**Use of antibiotics in bronchiectasis**

**Title:** Use of antibiotics in bronchiectasis  
**Citation:** Reviews on Recent Clinical Trials, February 2012, vol./is. 7/1(24-30)  
**Author(s):** King P.T., Holmes P.W.  

**Abstract:** Bronchiectasis is defined by the presence of abnormal bronchial widening and occurs as a consequence of chronic airway infection. Antibiotics can be given as short-term therapy for exacerbations or as long-term/maintenance therapy. Antibiotics given by the inhalational route and macrolides are two relatively new classes of medication that may be useful for long-term therapy. There are significant concerns about the overuse resulting in antibiotic resistance. Note - nearly all of the trials in the literature have only had small numbers of subjects. The data that is available describing the use of antibiotics in bronchiectasis can be regarded as preliminary.

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**Clinical efficacy and safety of budesonide-formoterol in non-cystic fibrosis bronchiectasis**

**Title:** Clinical efficacy and safety of budesonide-formoterol in non-cystic fibrosis bronchiectasis  
**Citation:** Chest, Feb 2012, vol./is. 141/2(461-468)  
**Author(s):** Martinez-Garcia M.A., Soler-Cataluna J.J.  

**Abstract:** This study evaluates the efficacy of medium-dose formoterol-budesonide combined inhaled treatment in a single inhaler compared with high-dose budesonide treatment in patients with non-cystic fibrosis bronchiectasis. The group receiving a formoterol-budesonide combined treatment showed a significant improvement of symptoms (dyspnea, number of coughs, and rescue beta<sub>2</sub>-agonist-free days). We observed an HRQL improvement, with no changes in functional parameters or in PPM isolates, together with an important reduction in overall side effects, especially for those related to inhaled steroids, compared with the high-dose budesonide treatment group.

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**Fatigue in bronchiectasis**

**Title:** Fatigue in bronchiectasis  
**Citation:** QJM, March 2012, vol./is. 105/3(235-240)  
**Author(s):** Hester K.L.M., Macfarlane J.G., Tedd H.  

**Abstract:** Fatigue is a complex, disabling symptom in non-CF bronchiectasis (nCF-Br). Fatigue can be formally measured using the validated fatigue impact scale (FIS). The relationship between fatigue and clinically important factors such as airflow obstruction, breathlessness or Pseudomonas aeruginosa infection in nCF-Br is unclear. Results: One hundred and seventeen consecutive patients were included. Average FEV<sub>1</sub>% predicted was 64% (SD +/-28%). Twelve (10%) patients had Pseudomonas aeruginosa isolation; 47 (40%) patients had P. aeruginosa colonization. Fatigue levels were similar in patients with and without colonization (median 38 versus 32, P=0.155). Significant fatigue (FIS > 40) was similar in all three Pseudomonas subgroups (P=0.31, chi-square). Fatigue correlated with MRCD score (r=0.57, P < 0.001) and FEV<sub>1</sub>% predicted (r=0.30, P=0.001). FEV<sub>1</sub>% predicted was lower in patients who had ever isolated or been colonized with P. aeruginosa (P<= 0.001). Conclusions: There are significant correlations between FIS score and MRCD score and FEV<sub>1</sub>% predicted in bronchiectasis. Pseudomonas aeruginosa infection appears to be associated with poorer lung function, and higher MRCD scores, yet there is no significant association between P. aeruginosa status and fatigue.

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**Risk factors that affect the surgical outcome in the management of focal bronchiectasis in a developed country**

**Title:** Risk factors that affect the surgical outcome in the management of focal bronchiectasis in a developed country  
**Citation:** Annals of Thoracic Surgery, January 2012, vol./is. 93/1(245-250)  
**Author(s):** Hiramatsu M., Shiraishi Y., Nakajima Y.  

**Abstract:** The purpose of this study was to demonstrate our surgical experience for focal bronchiectasis in the setting of modern diagnostic
There were reductions in annualised antibiotic usage significantly from baseline (HS 6.0, IS 1.2; p < 0.05).

