

# **Anthropometric Measurements and Sleep-related Features in Relation to Obstructive Sleep Apnea Syndrome**

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Many studies have reported that sleep apnea syndrome is associated with increased mortality. However, not much attention has been paid to obstructive sleep apnea (OSA) in Taiwan. The purpose of this study was to investigate which etiological factors or clinical features could be better predictors of OSA. Subjects were recruited from the respiratory care clinic of the Taichung Veterans General Hospital. The patients were suspected of having OSA and underwent whole night laboratory polysomnography. Case subjects (OSA group, n = 40) had an apnea-hypopnea index (AHI)  $\geq 5$ ; patients without this AHI score served as a non-OSA group (n = 40). Demographic and anthropometric (i.e., weight, height, body mass index (BMI), neck, waist, and hip circumferences) data were collected. A sleep-related questionnaire was filled out by each subject. Subjects in the OSA group had significantly higher weight and BMI, and greater neck, waist, and hip circumferences than subjects in the non-OSA group. No correlation was found between the AHI score and any anthropometric measurement in the non-OSA group. The AHI score was significantly positively correlated with weight, height, BMI, and waist, hip and neck circumferences in the pooled group. Patients with a higher AHI score were more likely to report having loud snoring during sleep, difficulties in sleep initiation, and frequent awakening during sleep, and taking hypnotic agents to help sleep well. Indices of obesity (BMI, waist and neck circumferences) and a combination of questions regarding sleep-related clinical symptoms could be used for diagnosing OSA in the clinical setting.

Keywords: anthropometry, sleep-related features, obstructive sleep apnea

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## 體位測量及睡眠相關臨床表徵 與睡眠呼吸暫止症候群的關係

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許多研究曾報告睡眠呼吸暫止症候群與死亡率上升有關。然而在台灣，阻塞性睡眠呼吸暫止症候群 (OSA) 在過去並未受到注意。本研究旨在調查何種致病因子或臨床表徵可作為呼吸暫止症候群之最佳預測指標。受測者皆來自台中榮總呼吸照護門診。所有病患均在懷疑有阻塞性睡眠呼吸暫止症候群下，以多功能生理睡眠檢查儀進行整夜實驗室檢查。若病人的呼吸暫止與呼吸低下指數 (AHI) 大於等於 5/小時，則歸為實驗組 (n=40)；另外若病人之 AHI 小於 5/小時，則歸為對照組 (n=40)。收集病人的體位測量值 (包括：身高、體重、身體質量指數、頸圍、腰圍、臀圍等資料)，及各項睡眠相關問題之問卷調查。結果發現在睡眠呼吸暫止症候群病人的體重、頸圍、臀圍、腰圍均明顯高於非睡眠呼吸暫止症候群病人。在非睡眠呼吸暫止症候群病人其 AHI 分數與體位測量值並無任何相關性。AHI 分數與整個研究群 (n=80) 之身高、體重、身體質量指數、頸圍、腰圍、臀圍呈現顯著正相關性。病人在問卷調查中若指出有較高的睡眠打鼾程度、難以入睡、經常性睡眠中斷、及需服用安眠藥幫助入睡等狀況時、其 AHI 分數也較高。本研究結果建議同時合併使用肥胖指標 (身體質量指數，頸圍，腰圍) 及適當設計的睡眠問卷調查有助於臨床對睡眠呼吸暫止症候群的診斷。

關鍵詞：體位、睡眠相關表徵、阻塞性睡眠呼吸暫止

# The Regulatory Effects of Human Bronchial Fibroblasts on Peripheral Blood Eosinophils — An in Vitro Study

Tsung-Ying Yang, Jeng-Yuan Hsu\*, Jao-Jia Chu, Chi-Der Chiang

**Background:** Asthma is a chronic inflammatory disease of the airways. Its disease status is closely associated with the survival and activation of eosinophils. Because it has been reported that fibroblasts partially govern the regulatory functions of eosinophils, we were interested in investigating the relationship between the two cells.

**Methods:** CCD14-Br human bronchial fibroblast cells were obtained from the American Type Culture Collection (ATCC) and maintained in a MEM medium containing 10% fetal calf serum. Human peripheral blood eosinophils were isolated from f-met-leu-phe (fmlp) treated blood and followed by discontinuous Percoll density gradient centrifugation. Cell survival was determined with MTT colorimetric analysis. The expression of cell surface markers was analyzed by employing immunofluorescence staining and quantitated with a fluorescence activated cell sorter.

**Results:** The purity of eosinophil isolation exceeded 85%. More than half of the isolated eosinophils did not survive three days in vitro. If we cultured the eosinophils with CCD14-Br cells, 60% survived at the seventh day, and 80% survived in the presence of 50 pM recombinant human GM-CSF. Only 50% of eosinophils survived in the treatment of GM-CSF without CCD14-Br cells. Blocking the contact between the two cells by employing Transwella, the survival of eosinophils significantly decreased as compared with that of the direct cocultured system (45.8% vs. 63%) at the fifth day. The expression of HLA-DR markedly increased, whereas that of CD4 remained unchanged when cocultured with CCD14-Br cells.

**Conclusion:** The results indicated that bronchial fibroblasts might play a role in the pathogenesis of asthma via regulating the life span of eosinophils.

