated highly with disease recurrence.

Conclusion

Children tend to present with aggressive disease. Disease extent and ossicular chain involvement are associated with a higher risk of recurrent disease. Spontaneous improvement in hearing thresholds following cholesteatoma surgery should alert the clinician to recurrent disease.

Variation in tonsillectomy rates between Scottish health boards – implications for emergency admissions?

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Introduction

The rate of tonsillectomy is known to vary significantly amongst different Scottish health boards. We aimed to investigate whether this translates into variability of hospital admissions as a result of tonsillitis and related complications.

Method

Hospital admission statistical data were collected via the Information Services Division, Scotland.

Results

During the period October 2008–September 2009, the tonsillectomy rates per 100 000 population were 94, 49, 43 and 45 for Grampian, Greater Glasgow and Clyde, Lothian, and Tayside, respectively. During 2009–2012, the average annual rates of emergency admissions per 100 000 population for tonsillitis and related complications were 25, 36, 40 and 30 for Grampian, Greater Glasgow and Clyde, Lothian, and Tayside, respectively.

Discussion

As previously reported, Grampian has a high rate of tonsillectomy, which is approximately double the rate of other health boards. In the years after 2009, it appears that the rate of emergency hospital admissions for complications of tonsillitis is lower in Grampian than in the other health boards. There appears to be an inverse relationship between tonsillectomy rates and emergency admission rates for tonsillitis complications.

Hearing in children with Down's syndrome

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Introduction

Children with Down's syndrome have a higher incidence of hearing problems than other children. We report the hearing findings for a cohort of school-aged children from a well-defined geographical area.

Method

A retrospective review of audiological and management data was carried out for cases presenting between 2004 and 2012.

Results

A total of 108 children (a female to male ratio of 1.04:1) were seen during this period; 64 had normal hearing and 26 required intervention. The results demonstrate the prevalence of hearing problems at different ages. Of the 108 children, 18.5 per cent required a hearing aid, with 7.4 per cent requiring ongoing hearing aid use. Conductive hearing loss requiring intervention was prevalent in children aged 5–12 years. Of those children with hearing aids, 30 per cent had fluctuating conductive hearing loss. Ten children had otitis media with effusion and four had mixed hearing loss.

Conclusion

Hearing loss required intervention in almost one in five children with Down's syndrome. One in 13 children required long-term management. Hearing aids were acceptable to both the child and parents for the management of hearing loss.

Human papilloma virus associated (p16-positive) squamous cell carcinoma of the oropharynx: is interval neck dissection necessary after a clinically complete response to chemoradiotherapy?

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Background

Human papilloma virus (HPV) has been implicated in the aetiopathogenesis of 50–70 per cent of oropharyngeal squamous cell carcinomas (SCCs). The currently accepted treatment methods for oropharyngeal SCC include induction chemotherapy, chemoradiotherapy and surgery. This study aimed to evaluate the histopathological findings of the interval neck dissection specimens of patients with p16-positive and -negative SCCs following completion of chemoradiotherapy, and to question whether neck dissection is necessary after a 'clinically complete response' to chemoradiotherapy.

Methods

All patients with oropharyngeal SCC and a neck node more than or equal to 2 cm who were treated with chemoradiotherapy followed by neck dissection in the period 2005–2012 were studied. Tumour specimens from the primary site were subjected to p16 staining as part of histopathological analysis. Positivity to p16 staining was considered HPV-positive. Tissue specimens obtained from neck dissection were examined for the presence of viable and non-viable cancer cells.

Results

Seventy-six patients fulfilled the inclusion criteria. None of the p16-positive cases had viable cancer cells on histopathological assessment of the neck dissection specimens. Viable cancer cells were present in the neck dissection specimens in 29 per cent of the p16-negative cases. Locoregional recurrence occurred in 12.9 per cent of the p16-negative cases whilst under follow up. The association between p16-positivity in the primary tumour and a negative neck dissection

histopathology result was statistically significant ($p = 0.074$, chi-square test).

Conclusion

The findings indicate that p16-positive and -negative oropharyngeal SCCs are oncologically distinct. The data raise the question of whether interval neck dissection is needed in p16-positive cases with a clinically complete response to chemoradiotherapy.

Audit of the use of diffusion-weighted magnetic resonance imaging to detect recurrence in patients who have undergone surgery for cholesteatoma

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Introduction

Diffusion-weighted magnetic resonance imaging (MRI) can be useful in the detection of cholesteatoma following mastoid surgery. We aimed to investigate the accuracy of diffusion-weighted MRI in the detection of residual or recurrent cholesteatoma, and to determine the proportions of patients with positive examinations that proceeded to have surgery.

Methods

An audit of our own practice was conducted. Specifically, a retrospective review was carried out of all patients who underwent diffusion-weighted MRI (using a half-Fourier-acquisition single-shot turbo spin-echo ('HASTE') non-echo planar imaging sequence) between 1 August 2010 and 31 March 2013 in a tertiary otolaryngology unit.