0.01; FVC: 11.2, 0.7 p < 0.01. SGRQ improved improved in HS vs. IS (FEV<sub>1</sub>: 15.1, 1.8 p <

the study. Lung function (%change from baseline) recruited of which 28 were randomised and completed confirmed by HRCT, were entered into a randomised clinical diagnosis of non-cystic fibrosis bronchiectasis, bronchiectasis patients.

annualised emergency health care utilisation visits were were (HS 2.4, IS 5.4 courses per patient per year), (HS 2.1, IS 4.9 events per patient per year). There were also improvements in sputum viscosity and ease of expectoration (visual analogue scale). Regular use of 7% hypertonic saline improves lung function, quality of life and health care utilisation in non-cystic fibrosis bronchiectasis patients.

Title: Nebulised 7% hypertonic saline improves lung function and quality of life in bronchiectasis
Citation: Respiratory Medicine, December 2011, vol./is. 105/12(1831-1835)
Author(s): Kellett F., Robert N.M.

Abstract: Sputum retention is a distressing feature of non-cystic fibrosis bronchiectasis and has been shown to contribute to the vicious cycle of infection seen in this disease. In a previous study we demonstrated that nebulised 7% hypertonic saline was both safe and effective in this patient population. Patients with a clinical diagnosis of non-cystic fibrosis bronchiectasis, confirmed by HRCT, were entered into a randomised single blind cross-over study to evaluate 0.9% sodium chloride (IS) and 7% hypertonic saline (HS). Following a 4 week run in patients received a random order active HS or IS daily for 3 months. A 4 week wash-out phase was included between phases. We report lung function, quality of life, and health care utilisation responses. 32 patients mean age 56.6 years (SD 14.6), 16 male, were recruited of which 28 were randomised and completed the study. Lung function (%change from baseline) improved in HS vs. IS (FEV<sub>1</sub>: 15.1, 1.8 p < 0.01; FVC: 11.2, 0.7 p < 0.01. SGRQ improved significantly from baseline (HS 6.0, IS 1.2; p < 0.05). There were reductions in annualised antibiotic usage (HS 2.4, IS 5.4 courses per patient per year), annualised emergency health care utilisation visits were reduced (HS 2.1, IS 4.9 events per patient per year). There were also improvements in sputum viscosity and ease of expectoration (visual analogue scale). Regular use of 7% hypertonic saline improves lung function, quality of life and health care utilisation in non-cystic fibrosis bronchiectasis patients.

Title: Expert consensus on diagnostic criteria and tertiary service requirements for bronchiectasis
Citation: Thorax, December 2011, vol./is. 66/(A50),
Author(s): Holme J., Bianchi S., Clifton I

Abstract: There are no agreed diagnostic criteria for bronchiectasis and no stated minimum requirements for a tertiary service. The Northern Bronchiectasis Group aimed to use the validated RAND technique to form consensus opinions on these issues. A questionnaire was devised containing 89 statements relevant to the topics above. Eight expert members rated their level of agreement with the statements from 1 (not relevant) to 9 (mandatory). Following a group debate about these statements, the experts re-structured some statements then re-rated the questionnaire. Consensus agreement, indifference or disagreement was reached if 7/8 members’ scores were in the 7e9, 4e6 or 1e3 ranges respectively. Results: There was consensus agreement for 31/89, consensus indifference for 5/89 and consensus disagreement for 12/89 statements. Consensus was not reached for 41/89 statements. It was agreed daily sputum production would prompt investigation for bronchiectasis, CTwas always necessary, and the following factors, support the diagnosis: bronchoarterial ratio >1.0, non-tapering bronchi, thickened airway walls, irreversible changes. It was agreed that a tertiary service should provide access to HRCT, spirometry, routine and fungal sputum cultures, ciliary function testing; functional antibodies.
and immunoglobulins for all, antibiotic & hypertonic saline nebuliser challenges, nebuliser loan and maintenance, home iv antibiotic service (preferably by patients in their own homes), portacath insertion, physiotherapy at least annually, access to a dietician, immunologist, microbiologist with an interest in bronchiectasis and pulmonary rehabilitation. Specialist nurses could see selected patients and separate clinics are desirable for patients colonised with pseudomonas. There was indifference to the availability of telephone consultations, posted sputum analysis, iv antibiotic service based in the community (not in patients' home), a patient support group and patient educational sessions. Consensus was not reached regarding if respiratory infection, bronchoarterial ratios of >1.5 or >2.0 or abnormal spirometry are necessary to diagnose bronchiectasis; or if a consultant should see patients at most visits, iv antibiotics could be given by a nurse in the patients home and if access to palliative care was necessary in a tertiary service. Conclusion: Comprehensive consensus statements regarding the diagnostic criteria for bronchiectasis and tertiary service requirements have been formed.