Key words: asthma, eosinophils, fibroblasts

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## 人類支氣管纖維母細胞對週邊血液嗜伊紅性白血球的體外調節作用

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氣喘是一個慢性氣道炎性疾病，嗜酸性白血球在組織內的存在及活化與氣喘的疾病機制息息相關。曾有報告顯示纖維母細胞可以影響嗜酸性白血球的功能，本研究主旨即在探討這兩種細胞間的交互關係。

方法：人類支氣管纖維母細胞細胞株 CCD14-Br 購自 ATCC 並保存於含 10 % 胎牛血清之 MEM 培養液。氣喘病人之週邊血液經抽取後以 f-met-leu-phe (fmlp) 處理並用 Percoll 比重離心法製成人類週邊血液嗜酸性白血球。細胞存活率分析採用 MTT 比色法，流式細胞儀則用來分析經螢光染色後的細胞表面抗原表現情形。

結果：經分離後的人類週邊血液嗜酸性白血球純度可達 85%。超過一半的嗜酸性白血球在體外無法存活超過三天以上。將嗜酸性白血球與纖維母細胞一齊培養至第七天時，可發現將近 60 % 的嗜酸性白血球仍然存活。若於最初同時加入 50 pM 人類重組顆粒球生成素，有 80 % 的嗜酸性白血球可存活七天；但是若只加入重組顆粒球生成素而無纖維母細胞，則第七天時只有 50 % 之纖維母細胞存活。使用 Transwella 半透膜阻斷纖維母細胞與嗜酸性白血球的直接接觸，於第五天時嗜酸性白血球的細胞活率由 63 % 降為 45.8 %。以流式細胞儀觀察，嗜酸性白血球與 CCD14-Br 一齊培養後，HLA-DR 表面抗原之表現明顯增加，但 CD4 表面抗原則無任何改變。

結論：本研究之結果顯示支氣管纖維母細胞可經由控制嗜酸性白血球的存活進一步影響氣喘的病態生理變化。

關鍵詞：氣喘，嗜酸性白血球，纖維母細胞

# Comparative Study of Compliance, Antitussive Efficacy and Tolerability between Detusiv<sup>®</sup> Sustained Release Tablet and Medicon-A<sup>®</sup> Capsule in the Treatment of Acute Cough

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Thomas Chang-Yao Tsao

**Background:** The aim of our study was to compare the compliance, efficacy and tolerability of two dosage forms of dextromethorphan [Detusiv<sup>®</sup> sustained release (Detusiv<sup>®</sup> S.R.) tablet vs. Medicon-A<sup>®</sup> capsule] in the treatment of acute cough.

**Methods:** Fifty-six subjects, aged 18 years and above, with a history of acute cough lasting less than 3 weeks, with or without sputum, were enrolled in this randomized, single-blind (subject-blind), active-controlled, parallel study. Subjects were randomized into a Detusiv<sup>®</sup> S.R. group or a Medicon-A<sup>®</sup> group for 7 days. Efficacy variables included cough frequency (primary), cough severity, and global evaluation. For safety variables, the adverse events data were listed individually.

**Results:** Fifty-six subjects were enrolled and randomized into the treatment phase (Detusiv<sup>®</sup> S.R.: 28; Medicon-A<sup>®</sup>: 28). The intend-to-treat population analysis included fifty-five. At the endpoint, 85.2% (23/ 27) of the subjects in the Detusiv<sup>®</sup> S. R. group and 85.7% (24/28) of the subjects in the Medicon-A<sup>®</sup> group had decreases in cough frequency. Similarly, 77.8% (21/27) and 82.1% (23/28) of the subjects, respectively, had a decrease in cough severity, and 92.6% (25 of 27) and 82.1% (23 of 28) of the subjects, respectively, had improvement in the global evaluation. The difference between the two treatment groups regarding the improvement in cough frequency, cough severity, and global evaluation was not statistically significant. Overall, both treatment groups showed equally good tolerability throughout the 7-day treatment. No serious adverse event was reported.

**Conclusion:** Detusiv<sup>®</sup> S. R. tablet was at least as effective as Medicon-A<sup>®</sup> capsule in treating patients with acute cough. Detusiv<sup>®</sup> sustained release tablet was shown to be safe and well tolerated in treating patient with acute cough.

Key words: acute cough, Detusiv<sup>®</sup> S. R. Medicon-A<sup>®</sup>, efficacy, safety

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## 比較 Detusiv<sup>®</sup> 緩釋錠與 Medicon-A<sup>®</sup> 在治療急性咳嗽方面之醫囑遵從性、療效以及病患耐受度之研究

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背景：本篇報告的目的在於比較止咳藥 Dextromethorphan 兩種不同的配方 (DetusivO 緩釋錠與 Medicon-AO) 在治療急性咳嗽方面之醫囑遵從性、療效以及病患耐受度之研究

方法：56 位超過 18 歲患少於三週急性咳嗽的病人，以隨機方式分成兩組。一組接受 DetusivO 緩釋錠配方，一組接受 Medicon-AO 配方，用藥時間為七天。研究項目包括咳嗽頻率、咳嗽嚴重度、整體性以及安全性的評估。

結果：56 位病人以隨機方式分成兩組 (DetusivR 緩釋錠: 28; Medicon-AR: 28)。55 位病人列入分析 85.2% (23/27) 使用 Detusiv<sup>®</sup> 緩釋錠病人和 85.7% (24/28) 使用 Medicon-A<sup>®</sup> 病人咳嗽頻率減少。77.8% (21/27) 使用 DetusivO 緩釋錠病人和 82.1% (23/28) 使用 Medicon-A<sup>®</sup> 病人咳嗽嚴重度減少。92.6% (25 of 27) 使用 Detusiv<sup>®</sup> 緩釋錠病人和 82.1% (23 of 28) 使用 Medicon-A<sup>®</sup> 病人整體性評估有改善。兩組病人在咳嗽頻率，咳嗽嚴重度，整體性評估上無統計學差異。兩組病人在七天治療內皆有很好醫囑遵從性，也沒有嚴重副作用發生。

結論：Detusiv<sup>®</sup> 緩釋錠在治療急性咳嗽上與 Medicon-A<sup>®</sup> 一樣有效，而且安全性和耐受度很好。

關鍵詞：急性咳嗽，Detusiv<sup>®</sup> 緩釋錠，Medicon-A，療效，安全性

# **Added Salmeterol versus Higher-Dose Inhaled Steroids in Symptomatic Asthma Patients Already Using Inhaled Steroids**

Chung-Shih Chin, Tsung-Ying Yang, Jeng-Yuan Hsu

Inhaled glucocorticoid is the main treatment for patients with persistent asthma. Due to the ceiling and side effects of inhaled steroids, the addition of another form of controller medication, rather than increasing the dose of the inhaled steroid, is suggested for these symptomatic patients.

