Conclusions
1) Delay within-patient was significantly longer than within-oncology (p<0.0001).
2) Over 60% patients visited their GP more than once.
3) Delay and stage were unrelated in our study.
4) Chest symptoms increased considerably during the pathway to treatment.
5) A number of common symptoms were associated with advanced disease.

To wheeze, or not to wheeze: is it all asthma?

P200 USE OF HYPERTONIC SALINE IN BRONCHOPROVOCATION FOR THE DIAGNOSIS OF BRONCHIAL ASTHMA

doi:10.1136/thoraxjnl-2011-201054c.200

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Purpose To find out a simple, chief, standard & easily available agent for bronchoprovocation & also to determine the provocating dose of hypertonic saline, which will reduce at least 20% of FEV_1 in bronchial asthma patient.
Methods A prospective case control study was carried out among 50 patients with bronchial asthma and 50 normal healthy control at Asthma centre in NIDCH, Bangladesh. Hypertonic saline of different concentration in doubling doses (1.8%, 3.6%, 7.2%), sequentially from lower to higher concentration was inhaled to both group by nebuliser and the test was terminated when drop of at least 20% FEV_1 had occurred. Patients were selected according to prefixed inclusion & exclusion criteria. Structured questionnaire was filled-up by each patient. Written consent was taken from every patient & control after proper explanation about the procedure & its outcome.
Results In the control group M/F ratio was 1.27:1, age ranged from 11 years to 50 years and of 5 different occupations (student, service holder, businessman, housewife and worker). In patient group M:F was 1.38:1, age range from 11 to 50 years and five different occupation was same as control. There were no statistically significant differences between the two groups regarding age, sex and occupation. In control, graded amount of hypertonic saline (1.8%, 3.6%, 7.2%) was given by nebuliser inhalation. None of them showed fall of FEV_1 significantly (20%). But in patient group, with similar concentration of hypertonic saline inhalation, there was highly significant fall in FEV_1, χ^2 test showed highly significant value, $\chi^2=75.42$ and $p<0.001$.
Conclusion Hypertonic saline induced broncho provocation is actually very safe, simple & cheap. So the people of third world countries can afford this test in minimum cost. Provocative dose of Hypertonic saline is 7.2% (20% fall of FEV_1).
Clinical implications For the diagnosis of cough variant asthma & also in the suspected cases of bronchial asthma, we can performed this test confidently.