Title: Airway and systemic inflammation in stable and exacerbated bronchiectasis: A pilot study
Citation: Thorax, Dec 2011, vol./is. 66/(A167-A168)
Author(s): Chitkara R., Batchelor H., Sapsford R.J.,

Abstract: It is not known whether systemic inflammation reflects lower airway inflammation in non-CF bronchiectasis. If confirmed, blood biomarkers may provide useful information on pulmonary disease burden in both stable and exacerbated states. Serum C reactive protein (CRP) is readily measurable in many clinical settings, including at point-of-care, and procalcitonin (PCT) has a potential role with systemic inflammatory biomarkers in adult patients with non-CF bronchiectasis. Method Serum CRP (for systemic inflammation) and PCT, and sputum interleukin (IL)-6 (for airway inflammation) were measured in 31 well-phenotyped stable patients from The London Bronchiectasis Cohort. Six exacerbation samples were obtained from patients who had been previously sample at baseline, with the exacerbation sample obtained at exacerbation onset, prior to initiation of additional antibiotic therapy. Sputum IL-6 was measured using ELISA, serum PCT using TRACE, and CRP using immunoturbidimetry techniques. Data were analysed using SPSSV.14.0. Results: Of the 31 patients, 23 (74.2%) patients were female, with a mean (SD) age of 54.7 (14.9) years, FEV1 2.09 (0.90) l (75.71%predicted), and FVC 3.12 (1.01) l. The predominant aetiologies were primary immunodeficiency (mostly CVID, n=13, 42%), post-infectious (10, 32%) and idiopathic (4, 13%). The median (IQR) baseline sputum IL-6 was 101 (30e701) pg/ml, baseline serum PCT was 0.030 (0.02e0.040) mg/ml and CRP 3.0 (1.0e6.0) mg/l. The degree of systemic inflammation in stable bronchiectasis reflected that occurring in the airways as evidenced by a significant correlation between sputum IL-6 and serum CRP in the 31 stable samples(r=0.43, p=0.027). There was also a correlation between the two systemic markers (PCT and CRP: r=0.42, p=0.029), but the relationship between serum PCT and sputum IL-6 concentration was not statistically significant (r=0.28, p=0.127).Conclusion We report a direct relationship between airway and systemic inflammation in stable patients with non-CF bronchiectasis. This suggests that systemic biomarkers may be useful for monitoring local disease activity in this neglected condition.

Title: Lung clearance index is a reproducible and sensitive measure of airways disease in bronchiectasis
Citation: Thorax, December 2011, vol./is. 66/(A121),
Author(s): Rowan S., Bradley J., Ennis M., Horsley A.