We enrolled sixty patients with mild to moderate asthma, and who were symptomatic while using budesonide 1200 $\mu$ g daily. The dose of budesonide remained at 1200 $\mu$ g daily for 8 weeks, and then was reduced to 800 $\mu$ g daily with salmeterol added. Eight weeks later, the salmeterol was discontinued and the budesonide was increased to 1200 $\mu$ g daily again. We compared the pulmonary function parameters, symptom scores, frequency of bronchodilator use for first aid, and other factors in these two regimens.

The morning peak expiratory flow rate increased from 380.5 l/min to 398.7 l/min after adding salmeterol ( $p = 0.004$ ), then decreased from 381.7 l/min to 371.0 l/min after discontinuing it ( $p = 0.014$ ). The night peak expiratory flow rate showed the same trend, from 390.1 l/min to 409.3 l/min, after adding salmeterol ( $p < 0.001$ ), and from 395.7 l/min to 383.6 l/min after discontinuing it ( $p = 0.013$ ). The forced expiratory volume in 1 second increased 140 ml/sec after adding salmeterol ( $p < 0.001$ ), and decreased 130 ml/sec after discontinuing it ( $p = 0.001$ ).

The addition of salmeterol to the inhaled budesonide used by asthma patients who remained symptomatic showed a greater improvement in pulmonary function parameters than simply increasing the dose of inhaled budesonide.

Key words: salmeterol, budesonide, inhaled steroid, long-acting beta-2 agonist

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## 氣喘病人在使用吸入型類固醇加 salmeterol 合併治療 與單獨增加吸入型類固醇之比較

覃俊士 楊宗穎 許正園

吸入型類固醇目前為持續性氣喘的主要治療藥物。但是有許多病人在使用低劑量的吸入型類固醇後仍然會有症狀，在考量到只增加吸入型類固醇劑量可能會增加費用及副作用，但較果不一定顯著，加入其他種類的控制藥物如長效型 beta-2 受體的支氣管擴張劑(salmeterol)與吸入型類固醇合併使用會比只單純提高吸入型類固醇劑量較果更好、副作用更少。

在本實驗中，我們收入追蹤了 60 位持續性輕度到中度的氣喘病患。因為有症狀需使用吸入型類固醇(budesonide)每天 1200ug 八週後，將劑量減至每天 800ug 且合併加入 salmeterol 使用八週，然後停止 salmeterol 且改回只使用 budesonide 每天 1200ug 八週。實驗期間，我們比較病人的肺功能變化，症狀及短效支氣管擴張劑使用次數後發現。使用吸入型類固醇併 salmeterol 比單獨增加吸入型類固醇劑量時病人有較好的早晨，晚上的尖峰吐氣流速及第一秒的用力吐氣量。

關鍵詞：氣喘，吸入型類固醇，長效型 beta-2 受體的支氣管擴張劑



# Clinical Presentation, Radiological Features, and Surgical Treatment of Bronchogenic Cysts

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Jia-Ming Chang

**Objective:** To study the differences in the clinical presentation and radiological features of intrapulmonary and mediastinal bronchogenic cysts.

**Materials and Methods:** From 1989 to 2002, 15 patients with bronchogenic cysts underwent surgery at our hospital. Their medical records and radiographs were reviewed. Follow-up studies were obtained in the outpatient department.

**Results:** The patients included 9 males and 6 females whose ages ranged from 3 months to 76 years, with a mean age of 36.3 years. The lesions were intrapulmonary in 7 (47%) patients and mediastinal in 8 (53%). Eleven (73%) of the 15 bronchogenic cysts had symptoms: 6 (86%) of the 7 intrapulmonary bronchogenic cysts and 5 (63%) of the 8 mediastinal bronchogenic cysts ( $p=0.000$ ). Thirteen (87%) cysts were initially discovered by chest radiography. The 2 undetected cysts were located in the mediastinum. All lesions were detectable on computed tomographic scans. Of the intrapulmonary bronchogenic cysts, 4 (57%) appeared air-containing on radiographs, and 3 presented as solid masses. All detected mediastinal cysts appeared as solid masses without air content ( $p=0.000$ ). Four patients underwent esophagography, alone or combined with endoscopy, to exclude epithelial lesions of the esophagus. Intrapulmonary cysts were treated with pulmonary wedge resection ( $n=4$ ), lobectomy ( $n=2$ ), or segmentectomy ( $n=1$ ). Excision of the mediastinal cysts was completed by video-assisted thoracic surgery ( $n=4$ ), posterolateral thoracotomy ( $n=3$ ), or mediastinoscopy ( $n=1$ ). The follow-up period ranged from 1 week to 1 year, with a mean of 3.8 months. No surgical mortality occurred. All patients were cured, but one patient with a small, occult satellite mediastinal cyst required further observation.

**Conclusions:** A large proportion of intrapulmonary bronchogenic cysts cause more symptoms than mediastinal cysts. Radiological features reveal a higher incidence of air-content in intrapulmonary bronchogenic cysts, compared with mediastinal cysts which present as solid masses. Surgical excision is a reliable treatment to achieve cure for those patients with bronchogenic cysts.

Key words: bronchogenic cyst; lung cyst; mediastinal cyst.