Results

Nineteen diffusion-weighted MRI examinations were performed to detect cholesteatoma following surgery. All five of the diffusion-weighted MRI positive cases that underwent surgery had cholesteatoma confirmed. The remaining five positive cases are awaiting surgery or further review. Of the nine patients reported as negative on diffusion-weighted MRI, one went on to have surgery and was found to have recurrent cholesteatoma.

Discussion

The first cycle of this audit indicates that diffusion-weighted MRI has a definitive role in detecting recurrent cholesteatoma and in guiding decision making. We aim to increase the number of diffusion-weighted MRI scans and repeat the second cycle in one year's time.

The use of nasopharyngeal airways for upper airway obstruction – the Yorkhill experience

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Introduction

Congenital upper airway obstruction can cause significant respiratory problems, and ultimately failure to thrive. This study aimed to evaluate the efficacy of nasopharyngeal airways in managing upper airway obstruction in children.

Materials

Sleep study reports for children with nasopharyngeal airways were obtained and their case notes reviewed.

Method

In this retrospective study, all patients who had a nasopharyngeal airway inserted between 2008 and 2012 at a tertiary paediatric centre were evaluated.

Results

Thirty children's case notes were analysed. On average, the children were 7.5 months old at the time of nasopharyngeal airway insertion. Seventeen had a cleft lip or palate, of which nine had Pierre Robin sequence. Overall, the nasopharyngeal airways were effective in managing airway symptoms in 17 patients. Seven children required a tracheostomy. The average duration of nasopharyngeal airway usage was three months.

Conclusions

Nasopharyngeal airways were effective in 56.7 per cent of this cohort. The tracheostomy conversion rate was 23.3 per cent. Several complications were reported, ranging from mild (e.g. skin excoriation) to serious (e.g. nasopharyngeal airway blockage).

The Aberdeen video-linked tele-endoscopy clinic

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Introduction

Demand for hospital out-patient appointments and for patients being treated closer to their home is increasing. We have previously reported the development of a video-linked tele-endoscopy clinic, which is offered to those in the Shetland Islands, UK. We present the audit findings of the first five years of the clinic's operation. This audit was conducted to assess the efficiency savings achieved by avoiding travel to Aberdeen from Shetland, whilst maintaining a safe, high-quality service.

Materials and methods

Prospective data were collected over a five-year period from 2007 to 2012. The principal outcome measure was the ability to manage the patient during a single consultation without the need for a review appointment. A secondary outcome measure was the overall cost savings of the service.

Results

In total, 160 patients were considered appropriate for consultation in the tele-endoscopy clinic. A total of 118 appointments were scheduled. Appointments were attended by 115 patients (97.5 per cent). Eighty-nine patients (77.4 per cent) were able to have their presenting complaint managed in a single consultation and were discharged. Nineteen patients (16.5 per cent) required further review principally in the visiting bi-monthly ENT clinic on Shetland. Seven patients (6.1 per cent) were scheduled for surgery.

The initial capital cost of setting up and equipping the video clinic was £22 612. The staff costs per tele-endoscopy clinic are approximately £400, which totals at £8400 for the 5 years (21 clinics). The total cost of the clinic has been £31 012 since inception.

The cost of a same-day return flight is approximately £400, totalling £46 000 for the 115 patients. Taxi transportation costs from Aberdeen airport to Aberdeen Royal Infirmary total £4600 for all 115 patients. The total cost of transportation for patients from Shetland to our hospital in Aberdeen is £50 600.

Discussion

The tele-endoscopy clinic is an efficient, safe and popular service. It is also cost-effective, saving travel costs and patients' time. This service would be applicable to other ENT centres who serve peripheral hospitals.

Peri-operative management of paediatric obstructive sleep apnoea

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Background

Polysomnography is the 'gold standard' for diagnosing obstructive sleep apnoea (OSA). In the UK, diagnosis (and the decision to proceed to adenotonsillectomy) is usually clinical as polysomnography is not widely available. The Sleep Service at our centre provides limited-channel cardiorespiratory sleep studies for children with suspected OSA. This affords categorisation of OSA severity and informs of the need for a high dependency unit bed post-operatively. This audit reviews sleep study outcomes at our centre, and examines their impact on operative management and the use of high dependency unit beds.

Objectives

The principal objectives were to determine whether there was a correlation between a clinical diagnosis of OSA and sleep study outcome at our centre, and to assess whether the high dependency unit beds requested were justified for children undergoing adenotonsillectomy for OSA.

Method

This study involved a retrospective analysis of non-syndromic children without co-morbidities who had undergone limited-channel cardiorespiratory sleep study at our centre from January 2009 to December 2012.

Results

A total of 271 children aged 2–13 years were included in the analysis. The sleep study showed no evidence of OSA in 45 per cent of children ($n = 121$). Thirty per cent of all children ($n = 80$) did not proceed to adenotonsillectomy on this basis. Of 191 children undergoing adenotonsillectomy, sleep study informed a request for a high dependency unit bed in 17 cases (8.9 per cent). Only five children (2.6 per cent) had post-operative airway sequelae that warranted high dependency unit care.