Abstract: Lung clearance index (LCl) is a measure of ventilation in homogeneity derived from multiple breath washout (MBW). Although FEV1 is commonly used to assess severity of airway disease and response to therapy, it is insensitive to small airways disease and is often within normal range in bronchiectasis (BE) not caused by Cystic Fibrosis (CF) until disease is well established. In CF, LCI is more sensitive than FEV1 in detecting airways abnormalities and is currently used as an outcome measure in clinical trials. In BE, there is a need to find a sensitive outcome measure that is responsive to interventions, particularly in those with mild disease. Objective To assess within and between visit repeatability of LCI and determine the relationship between FEV1 and LCI in stable BE. Methods: Inclusion criteria: HRCT diagnosis of BE within the last 5 years; clinically stable (no infective symptoms for >4 weeks); no genetic or clinical features of CF. Participants attended for two visits, 2 weeks apart. At each visit they performed MBW in triplicate, using 0.2% sulphur hexafluoride and a modified Innocor device. LCI was derived from the mean of at least 2 acceptable washouts. Spirometry was performed to ATS/ERS standards. Results: 14 patients (8M/6F) attended for two visits. The mean (SD) age was 60.5 (15.4) yrs. Mean (SD) FEV1 was 75.1% (18.6), range (44-117). Mean (SD) LCI was 9.4 (2.0) on visit 1 and 9.4 (1.9) on visit 2 (normal <7.5). The intra-visit coefficient of variation (CV) was 4.7 % (3 measures). Between visit repeatability of LCI was 0.54 (SD of variance between visits). LCI negatively correlated with FEV1 (r=-0.69, p<0.001). Sensitivity of LCI and FEV1 correlated significantly (r=0.21, p<0.05). The diagnosis of bronchiectasis by CT was 71% and 29% respectively. Conclusions: This is the first report of LCI in non-CF BE. LCI is a more sensitive test of lung function than FEV1 and is abnormal in the majority of people with BE who have a normal FEV1. LCI has good intra-visit and between visit repeatability. Across a range of FEV1 there is a strong relationship between LCI and FEV1.
Conclusions: Surgical treatment of bronchiectasis is usually successful and can be accomplished with minimal morbidity or mortality. The purpose of the surgical procedure should be to remove all involved segments while preserving maximum function.

Title: The clinical characteristics of patients with non-CF bronchiectasis
Citation: Chest, October 2011, vol./is. 140/4 MEETING ABSTRACT
Author(s): Lee Y.M.

Abstract: There are a variety of different pathogenesis involved in bronchiectasis. Immunomodulatory agent such as low-dose macrolides have also been shown to have some efficacy. Bronchiectasis is associated with mild to moderate airflow obstruction that tends to worsen over time. The purpose of this study was to define the clinical and spirometric characteristics of Non-CF bronchiectasis. RESULTS: 138 (55 men and 83 women) bronchiectasis patients (mean age 58.4 +/- 4.5 years) were studied. The most common symptoms were chronic sputum 38%, dyspnea 30%, hemoptysis 18%, cough 12%. Spirometry showed FEV1/FVC of 65.2% +/- 13.27 (range 30.32-91.38), FEV1% pred 67.4 +/- 11.47 (range 30.34-119.25). Airflow obstruction was detected in 80/138 (58%). The most frequent potential pathogenic microorganisms were P. aeruginosa 31%. 34/80 (42%) of patients with airflow obstruction were never smoker. 97 (25 men and 72 women) were followed up for more than 1 year. Mean length of dose erythromycin treatment 6 months and 40 patients had low dose erythromycin treatment. There was a decrease in the exacerbation frequency from 0.75/month pre-erythromycin to 0.34/month (P<0.001) post-erythromycin. CONCLUSIONS: Bronchiectasis should be considered in patients, females with chronic respiratory symptoms. Airflow obstruction is common in bronchiectasis and low dose erythromycin reduced the exacerbation frequency in bronchiectasis. CLINICAL IMPLICATIONS: Low-dose erythromycin may be a beneficial effect upon exacerbation frequency in non-CF bronchiectasis.
lower bilobectomies, 221 lobectomies, 26 lingulectomies, 27 segmentectomies and 60 wedge resections were performed with thoracotomy. Rethoracotomy was performed in four patients for postoperative complications. One patient who had left pneumonectomy died in postoperative period. CONCLUSIONS: Surgical treatment of bronchiectasis is usually successful and can be accomplished with minimal morbidity or mortality. CLINICAL IMPLICATIONS: The purpose of the surgical procedure should be to remove all involved segments while preserving maximum function.

Title: A rare cause of adult bronchiectasis
Citation: Chest, October 2011, vol./is. 140/4 MEETING ABSTRACT
Author(s): Zulqarnain S., Pesola G.