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## 支氣管性囊腫的臨床表現、影像特徵與手術治療之探討

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**目的：**探討肺內與縱隔腔不同位置的支氣管性囊腫，其臨床表現及影像特徵之差異。

**材料及方法：**從1989至2002年，15位支氣管性囊腫病患在本院接受手術治療。藉由回顧病歷記載、影像照片及門診追蹤來進行研究。

**結果：**有9位男性及6位女性病患，年齡分布從3個月到76歲，平均36.3歲。7位(47%)是肺內支氣管性囊腫，8位(53%)是縱隔腔支氣管性囊腫；15位病患中，11位(73%)有臨床症狀；7個肺內支氣管性囊腫患者中，6位(86%)有症狀，8個縱隔腔支氣管性囊腫患者中，5位(63%)有症狀( $p=0.000$ )。13個(87%)囊腫可由胸部X光判讀出來，剩餘的2個縱隔腔支氣管性囊腫則無法從X光片看出。所有病灶均能藉電腦斷層掃描偵測到。4個(57%)肺內支氣管性囊腫在X光影像上顯現含有氣體成份，另外3個以固體腫塊表現。縱隔腔支氣管性囊腫則均呈現為固體腫塊而無氣體組成( $p=0.000$ )，另外，有4位患者接受食道攝影，或併用內視鏡檢查，以排除食道上皮性病灶。肺內支氣管性囊腫的手術方式包括肺楔狀切除( $n=4$ )、肺葉切除( $n=2$ )、及肺節切除( $n=1$ )。縱隔腔囊腫的切除則利用電視輔助胸腔手術( $n=4$ )、胸廓切開術( $n=3$ )、或縱隔腔鏡( $n=1$ )來完成。追蹤期從1周到1年，平均3.8個月。無手術致死病例。所有病患均能治癒。但一患者還有一顆小的、沒有症狀的、位於主病灶旁的縱隔腔囊腫需要進一步觀察。

**結論：**肺內支氣管性囊腫與縱隔腔囊腫比較起來有較高的比例會產生症狀。在放射線影像上，肺內病灶往往呈現為含氣囊腫，而縱隔腔病灶則表現出界線明確的腫塊。對罹患支氣管性囊腫的病患而言，手術切除是達到治癒的可靠方法。

**關鍵詞：**支氣管性囊腫，肺囊腫，縱隔腔囊腫

## **Extremely High Pleural Effusion ADA Levels in The Diagnosis of Tuberculous Pleurisy**

Ming-Chang Yin, Gee-Chen Chang, Chieh-Liang Wu, Jao-Jia Chu, Tu-Chen Liou,  
Chi-Der Chiang

Pleural fluid adenosine deaminase (ADAPF) activity is increased in effusions caused by certain clinical conditions including tuberculosis and bacterial infections. A cut-off value above 70 U/L for ADA in the diagnosis of tuberculosis pleurisy (TBpl) has been well discussed. However, the high cut-off levels for ADAPF (> 70 U/L) in the diagnosis of TBpl have not been established. From Jan. 2000 to Oct. 2002, 3144 pleural effusion specimens were sent to our department for ADA measurement. Two hundred and seventy-nine cases with an ADA level higher than 70 U/L were classified into three groups: tuberculous pleurisy (N=143), empyema thoracis (N=77), and neither of the above (N=59). When pleural effusion was lymphocytic, the sensitivity and specificity for TBpl were increased depending on the levels of ADA (Table 2). The specificity for TBpl was 100% when ADAPF was over 140 U/L. In conclusion, the combined use of a high cut-off level for ADAPF and a lymphocyte proportion would eliminate the need for invasive studies and be useful in the differential diagnosis.

Key Words: adenosine deaminase (ADA), tuberculosis (TB), pleural effusion

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## 肋膜液中過高之 ADA 數值在結核性肋膜炎之診斷

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腺甘去胺酶 [Adenosine deaminase (ADA)] 在肋膜液的濃度與許多疾病有關，其中包含了結核性肋膜炎和肺膿胸。以肋膜液 ADA 濃度  $> 70$  U/L 診斷結核性肋膜炎，在很多文獻都有報告討論。但高濃度 ADA 對結核性肋膜炎的診斷價值並無完整文獻報告。我們進行回顧性研究，從西元 2000 年 1 月到 2002 年 10 月，共 3144 例的肋膜液檢體進行 ADA 測定。其中共 279 例 ADA 值  $> 70$  U/L 且有確定的臨床診斷。我們將其分作三組。第一組：143 位為結核性肋膜炎；第二組：77 位為肺膿胸；第三組 59 位為非結核性肋膜炎也非肺膿胸。對於淋巴球比率超過 50% 的肋膜液而言，ADA 值越高，診斷結核性肋膜炎的敏感度和特異度也越高。當 ADA  $> 140$  U/L 時，其特異度為 100%。

結論是，合併高肋膜液 ADA 值及淋巴球比率超過 50% 作為診斷結核性肋膜炎，將有助於疾病的鑑別診斷並減少侵襲性檢查的使用。

關鍵詞：Adenosine deaminase (ADA)，結核病

# A Home Walking Rehabilitation Program Improves Exercise Tolerance and Dyspnea Sensation in Patients with Chronic Obstructive Airway Disease (COAD)

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Han-Pin Kuo, Horng-Chyuan Lin

**Background and Purpose:** Exercise intolerance is the most disabling and distressing consequence of chronic obstructive airway disease (COAD) for the majority of patients. The accurate assessment of the exercise capacity of patients with COAD is important for the dual purpose of exercise prescription and determining response to therapy. The aims of this study were to evaluate the role of a home exercise program based on a six-minute walking test in determining maximal exercise capacity and the causes of exercise limitation, as well as to evaluate the benefits of short-term exercise training in patients with COAD.

**Patients and Methods:** We assessed the efficacy of a home walking program in 18 stable patients with COAD in terms of exercise tolerance, dyspnea sensation, and pulmonary function. The work rate (METs) measured during a six-minute walking test was used to select the target training intensity for an exercise training program of three months. We also used the ratings of perceived symptoms to help teach patients to exercise to "target" levels of breathing discomfort.