P201 NO ABSTRACT ASSIGNED TO THIS NUMBER

doi:10.1136/thoraxjnl-2011-201054c.201

P202 IMPACT STUDY OF 243 INDIRECT BRONCHIAL PROVOCATION TESTS WITH MANNITOL IN THE DIAGNOSIS AND MANAGEMENT OF ASTHMA

doi:10.1136/thoraxjnl-2011-201054c.202

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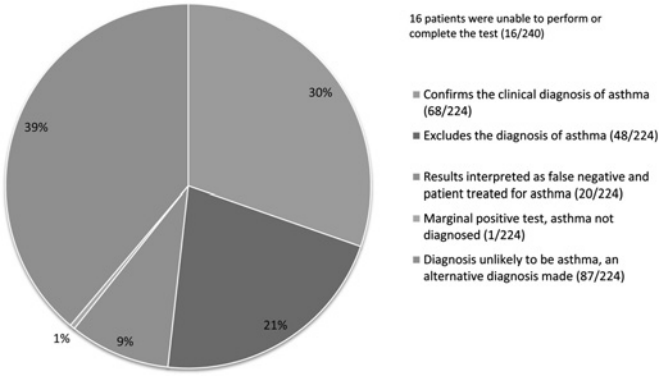
Introduction and Objective Our lung investigation unit introduced indirect bronchial provocation challenge tests with mannitol to replace direct bronchial provocation tests with Methacholine. Mannitol challenge tests have practical and safety profile advantages. The sensitivity and specificity for PC_{20} Methacholine are 91% (84.2%–97.8%) and 90% (76.9%–100%) respectively.[1] The specificity of PD_{15} Mannitol compares well to Methacholine at 98.4% (96.2%–99.4%), but the sensitivity of PD_{15} Mannitol is lower at 58.8% (50.7%–62.6%).[2] The aim of the study was to review the clinical interpretation of mannitol challenge test results in the diagnosis of asthma.
Methods Data were collected on all Mannitol challenge tests performed between July 2008 and January 2011. A retrospective analysis of case notes was performed to assess the indication for the test, the interpretation of results and any subsequent changes in management.
Results 243 tests were performed and 240 sets of data analysed, 3 sets of case notes could not be obtained. 147 (61%) patients presented with wheeze and dyspnoea with a possible diagnosis of asthma, 48/134 (36%) tests were positive confirming the diagnosis and 13 (8.8%) patients were unable to perform the test. 89 (37%) patients presented with cough, 20/86 (23.3%) tests were positive and three patients were unable to perform the test. 68/69 (99%) of the positive mannitol tests were interpreted as confirmation of the diagnosis of asthma. The 155 negative tests were interpreted as false negative in 20 (13%) patients. In 87 (56%) cases additional tests were subsequently performed and an alternative diagnosis was made and in 48 (31%) cases the result was interpreted as true negative. Three of these patients (6%) represented and were subsequently diagnosed with asthma.
Conclusion Mannitol challenge tests are useful in confirming the diagnosis of asthma in patients with high pre-test probability of the disease. Physicians need to recognise the risk of false negative mannitol test results and perform additional tests when the diagnosis is uncertain and clinical suspicion remains high.



Abstract P202 Figure 1 Interpretation of 240 mannitol test results.

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P203 CORRELATION OF NIJMEGEN SCORE AND HOSPITAL ANXIETY/DEPRESSION (HAD) SCORE IN DYSFUNCTIONAL BREATHLESSNESS

doi:10.1136/thoraxjnl-2011-201054c.203

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Introduction Dysfunctional Breathlessness has an incidence of about 10% among the general population and can often coexist with other chronic cardio respiratory illness. Patients often have a degree of anxiety or depression and may pose a diagnostic and therapeutic

challenge. Nijmegen questionnaire is suitable as a screening tool for early detection and also as an aid in diagnosis and therapy planning.
Aim To test the correlation between the Nijmegen score and the hospital anxiety/depression score in patients diagnosed with dysfunctional breathlessness.
Method The diagnosis was made on the basis of exclusion with a normal clinical examination, lung function and echocardiogram, or with symptoms disproportionate to measurements of severity of their respiratory illness. The physiotherapist further assessed patients with particular regard to their breathing pattern and the Nijmegen (Ni) score, with a score over 23 being regarded as diagnostic. Consecutive patients referred to the clinic over 24 months were reviewed. The following parameters were analysed- demographics, underlying respiratory illness, breathing and sleep pattern, Nijmegen score (Pre and Post Intervention), HAD scores and the interventional modalities.
Results 51 patients (males 20, females 31) were assessed. The mean age at presentation was 60.2 (range 20–84). 26/51 patients had chronic cardio respiratory illness. 28/51 patients had an abnormal breathing pattern, the most common being frequent sighing. 23/51 patients reported abnormal sleep pattern, frequent awakening being the commonest. 37 patients (males 17, females 20) had a pre intervention Ni score over 23 (mean 29, range 23–42). Interventions included patient education, cognitive–behavioural therapy, breathing exercises and training in a physiotherapist led clinic. The interventional period was 6 weeks and post 6 weeks the Nijmegen score fell below the diagnostic threshold in 29/37 patients (mean reduction 14, range 3–22, p value<0.001). HAD scores was used to assess the degree of mood impairment and there was no linear correlation (Pearson correlation) (Abstract P203 table 1) with the pre intervention Nijmegen score.