Abstract: INTRODUCTION: The etiology of bronchiectasis may be idiopathic in up to one half of adults. Consideration of Primary Ciliary Dyskinesia (PCD) may not be considered in adults without dextrocardia. We present a subject with bronchiectasis with PCD and central pair absence, a rare variant of PCD not previously diagnosed at such a late age. CASE PRESENTATION: A 37-year-old recent immigrant from Pakistan presented to the Chest Clinic with recurrent upper and lower respiratory tract infection which he had for many years, decreased exercise tolerance, weight loss, fatigue, and night sweats. He was a current smoker of 3-4 cigarettes/day. He had chronic hepatitis C and complained of anosmia. He had no allergies, no alcohol or drug use, and denied any family history of similar problems. He has one son with mental retardation. His pulmonary function revealed moderate obstruction with normal total lung capacity and diffusion. Clinical examination revealed a gentleman with wheezing at all visits with a chronic cough. A CT scan revealed bronchiectasis predominant in the right middle lobe and less in both lower lobes. Sputum for AFB smear and culture were negative for TB. HIV infection, cystic fibrosis, and alpha-1 antitrypsin deficiency were ruled out and work-up for collagen vascular diseases was negative including a negative ANA and RF. His total immunoglobulins IgG, IgA, IgM, and IgE levels were normal except for subclass analysis of IgG-4 levels which were slightly low. He has been managed with smoking cessation (he has quit for over 1 year), and has been treated intermittently with different antibiotic regimens with sputum cultures growing out multi-drug resistant Pseudomonas, Aspergillus Fumigatus, and Mycobacterium mucogenicum. He also is on inhaled steroid and bronchodilators to try to minimize his chronic wheezing. In order to try to make a more definitive diagnosis he was referred to ENT and had both maxillary sinus drainage and nasal epithelial biopsy to rule out primary ciliary dyskinesia (PCD). Electron microscopy revealed ciliary cross sections with absence of the central doublet/microtubule pair consistent with PCD with central pair absence(1). DISCUSSION: PCD is a ciliopathy that is associated with an array of ultrastructural defects of cilia. This genetic disorder is primarily autosomal recessive and is seen in about 1:15-30,000 live births (1,2). Cases of PCD can be grouped into dyenin arm defects (78-96%) and central ciliary defects (4-22%). Central ciliary defects, as seen in this case, are not associated with defects in laterality whereas more then 50% of PCD patients have laterality defects and up to 50% have Kartagener's syndrome (dextrocardia, sinusitis, bronchiectasis). Genetic linkage studies have revealed heterozygous nonsense mutations in radial spoke head protein genes, probably RSPH8 and RSPH4A, causing PCD with the central microtubular defect as seen here (2). Interestingly, ciliary beat frequency can be normal, but beat pattern can be circular instead of the normal forward-backward motion. Our patient was also noted to have heterogeneous ultrastructural abnormalities of some peripheral microtubules, consistent with acquired defects related to recurrent airway damage. It is unknown if IgG-4 subclass deficiency is related to PCD. CONCLUSIONS: Adults with recurrent sinopulmonary infections and idiopathic bronchiectasis should be considered for evaluation of PCD. The presence of fertility and absence of typical features, like childhood presentation, situs inversus, family history, and infertility do not exclude the possibility of PCD. PCD with central pair abnormality, although rare, is not associated with laterality defects and this is the first reported case of this specific abnormality detected at such a late age. Definitive detection of causes of bronchiectasis will lead to better understanding of disease processes, facilitate patient management, and impact on potential decisions regarding the possibility of lung transplants.

Title: Bronchiectasis: A novel autoimmune disease?
Citation: Internal Medicine Journal, September 2011, vol./is. 41/(20)
Author(s): Stirling R., Hore-Lacy F., Barnes S.

Abstract: We sought to evaluate the expression of common autoantibodies in non-CF subjects presenting to the Alfred Hospital, Melbourne between 2007-2011. Subjects had CT confirmed bronchiectasis without evidence of CF. Autoantibody assays including ANA, ENA, RF and ANCA were measured in all bronchiectasis patients. Results: n = 101, f = 66, age 59.4 (14.7) years, FEV1 78.1 (27.6), BMI 26 (7.5), 38 ex smokers (mean SD 23.5 (19.2) pack years). 29 subjects were colonised with pseudomonas, 33 with haemophilus. ANA was positive in 30 subjects and ENA negative in all subjects. cANCA was identified in 16 subjects (8 weak positive, 8 positive) and pANCA positive in 1 subject. RF was found in a titre >10 in 29 subjects. Pseudomonas colonisation was associated with cANCA expression (ch2 p < 0.05). Conclusion: Non-CF bronchiectasis is frequently described as idiopathic yet autoantibody expression is well recognised in this condition. The identification of these antibodies raises questions about autoantibodies as pathogenic contributors to airway damage in bronchiectasis. The presence of autoantibodies in the setting of conditions characterised by chronic colonisation and infection is of uncertain significance and potential concerns in interpretation of these results is discussed.
Title: Bronchiectasis: New approaches to diagnosis and management
Citation: Clinics in Chest Medicine, September 2011, vol./is. 32/3(535-546).
Author(s): Feldman C.