**Results:** There was a significant increase in the six-minute walking distance, from  $497.9 \pm 23.8$  meters to  $543.6 \pm 26.7$  meters, in the patients after undergoing a three-month exercise training program ( $n=9$ ,  $p<0.05$ ), while the six-minute walking distance did not show significant change in the control group (from  $501.9 \pm 40.8$  meters before to  $501.7 \pm 42.3$  meters,  $n=9$ ,  $p>0.05$ ). Considering the time-course effect, the exercise training program significantly increased the six-minute walking distance after two months of training ( $537.1 \pm 27.3$  meters) and three months of training ( $543.6 \pm 26.7$  meters), compared with the baseline ( $497.9 \pm 23.8$  meters,  $n=9$ ,  $p<0.05$ ) and one month of training levels ( $504.2 \pm 24.5$  meters,  $n=9$ ,  $p<0.05$ ). The Borg's scale at rest had significantly decreased, from  $2.3 \pm 0.4$  before to  $1.7 \pm 0.5$  after, in the patients after undergoing a three-month exercise training program ( $n=9$ ,  $p<0.05$ ), but the dyspnea sensation did not change significantly at rest in the control group (from  $2.3 \pm 0.2$  before to  $2.2 \pm 0.2$ ,  $n=9$ ,  $p>0.05$ ). The Borg's scale had not changed significantly at the end of the exercise.

**Conclusion:** Considering the time-course effect, the exercise training program significantly improved the dyspnea sensation after one month of training ( $1.4 \pm 0.5$ ,  $n=9$ ,  $p<0.05$ ), two months of training ( $1.6 \pm 0.5$ ,  $n=9$ ,  $p<0.05$ ) and three months of training ( $1.7 \pm 0.5$ ,  $n=9$ ,  $p<0.05$ ), compared with the baseline ( $2.3 \pm 0.4$ ). The  $FEV_1$ , FVC and  $FEV_1/FVC$  did not show a significant

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## Home Walking Rehabilitation Program in COAD

change before and after the exercise program in either group. A three-month home pulmonary exercise program improved exercise endurance and dyspnea sensation in COAD patients with exercise intolerance.

Key words: chronic obstructive airway disease, exercise intolerance, home exercise program, six-minute walking test, exercise endurance and dyspnea sensation.

## 針對慢性阻塞性呼吸道疾病患者執行一套居家運動訓練計畫，能有效改善運動耐力及減緩喘的感覺

何淑娟 盛德芳 鄭涵方 江玲玲 郭漢彬 林鴻銓

運動耐力不足是慢性阻塞性呼吸道疾病患者最長出現的障礙。事實上，評估慢性阻塞性呼吸道疾病患者的運動能力很重要，可以當做運動處方和判決治療效果。本研究目的針對慢性阻塞性呼吸道疾病患者，評估以六分鐘走路運動測試結果來判決最大運動能力及運動限制，在居家運動計劃的角色和短期運動訓練的成效。

本研究評估居家運動計劃的成效包含運動耐力、喘的感覺、及肺功能，共有十八位慢性阻塞性呼吸道疾病患者完成。三個月的運動訓練計劃之訓練強度，是依據六分鐘走路運動距離所換算之功率而決定。本研究利用主觀的症狀量表教導病患如何掌控運動時喘不舒服的目標。

本研究結果顯示，經過三個月的居家運動訓練組顯著增加六分鐘走路運動距離，控制組無顯著差異。若考量時間效益發現，運動訓練後二個月和三個月的六分鐘走路運動距離較運動訓練前及運動訓練後一個月有顯著的增加。在休息時，喘的感覺經過三個月的運動訓練組明顯降低，而控制組無顯著變化。在運動結束後，兩組喘的感覺皆無顯著變化。若考量時間效益發現，運動訓練後一個月、二個月和三個月喘的感覺皆較運動訓練前有改善。運動前後，兩組的肺功能包括第一秒用力吐氣容積、用力肺活量及其比值都沒有明顯改變。三個月的居家運動訓練改善了慢性阻塞性呼吸道疾病患者運動耐力不足的運動耐力及喘的感覺。

關鍵詞：慢性阻塞性呼吸道疾病、運動耐力不足、居家運動計劃、運動耐力、喘的感覺

## **Case Report — Pleuropulmonary Blastoma in an Asian Adult**

Kun-Chou Hsieh, Hsin-Yuan Fang, Alan-Ronald Talbot\*, Torng-Sen Lin

A 39-year-old female presented with hemoptysis lasting for two months. Chest radiographs and computed tomography scan showed a solid mass 9x8x8 cm in the right lower lung field. The mass had invaded not only the right middle and lower lobes of the lung but also the diaphragm. A thoracotomy was performed and the clearly demarcated mass was removed. The pathological diagnosis was biphasic pleuropulmonary blastoma. Combined chemotherapy and radiotherapy was given for three months. Two years after the operation, the patient remains well and shows no evidence of local recurrence or metastasis.

Key words: pulmonary blastoma, pleuropulmonary blastoma

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## 肋膜肺臟原胚瘤—病例報告

謝坤洲 方信元 陶阿倫\* 林同森

患者為三十九歲女性，因咳血兩個月，故而至本院求治。胸部 X 光及電腦斷層掃描發現在右下肺野有一達9x8x8公分的實心腫塊。此腫塊不僅侵犯右中及右下肺葉，而且也侵犯右側橫隔。經由開胸手術，此腫塊被完整地取出。病理報告乃是一雙相性肋膜肺臟原胚瘤。術後患者接受了三個月的化學治療及放射線治療。經過兩年的追蹤，並無局部復發及轉移的證據。

關鍵詞：肺臟原胚瘤，肋膜肺臟原胚瘤。

# **Diagnosis of Broncho-Esophageal Fistula by Direct Instillation of Methylene Blue Through the Bronchoscope into the Esophagus — A Case Report**

Wen-Feng Fang, Chao-Chien Wu, Young-Fa Lai

Malignant tracheoesophageal fistulas can be caused by carcinoma of the esophagus, the tracheobronchial tree, or the lung, though more than 80% of these lesions are the result of esophageal carcinoma. Patients with malignant esophagorespiratory fistulas generally have a poor prognosis. A definitive diagnosis of the fistula is usually made roentgenographically by esophagography. This test, however, should either be done under continuous fluoroscopic observation, or recorded on videotape, to demonstrate clearly that the radiopaque material has passed into the tracheobronchial tree. Regrettably, endoscopy or esophagography will not reveal a fistula in every case.