Abstract P203 Table 1

(n=37)	Nijmegen score	Anxiety score	Depression score
Nijmegen score			
Pearson Correlation	1	0.362	0.171
Sig. (2-tailed)		0.28	0.311
Anxiety score			
Pearson Correlation	**0.362**	1	0.405
Sig. (2-tailed)	0.28		0.013
Depression score			
Pearson Correlation	**0.171**	0.405	1
Sig. (2-tailed)	0.311	0.013	

Conclusion There was no correlation between the Nijmegen score and the hospital anxiety/depression score in patients with dysfunctional breathlessness. A physiotherapy led dysfunctional breathlessness clinic was able to improve symptoms in 78% of the referred cases as measured by Ni score.

P204 THE BURDEN OF REPEATED ASTHMA ADMISSIONS AND ASSOCIATIONS WITH PSYCHIATRIC COMORBIDITY

doi:10.1136/thoraxjnl-2011-201054c.204

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Rationale and Objectives While only 10% of asthmatics have "Difficult Asthma" they account for 80% of asthma-related expenditure. Aggravating comorbidities are common in patients with Difficult Asthma including Psychiatric disorders, such as major depression, which is present in 29%.[1] We sought to characterise the annual burden of repeated asthma admissions to our Hospital and assess the influence of psychiatric comorbidity on this group with Difficult Asthma.
Methods We systematically searched the hospital database for patients who had been acutely admitted on two or more occasions in 2010 for asthma at Southampton General Hospital (Southampton, UK). Data were collected retrospectively and covered patient demographics, admission details, asthma severity, physical and psychiatric co-morbidity. Coding data for each admission was analysed to determine admission costs. Data were analysed using SPSS (V.19.0) to determine significant characteristics of this Difficult Asthma group and to assess the influence of psychiatric comorbidity on those parameters.
Results There were 396 admissions for acute asthma in 2010, involving 305 patients. Of these, 36 (11.8%) patients were admitted on =2 occasions, accounting for 32.1% of admissions. Repeated admission patients consumed 895 bed-days and were predominantly female (72.2%; p=0.012). They commonly had aggravating comorbidities, the most predominant being diagnosed psychiatric disease (69.4%; p=0.03). Those patients with psychiatric comorbidity showed significantly higher Body Mass Index (p=0.012), plus greater prevalence of obesity (p=0.05) and dysfunctional breathing (p=0.012) than patients without psychiatric comorbidity. They also showed trends for higher prevalence of other aggravating comorbidity like Gastro-Oesophageal Reflux Disease (p=0.07) and for greater median bed-days/length of stay. The annual cost for repeated asthma admission was £226 536 of which patients with psychiatric comorbidity consumed £164 660 (72.7% of costs).
Conclusions A significant proportion of patients with repeated asthma admission have psychiatric comorbidity. When present in such patients, psychiatric comorbidity is associated with obesity and dysfunctional breathing. Patients with Difficult Asthma and psychiatric comorbidity pose a significant burden on Secondary Healthcare resources. Optimal asthma care could benefit from targeting support and treatment for underlying psychiatric illness.

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P205 MANAGING THE CHALLENGES OF RECRUITMENT OF PATIENTS WITH ASTHMA TO RANDOMISED CONTROLLED TRIALS

doi:10.1136/thoraxjnl-2011-201054c.205

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Introduction Many trials do not recruit sufficient participants, particularly from primary care settings, making it difficult to get meaningful results. A recent Cochrane systematic review studying recruitment concluded there is still much to learn. Here we describe details of two MRC funded, primary care based, asthma randomised controlled trials, and their recruitment strategies and challenges.
Methods Trial 1: Examined whether short-term treatment with atorvastatin improves lung function, asthma control and quality of life in smokers with asthma (completed 2009). Trial 2: examined the same question using azithromycin (completed July 2011). The participant flow charts and trial documents of both trials were examined to establish recruitment details.
Results Trial 1: Target to randomise =80, target to complete =68, study extended by 3 months due to slow recruitment. Actual randomised =71, actual completed =60. 54/438 GP practices approached, participated. 2483 patients from practices and 356 from a database of previous trial participants received two mailings via GP surgeries, and then following an ethics amendment via telephone for a small number of surgeries. 331/2483 (11.7%) patients responded positively, and of these 286 were able to be contacted and telephone screened for eligibility, leaving 131 eligible participants. 129/131