Abstract: Non-cystic fibrosis (CF) bronchiectasis is a common, potentially serious, condition. Further investigations should be performed in an attempt to identify the underlying cause because it may lead to a change in therapy and have significant prognostic implications. MRI is being investigated as a radiation free alternative to high-resolution CT scan of the chest. Many of the treatment recommendations for non-CF bronchiectasis have not been studied in randomized controlled trials but have been extrapolated from the management recommendations for CF. Studies are beginning to inform decisions regarding the management of non-CF bronchiectasis, and an understanding of the best treatment options is beginning to emerge.

Title: Hypertonic saline for bronchiectasis
Citation: Nursing times, August 2011, vol./is. 107/30-31(21-22)
Author(s): Pyne H.

Abstract: Despite intervention, some patients with bronchiectasis struggle to clear secretions. An advanced practitioner in respiratory medicine at Salford Royal Foundation Trust identified nebulised hypertonic saline (HTS) as a treatment that could potentially improve service provision. She developed and evaluated a safe drug challenge and monitoring service for nebulised HTS.

Title: Use of aerosols in bronchiectasis patients
Citation: Monaldi Archives for Chest Disease - Pulmonary Series, Sept 2011, vol./is. 75/3(185-193)
Author(s): Dal Negro R.W., Micheletto C., Tognella S.

Abstract: Bronchiectasis is a chronic respiratory disease which recognises different etiologies, and characterised by persistent cough, bronchial hypersecretion, airway colonisation with Gram-negative pathogens; frequent infectious exacerbations; progressive lung function decline, and poor quality of life. Several therapeutic strategies are used for managing bronchiectasis, and nebulised medications are regarded with great and ever increasing interest because they allow the direct medication of targets airway structures, higher concentrations of the drug employed, and much less systemic effects. In general terms, the available therapeutic strategies lead to different results depending of whether bronchiectasis are related to cystic fibrosis or not. The effects of the main classes of drugs for aerosol delivery in bronchiectasis patients have been reviewed and updated. Further research is needed in order to ameliorate therapeutic interventions in bronchiectasis, both in terms of new molecules and aerosol formulations to use, and of systems able to optimize drug delivery and drug effectiveness.

Title: Expert patient self-management program versus usual care in bronchiectasis
Citation: Archives of Physical Medicine and Rehabilitation, August 2011, vol./is. 92/8(1194-1201)
Author(s): Lavery K.A., O'Neill B., Parker M.

Abstract: Objectives: To investigate the efficacy of a disease-specific Expert Patient Programme (EPP) compared with usual care in patients with bronchiectasis. The primary outcome measure was the Chronic Disease Self-efficacy Scale (CDSS). Other outcome measures included the Revised Illness Perception Questionnaire (IPQ-R), the St Georges Respiratory Questionnaire, and standard EPP questionnaires. Data were collected at baseline, postintervention, and 3 and 6 months postintervention. Results: This disease-specific EPP for patients with bronchiectasis significantly improved self-efficacy in 6 of 10 subscales (CDSS subscales: exercise regularly [P=.02]; get information about disease [P=.03]; obtain help from community, family, and friends [P=.06]; communicate with physician [P=.05]; do chores [P=.04]; social/recreational activities [P=.03]; manage symptoms [P<.01]; manage shortness of breath [P=.08]; control/manage depression [P=.01]) compared with usual care. There was no improvement on IPQ-R score. Patients who received the intervention reported more symptoms and decreased quality of life between 3 and 6 months postintervention and an increase in some components of self reported health care use. Patients receiving the disease-specific EPP indicated they were satisfied with the intervention and learned new self-management techniques. There were no significant differences in lung function over time. Conclusions: This original study indicates that a disease-specific EPP results in short-term improvements in self-efficacy. Based on these positive preliminary findings, a larger adequately powered study is justified to investigate the efficacy of a disease-specific EPP in patients with bronchiectasis.