The instillation of methylene blue into the esophagus during bronchoscopy is a useful diagnostic method. We report here the case of a 61-year-old man with esophageal carcinoma and aspiration pneumonia. A bronchoesophageal fistula was diagnosed by direct instillation of methylene blue through the bronchoscope into the esophagus.

The direct instillation method has certain advantages over the swallowing method. These include no need for patient cooperation, the reduction of the possibility of aspiration leading to incorrect diagnosis, and no retention of methylene blue in the oral cavity after the procedure. Direct instillation is a useful diagnostic adjunct, permitting visualization of airway lesions in the bronchial tree.

Key words: broncho-esophageal fistula, methylene blue, bronchoscope

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## 經支氣管鏡直接對食道注射甲基藍以診斷支氣管 食道瘻管——病例報告

方文豐 吳沼漣 賴永發

造成惡性氣管食道瘻管的原因中，食道癌佔 80% 以上。罹患因惡性腫瘤造成之瘻管的病人，預後往往很差。瘻管的診斷一般是靠食道顯影劑攝影，但此方法需要在連續的放射性螢光幕下仔細觀察，或者是先錄影下來再播放出來看看是否有顯影劑流到氣管支氣管樹。然而在有些病例，內視鏡或食道顯影劑攝影並無法找出瘻管。藉由直接經食道注射甲基藍之支氣管鏡術為一可行的診斷方法。

我們提出一個病例：一位 61 歲男性食道癌患者，一開始以肺炎來表現，藉由直接經食道注射甲基藍之支氣管鏡術診斷支氣管食道瘻管。此方法優於令病患吞嚥甲基藍再去檢查有否瘻管的方法，例如可免除因病患之不配合而無法將甲基藍喝下，或是因為噎到以致甲基藍流到支氣管而干擾判讀，並且術後不會殘留甲基藍於口腔中，更同時得知病患是否有支氣管內的病灶，讓臨床醫師在診斷支氣管食道瘻管方法中多一個選擇。

關鍵詞：甲基藍，支氣管食道瘻管，支氣管鏡。

# **Adenocarcinoma of the Lung Complicated with Leptomeningeal Carcinomatosis — Report of Two Cases**

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Jau Yeong Lu

Leptomeningeal carcinomatosis (LM) is a clinically important complication of adenocarcinoma of the lung. However, because it is difficult to diagnose, LM is rarely reported. We report two cases in which the initial signs and symptoms were headache, seizure attack, and nuchal rigidity. The first case was suspected to be tuberculosis meningitis on the basis of shared symptoms, signs, and laboratory data from cerebrospinal fluid analysis. The diagnoses of both cases were established by cytology of the cerebrospinal fluid and supported by neuroimaging. However, the prognosis for LM is poor despite aggressive present-day treatment.

Key words: adenocarcinoma, leptomeningeal carcinomatosis, lung

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## 肺腺細胞癌合併軟腦膜轉移—兩病例報告

呂云傑 林志洵 許健威 陳家榮\* 賴炳宏\*\* 盧朝勇

造成惡性氣管食道瘻管的原因中，食道癌佔 80% 以上。罹患因惡性腫瘤造成之瘻管的病人，預後往往很差。瘻管的診斷一般是靠食道顯影劑攝影，但此方法需要在連續的放射性螢光幕下仔細觀察，或者是先錄影下來再播放出來看看是否有顯影劑流到氣管支氣管樹。然而在有些病例，內視鏡或食道顯影劑攝影並無法找出瘻管。藉由直接經食道注射甲基藍之支氣管鏡術為一可行的診斷方法。

我們提出一個病例：一位 61 歲男性食道癌患者，一開始以肺炎來表現，藉由直接經食道注射甲基藍之支氣管鏡術診斷支氣管食道瘻管。此方法優於令病患吞嚥甲基藍再去檢查有否瘻管的方法，例如可免除因病患之不配合而無法將甲基藍喝下，或是因為嗆到以致甲基藍流到支氣管而干擾判讀，並且術後不會殘留甲基藍於口腔中，更同時得知病患是否有支氣管內的病灶，讓臨床醫師在診斷支氣管食道瘻管方法中多一個選擇。

關鍵詞：腺細胞癌，軟腦膜轉移，肺。

# **Churg-Strauss Syndrome After Corticosteroid Withdrawal in Asthma Patients — Report of Two Cases Not Related to leukotriene Receptor Antagonists**

Mei-Chen Yang, Wen-Te Liu, Horng-Chyuan Lin, Chung-Jen Huang,  
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The standard management of asthma with inhaled corticosteroids and bronchodilators is successful in most patients. Leukotriene receptor antagonists are also universally used for asthma because of their anti-inflammatory potential. In recent years, academic circles have noted that some long-standing asthma patients have developed eosinophilic lung disease after withdrawal of systemic steroids due to the prior administration of inhaled steroids with or without leukotriene receptor antagonists. It was assumed that these patients may have had underlying eosinophilic lung disease with an initial presentation of asthma, which was unwittingly suppressed by previous steroid use.

Herein, we present two cases of allergic-type asthma in which the underlying Churg Strauss syndrome was discovered after systemic steroid withdrawal. The symptoms and radiographic abnormalities of Churg Strauss syndrome were improved after two weeks of resumed steroid treatment.