Conclusion

Cardiorespiratory sleep studies appeared to help avoid unnecessary surgery in 30 per cent of children. This finding requires further analysis. The low rate of airway sequelae suggests that high dependency unit level care is probably only indicated in cases of severe OSA.

The increasing incidence and survival of thyroid malignancy in the west of Scotland

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Aim

To audit the incidence and survival of thyroid malignancy in the west of Scotland.

Methods

A prospectively held database of all thyroid malignancy treated in the west of Scotland between 1990 and 2011 was retrospectively reviewed. The incidence, overall survival and disease-free survival were calculated using the Kaplan–Meier method.

Results

Of the 1496 cases analysed, the majority were female with an average age of 58 years. Papillary cancer was more common in the younger patients. An increasing incidence of thyroid malignancy, especially papillary cancer, over the last 20 years was seen. The Kaplan–Meier survival and disease-free curves for each histological subtype showed increasing survival.

Conclusion

Evolution in clinical practice may have played a role in the increased incidence of thyroid malignancy. Despite this increased incidence, there has been a decrease in overall mortality from thyroid malignancy, with improved survival estimates at 1, 5 and 10 years.

Paediatric thyroglossal duct cyst surgery: 10-year review of experience and outcomes in Lothian

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Background

Thyroglossal duct cysts are the most common congenital anomaly of the neck. The Sistrunk procedure is the recommended treatment, in order to minimise the risk of recurrence. This review assesses outcomes of thyroglossal duct cyst surgery over the last decade.

Objectives

We wished to assess complication and recurrence rates for thyroglossal duct cyst surgery at our centre, and to determine whether the outcomes for ENT and paediatric surgeons differed. We also wished to establish whether differences in the case-mix and in surgical practice between the specialties influenced the outcomes.

Methods

A retrospective review was conducted of children attending for thyroglossal duct cyst surgery over a 10-year period (2003–2013). Data relating to presentation, pre-operative investigations, operative notes, pathology reports, post-operative complications and the need for revision surgery were recorded. Antibiotic use was also noted.

Results

Sixty-nine children with a mean age of 5.9 years (range, 13 months to 16 years) underwent thyroglossal duct cyst surgery at our centre. Thirty-eight per cent of procedures were performed by ENT surgeons ($n = 26$) and 62 per cent ($n = 43$) by paediatric surgeons. The overall recurrence rate requiring revision surgery was 11.5 per cent, with no difference between surgical specialties. Minor wound complications were recorded in 14 per cent overall ($n = 10$): 18 per cent in ENT and 11 per cent in paediatric surgery. Wide variation in surgical practice between the specialties was noted.

The ENT surgeons were more likely to perform a classic Sistrunk procedure.

Conclusion

The higher ENT complication rate might be explained by the more complicated case-mix of children referred, but does not appear to be influenced by the extent of surgical resection or other factors.

Failure and complications of supraglottoplasty: seven-year experience at a Scottish paediatric tertiary referral centre

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Objective

To assess the outcome and complications of surgical intervention in children with laryngomalacia.

Methods

A retrospective case note review was conducted for the period July 2005 to March 2012, examining demographic data, symptoms, co-morbidities, technique and symptom resolution.

Results

Ninety-eight children were diagnosed with severe laryngomalacia and treated with supraglottoplasty. Of these, 33.7 per cent (33 children) were female and 66.3 per cent (65 children) were male. A bimodal age distribution was observed, with peaks at 3 months and 3.5 years. Forty patients (40.8 per cent) were admitted to the high dependency unit post-procedure, of which 15 were unplanned. Twenty-one patients (21.4 per cent) suffered post-operative complications. Seventy-nine patients (80.6 per cent) significantly improved after 1 procedure and 19 (19.4 per cent) required revision surgery. Of these 19 patients, 5 (26.3 per cent) had a previously undiagnosed neurological disorder that came to light as a result of treatment failure.

Conclusion

Supraglottoplasty was effective for 81 per cent of the cases studied. Complications arose in 21 per cent, the majority of which required admittance to the high dependency unit (18 of 21, 86 per cent). A lack of improvement in breathing and swallowing post-operation should alert the clinician to a possible underlying neurological disorder.

Can microlaryngoscopy and bronchoscopy in children be safely performed as a day-case procedure?

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Aim

To identify a subset of children who may be predicted in advance as suitable for day-case microlaryngoscopy and bronchoscopy.

Method

The first audit cycle identified that children who weighed greater than 10 kg, and who did not have any significant co-morbidity, were more likely to be discharged on the same day as their microlaryngoscopy and bronchoscopy procedure.¹ In this second audit cycle, 71 microlaryngoscopy

and bronchoscopy procedures performed between November 2010 and the first week of February 2011 were reviewed. Thirty-nine procedures were appropriate for analysis. The second cycle aimed to determine whether the two characteristics identified in the first cycle would reliably predict the children who would be discharged on the same day as their microlaryngoscopy and bronchoscopy procedure. A

Fisher's exact test was used to determine statistical significance, with $p < 0.05$.

Results and conclusion

Neither of the above criteria was significant in predicting the suitability of a child for a day-case microlaryngoscopy and bronchoscopy procedure.