Title: Long-term, low-dose erythromycin in bronchiectasis subjects with frequent infective exacerbations
Citation: Respiratory Medicine, June 2011, vol./is. 105/6(946-949)
Author(s): Serisier D.J., Martin M.L.

Abstract: Background: Macrolide antibiotics are increasingly prescribed for subjects with non-cystic fibrosis (CF) bronchiectasis, an empiric extension of their proven efficacy in CF. Widespread, injudicious use of long-acting macrolides, particularly azithromycin, risks significantly increasing population antimicrobial resistance. Conclusions: Low-dose erythromycin may have a robust effect upon exacerbation frequency in non-CF bronchiectasis subjects with frequent exacerbations and this warrants proceeding to a definitive intervention study. These data have enabled powering of an RCT of long-term, low-dose erythromycin, which is now underway and also incorporates bronchoscopic evaluation for pathophysiologic data.
Abstract: The British Thoracic Society (BTS) has recently published a guideline for the management of non-cystic fibrosis bronchiectasis in children and adults. The key points are: * Think of the diagnosis of bronchiectasis in adults and children who present with a chronic productive cough or unexplained haemoptysis, and in children with asthma which responds poorly to treatment * High resolution computed tomography (HRCT) scanning is needed to confirm the diagnosis * Sputum culture should be obtained at the start of an exacerbation prior to initiating treatment with antibiotics. Treatment should be started whilst awaiting the sputum result and should be continued for 14 days * Patients with bronchiectasis have significant morbidity. Management in primary care is aimed at improving morbidity, and includes patient education, treatment and monitoring, as well as appropriate referral to secondary care including assessment for long term antibiotics.

Title: Inspiratory muscle training in bronchiectasis patients: a prospective randomized controlled study

Citation: Clinical rehabilitation, June 2011, vol./is. 25(6)(524-536)

Author(s): Liaw M.Y., Wang Y.H., Tsai Y.

Abstract: Twenty-six patients with bronchiectasis were randomly divided into inspiratory muscle training and control groups. In the inspiratory muscle training group (n=13), the training programme started with an intensity of 30% maximal inspiratory pressure (MIP), which was increased by 2cmH(2)O each week, for 30 minutes daily, 5 days a week for eight weeks. The control group (n=13) did not receive inspiratory muscle training. Main outcome measures included spirometry, resting oxyhaemoglobin saturation by pulse oximetry (SpO(2)), lowest SpO(2) and Borg Scale during 6-minute walking tests, 6-minute walking distance (6MWD), MIP, maximal expiratory pressure (MEP) and St George's Respiratory Questionnaire. There were significant differences in change from baseline in 6MWD (411.9 (133.5) vs. 473.2 (117.2)m, P=0.021), 6M(work) (21051.0 (8286.7) vs. 23915.5 (8343.0)kg-m, P=0.022), MIP (60.8 (21.8) vs. 84.6 (29.0)cmH(2)O, P=0.004), and MEP (72.3 (31.1) vs. 104.2 (35.7)cmH(2)O, P=0.004) in the inspiratory muscle training group. Significant improvements in both MIP (23.8 (25.3) vs. 2.3 (16.4)cmH(2)O, adjusted P-value=0.005) and MEP (31.9 (30.8) vs. 11.5 (20.8)cmH(2)O, adjusted P-value=0.038) levels after adjusting for age by linear regression analysis were observed between groups. An eight-week home-based inspiratory muscle training is feasible and effective in improving both inspiratory and expiratory muscle strength, but has no effect on respiratory function and quality of life in patients with bronchiectasis.

Title: Video-assisted thoracic surgery for bronchiectasis

Citation: Annals of Thoracic Surgery, January 2011, vol./is. 91(1)(239-243)

Author(s): Zhang P., Zhang F., Jiang S., Jiang G.