Keywords: steroid-dependent asthma, Churg Strauss syndrome, leukotriene receptor antagonist, eosinophilic lung disease

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## 氣喘患者在減用類固醇後出現 Churg Strauss syndrome —兩病例報告

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Leukotriene受體拮抗劑由於其具抗發炎作用而廣泛應用在氣喘控制上，如此可減低類固醇之使用量及其不必要之副作用。近年來學界漸漸注意到某些長期氣喘患者，不論是否有合併 Leukotriene 受體拮抗劑的使用，在減用類固醇後產生了 Churg Strauss Syndrome 或其他形式的 eosinophilic lung disease。這些病人可能本身即是 Churg Strauss Syndrome 或其他形式的 eosinophilic lung disease，只不過在疾病病程早期只是以氣喘來表現，因而不經意的被類固醇所壓制掉而未察覺診斷出來。我們在此提出二位長期不穩定氣喘須依賴類固醇的患者，在成功減用類固醇後發現其本身即為 Churg Strauss Syndrome 病患，而在兩週的低劑量類固醇治療後，其症狀和 X 光均得到迅速改善。

關鍵詞：類固醇依賴性氣喘，Leukotriene 受體拮抗劑，Churg Strauss syndrome，eosinophilic lung disease。

# **Small Intestinal Tuberculosis Complicated with Intestinal Obstruction and Perforation — A Case Report**

Sen-Ting Huang, Hong-Chung Wang , Jau-Yeong Lu

Small intestinal tuberculosis (TB) is an uncommon disease, and is difficult to diagnose because its symptoms and signs are nonspecific. We can only depend on a high degree of suspicion of the possibility of intestinal TB, and subsequently obtain appropriate specimens for the definite diagnosis. We herein report a 64-year-old male patient who denied any previous history of disease. He initially complained of fever and shortness of breath. The chest radiograph revealed increasing bilateral diffuse alveolar infiltrates. Pulmonary TB was diagnosed by bronchoscopic biopsy. Four-combined anti-TB therapy was administered for about 4 weeks and clinical symptoms showed obvious improvement. Unfortunately, right upper abdominal pain developed suddenly and rapidly progressed to diffuse abdominal pain. The computed tomography of the abdomen revealed dilatation of the small bowel with an air-fluid level and intestinal obstruction in the terminal ileum. An emergency exploratory laparotomy was done. Tuberculosis of the terminal ileum with bowel perforation and peritonitis were diagnosed. Intestinal TB still needs to be considered for the differential diagnosis for a patient with pulmonary TB under an anti-tuberculosis treatment, who complains of any symptoms or signs of acute abdomen.

Key words : tuberculosis, small intestinal tuberculosis, bowel perforation, peritonitis



## 小腸結核症合併腸阻塞及腸穿孔——病例報告

黃森亭 王鴻昌 盧朝勇

腸道結核症並不常見，而且因為沒有特異性的症狀，所以，診斷並不容易，通常需要臨床醫師高度懷疑此病的可能性，進而獲得適當的檢體來得到確定診斷。一名年齡六十四歲之病人沒有任何潛在性的疾病，這次因為發燒及呼吸急促而住院，胸部 X 光顯示兩側廣泛性肺泡浸潤增加，經氣管鏡切片檢查證實是肺結核，於是投與抗結核藥物治療，病人的症狀也因而獲得緩解。但在抗結核藥物治療四週後，突然發生劇烈腹痛，腹部電腦斷層顯示在迴腸末端發生腸阻塞，於是緊急實施剖腹探查術，病理切片證實為迴腸結核症合併腸阻塞及腸穿孔。這個經驗告訴我們，一位罹患肺結核的病人在接受適當的治療下，倘若有急性腹痛的症狀出現，一定要把腸結核症列入鑒別診斷，以便能早期診斷並視病情作選擇性手術，而減少發生腸穿孔併發症。

關鍵詞：結核症、腸道結核、腸穿孔、腹膜炎

# **Chronic Pulmonary Thromboembolism — A Case Report**

Jen-Chieh Wang, Shi-Wei Lee, Chien-Hsing Lee

The presentation of pulmonary thromboembolism can vary from a clinically subtle finding to an obvious massive embolism which can result in death. However, chronic pulmonary thromboembolism may be subjectively insensible even if the lesion is extensive. When the risk factors of venous thromboembolism coexist with suggestive symptoms, we should be suspicious. At that time, early treatment will be possible to prevent the progression of the disease.

We present a male patient with a history of a previous pulmonary infarct five years ago. He had suffered from deep vein thrombosis for at least two years before having a recent onset of dyspnea, chest pain, and hemoptysis. We finally confirmed a pulmonary thromboembolism by using a lung perfusion scan and a thoracic computed tomographic scan, despite a normal D-dimer value.

Key words: pulmonary thromboembolism

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## 慢性肺動脈栓塞—病例報告

王貞傑 李世偉 李建興

肺栓塞表現多端，可從無意中發現，臨床上不重要的血栓至可能致死的急性大片肺栓塞，而慢性肺栓塞的病人即使有大片病變病患也可能無任何症狀。其診斷上的要點在病人有危險因子及可疑症狀時即須高度懷疑，及早採取治療措施方可避免病人病況的惡化。

在此我們提出一位五年前有肺梗塞且至少兩年下肢靜脈血栓及近期喘、胸痛咳血的男性病例，在經過肺灌注攝影與胸部斷層掃描證實為此病，而其 D-dimer 值卻是正常。

關鍵詞：肺栓塞

# **Non-traumatic Massive Hemothorax Caused by a Hydatidiform Mole — A Case Report and Review of the Literature**

Chien-Jen Chang, Chi-Huei Chiang

Gestational trophoblastic diseases (GTDs) include the complete and partial hydatidiform mole (benign GTDs), invasive mole, placental site trophoblastic tumor, and choriocarcinoma (malignant GTDs). GTDs, both benign and malignant, have the potential of distant metastases. The lung is the most common site of metastases.

When GTDs metastasize to the lungs, there are three principal radiologic patterns, i.e. discrete pulmonary nodules, multiple small pulmonary opacities, and pictures mimicking pulmonary embolism. Most patients are asymptomatic clinically, but some may present symptoms such as dyspnea, chest pain, cough and hemoptysis. Only a few cases of GTDs with hemothoraces have been reported in the literature. Choriocarcinoma accounted for most of those cases, and not hydatidiform moles.

Herein, we present a case of hydatidiform mole, a benign GTD, with subpleural lung metastasis, and a subsequent rare manifestation of hemothorax. Based on our report, hydatidiform moles with subpleural lung involvement should be considered as one of the etiologies in the clinical differential diagnosis for non-traumatic hemothorax.

Key words: hemothorax, gestational trophoblastic disease, hydatidiform mole, choriocarcinoma

## 葡萄胎造成非創傷性大量血胸—病例報告及文獻回顧

張建仁 江啟輝

絨毛膜腫瘤 (gestational trophoblastic disease) 包括良性絨毛膜腫瘤，如完全葡萄胎 (complete mole) 及部份葡萄胎 (partial mole) 及惡性絨毛膜腫瘤，如絨毛膜惡性瘤 (invasive mole)、原位胎盤絨毛膜腫瘤 (placenta site trophoblastic disease)、絨毛膜上皮瘤 (choriocarcinoma)。良性與惡性絨毛膜腫瘤都可能發生遠端轉移，最常轉移的器官是肺。

肺內轉移產生三種主要的影像學型態，如分散的結節，多發性邊緣不規則小陰影，類似肺栓塞的影像。臨床表現上，大部份是在胸部 X 光片上形成沒症狀的病灶；少部分有出現症狀，以氣喘、胸痛、咳嗽、咳血為較多之表徵。目前文獻上只有少數幾篇病例報導過血胸，這其中絕大多數是絨毛膜上皮瘤所造成，葡萄胎所造成的血胸則很少。

我們要報告的病例是一個葡萄胎，良性絨毛膜腫瘤，合併肋膜下肺部轉移，因犯及肋膜而造成非外傷性血胸，此為相當少見的臨床表徵。根據這病例，希望提醒醫師對較難診斷之非創傷性血胸患者應考慮是否有葡萄胎侵犯肺或肋膜的可能性。

關鍵字：血胸，絨毛膜腫瘤，葡萄胎，絨毛膜上皮瘤

## **A Case of Difficult Asthma — Churg–Strauss Syndrome**

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Han-Pin Kuo

Churg-Strauss syndrome is a systemic disease characterized by peripheral blood eosinophilia, necrotizing vasculitis of the small and medium-sized arteries, and intractable asthma. We report a 39-year-old female who had suffered from asthma for 6 years. During the period, her disease was poorly controlled despite high-dose inhaled corticosteroids. She was admitted to our hospital because of the initial presentation of lower leg swelling, numbness, claudication, and intractable asthma. The complete and differential blood count showed severe leukocytosis and eosinophilia. Skin biopsy revealed perivascular infiltrates of many eosinophils. Initially, her disease responded poorly to oral corticosteroid treatment. After high-dose methylprednisolone pulse therapy, her symptoms improved dramatically. The patient now uses inhaled corticosteroids and low-dose oral prednisolone regularly, and her disease is under good control.

Keywords: Churg-Strauss syndrome, eosinophilia, vasculitis, asthma.

## 一個困難治療的氣喘病例— Churg-Strauss 症候群

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Churg-Strauss 症候群是一個全身性的疾病，在臨床上常以周邊血液的嗜伊紅性白血球增加，壞死性的血管炎合併多器官的侵犯，以及不容易治療的氣喘為表現。

我們報告了一個三十九歲的女性，有六年氣喘的病史，在這六年當中即使使用高劑量的吸入性類固醇，她的氣喘仍然沒有辦法得到很好的控制。在今年六月由於下肢水腫和發麻，雙腿跛行，和難以控制的氣喘，她來到本院求診，在血液的檢查發現白血球和其中的嗜伊紅性白血球大量增加，皮膚的切片則發現了在血管的周圍有很多嗜伊紅性白血球的浸潤，一開始我們給予口服的類固醇，但是效果並不顯著，於是我們將類固醇換成 methylprednisolone 一千毫克靜脈注射連續五天，病人的情況才有了明顯的改善，目前病人在門診持續的追蹤，並使用低劑量的口服類固醇持續治療。

關鍵詞：Churg-Strauss 症候群，嗜伊紅性白血球，血管炎，氣喘。

# **Video-Assisted Thoracoscopic Pleurectomy for Malignant Pleural Effusion Caused by Breast Carcinoma**

Yu-Jen Cheng, Ming-Feng Hou\*, Shah-Hwa Chou, Eing-Long Kao

Malignant pleural effusion caused by breast carcinoma requires a suitable and palliative treatment. Tube thoracostomy with chemical pleurodesis is considered a standard method although the effect has not been satisfactory. Parietal pleurectomy using thoracotomy is highly effective and has been advocated in some reports, but the high operative morbidity and mortality in these moribund patients limits its performance. We adopted video-assisted thoracoscopic pleurectomy (VATP) to treat the malignant pleural effusion of a patient with breast carcinoma, to avoid the usual complications of thoracotomy and to maintain the advantage of the low recurrence rate of parietal pleurectomy.

Key words: thoracoscopy, video-assisted thoracoscopic surgery, malignant pleural effusion, breast carcinoma

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## 利用胸腔鏡施行肋膜剝離術來治療因乳癌轉移所併發的 惡性肋膜積水

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當肋膜積水發生在有乳癌病史的病人時，需要我們通盤的檢查及鑑別診斷。一旦發現為是因乳癌惡性的轉移，縱使其病況癒後不佳，也應積極的治療以減緩病人的痛苦。目前標準的治療辦法是以胸管引流再加上各種粘黏術治療為主，但是成效不甚理想。此類病人若施行開胸手術作胸腔肋膜剝離術，其造成的肋膜粘黏十分有效，可降低惡性肋膜積水的復發率。但由於高度的手術併發症及手術死亡率，使得這種手術在此病危的病人，難以施行。我們認為如果用胸腔鏡替代開胸手術作肋膜剝離術，來治療這些因乳癌併發惡性肋膜積水的病患，應可避免傳統開胸手術的缺點，並保存肋膜剝離術低復發率的優點。在此提出一病例，是利用電視輔助胸腔鏡作肋膜剝離術，來治療因乳癌轉移引發兩側惡性肋膜積水之病患，因有良好之療效，提出與各位分享。

關鍵詞：胸腔鏡，電視輔助胸腔鏡，惡性肋膜積水，乳癌