Abstract: The purpose of this study was to present our experience of VATS for bronchiectasis and to compare this with thoracotomy in our institution. Results A total of 279 patients underwent thoracotomy, 52 patients underwent attempted VATS lobectomy. Fifty-two patients from 279 patients were selected and compared with the VATS group. Pleural adhesion was observed in 15 patients (28.8%) in VATS. The VATS lobectomy was converted to open thoracotomy in 7 patients. There was no difference in the blood loss and median operative time between the two groups, but the patients with VATS had shorter length of stay in hospital (p = 0.045), fewer complications (p = 0.039) than those with thoracotomy. Forty-nine (94%) and 46 (88%) patients fully recovered after operation by VATS and thoracotomy, respectively. Conclusions Video-assisted thoracoscopic lobectomy in localized bronchiectasis is a safe and more efficient procedure in selected patients with better recovery.
**Title:** The importance of smell in patients with bronchiectasis  
**Citation:** Respiratory Medicine, January 2011, vol./is. 105/1(44-49)  
**Author(s):** Guillemany J.M., Marino-Sanchez F.S.

**Abstract:** Prospective controlled study was performed on 91 patients with bronchiectasis. Bronchiectasis patients were sub-classified depending on: the presence of chronic rhinosinusitis, with or without nasal polyps, and the bronchiectasis ethiology. Olfactory function was evaluated by means of the Barcelona Smell Test (BAST-24) olfactometry for detection, identification, and forced choice for the first and fifth cranial nerve dependent odours in comparison to a group of 120 healthy volunteers. Results: Smell detection, identification, and forced choice tests were significantly worse in bronchiectasis patients than healthy controls for both the 1st and 5th CN. Among subgroups, patients with CRS presented a significant reduction in smell detection compared to both healthy controls and patients without CRS. Patients with both CRS and NP presented a significant reduction in both smell detection and forced choice compared to patients with CRS and without NP. Patients with bronchiectasis and primary humoral immunodeficiency had a poorer smell detection and forced choice compared with post-infective and idioptopathic bronchiectasis patients. Conclusions: Patients with bronchiectasis have a moderate loss of smell with a higher impairment in patients with CRS, being maximal in patients with NP. Patients with immunodeficiency bronchiectasis showed high prevalence of CRS, and therefore marked impairment on the sense of smell. The mechanism could be explained through a mixed ethiology (obstruction/inflammation).

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**Title:** Surgical management of bronchiectasis: A review of 339 patients with long-term follow-up  
**Citation:** Thoracic and Cardiovascular Surgeon, 2011, vol./is. 59/8(479-483)  
**Author(s):** Caylak H., Genc O., Kavakli K., Gurkok S.

**Abstract:** Objective: The incidence of bronchiectasis has decreased significantly in developed countries due to successful control of childhood infections. However, the surgical treatment of this disease still plays an important role in thoracic surgical practice in underdeveloped and developing countries. The aim of this retrospective study was to present our surgical experience in patients with bronchiectasis, including our surgical treatment strategies and the results of long-term follow-up. Methods: A retrospective chart review was conducted of 339 patients who underwent surgical resection for bronchiectasis between January 1992 and December 2009. Results: There were 301 (88.8%) male and 38 (11.2%) female patients; the average patient age was 22.4 years (range 15-50 years). The most common presenting symptoms were productive cough in 197 (58.1%) patients. There were 21 (6.2%) asymptomatic patients. Two hundred and thirty of the 339 patients (67.8%) had had previous medical therapy before admission to our department. The most common ethiology of bronchiectasis was childhood infections in 101 (29.8%) patients. In most patients, bronchiectasis was found on the left side (n=225, 66.4%). Thirty-five patients underwent a second operation for bilateral disease. There were two (0.6%) early postoperative mortalities including one myocardial infarction and one respiratory insufficiency. Complications occurred in 43 patients (12.7%). The median follow-up was 13.6 months. Symptoms disappeared in 201 patients (71%), and 86 patients (23.3%) experienced an improvement, while 16 patients (5.7%) continued to be symptomatic. Conclusion: Although improvements in medical treatment have resulted in a significant decrease in the number of patients with bronchiectasis, surgical management is still very important in developing countries. Surgical resection can be performed with acceptable morbidity and mortality rates. The aim should be the resection of all involved bronchiectatic sites, even in patients with bilateral disease, if the pulmonary reserve is adequate.