

ISSN 1023-9855



胸腔醫學

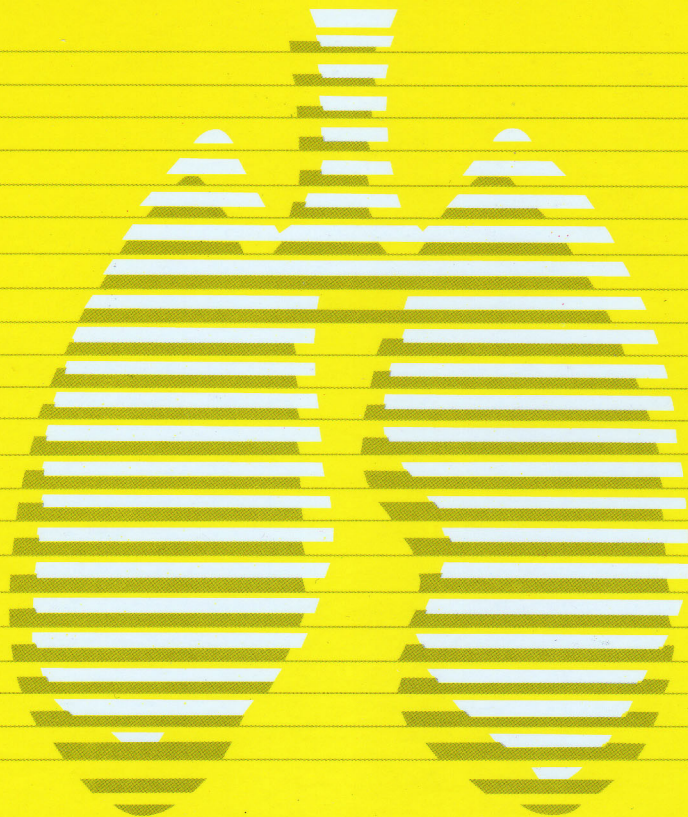
Thoracic Medicine

The Official Journal of Taiwan Society of
Pulmonary and Critical Care Medicine

Vol.33 No.4 August 2018

第三十三卷 第四期

中華民國一〇七年八月



台灣胸腔暨重症加護醫學會

83301 高雄市鳥松區大埤路 123 號

No. 123, Dapi Rd., Niasong Dist.,

Kaohsiung City 83301, Taiwan



ISSN 1023-9855



Vol.33 No.4 August 2018

胸腔醫學

Thoracic Medicine

The Official Journal of Taiwan Society
of Pulmonary and Critical Care Medicine

原著

- 在北台灣一小都會區域PM_{2.5}與氣溫對成人慢性呼吸道疾病急性發作之關聯 139~148
王秉槐

病例報告

- 藥物引起的變性血紅素導致脈動測氧器測得的氧合指數誤差之病例報告 149~155
簡郁珊，郭炳宏
- 以肺腫瘤和雙側肺門及縱膈腔淋巴結腫大為表現的破末沉著症：病例報告與文獻回顧 156~162
張麗霞，何上芸，王秉彥，林聖皓，蔡嘉富，林慶雄
- 侵襲性肺麴菌病發生於一位長期酗酒者：病例報告 163~168
張麗霞，何上芸，林聖皓，鄭寓仁，紀炳銓，林慶雄
- 肺小細胞癌合併多處骨髓轉移而核醫銻骨頭掃描呈陰性影像：一病例報告 169~174
張正彥，朱建民
- 單一結節的肺部類澱粉沉積合併正子攝影FDG升高之病例報告及文獻回顧 175~180
尤裕超，徐博奎，許文虎



Vol.33 No.4 August 2018

胸腔醫學

Thoracic Medicine

The Official Journal of Taiwan Society
of Pulmonary and Critical Care Medicine

Original Article

Association of Temperature and PM_{2.5} with Exacerbations of Adult Chronic Airway Disease
in a Small Urban Region of Northern Taiwan 139~148
Ping-Huai Wang

Case Reports

Discrepancy between Oxygen Saturation Values Derived from Pulse Oximetry and
Co-Oximetry in Drug-Induced Methemoglobinemia: A Case Report and Review of the Literature . 149~155
Yu-San Chien, Ping-Hung Kuo

A Case Report: Anthracofibrosis Presenting as a Lung Mass with Bilateral Hilar and Mediastinal
Lymphadenopathy 156~162
Li-Hsia Chang, Shang-Yun Ho, Bing-Yen Wang, Sheng-Hao Lin, Chia-Fu Tsai, Ching-Hsiung Lin

Invasive Pulmonary Aspergillosis in a Chronic Alcoholic: A Case Report..... 163~168
Li-Hsia Chang, Shang-Yun Ho, Sheng-Hao Lin, Yu-Jen Cheng, Bin-Chuan Ji, Ching-Hsiung Lin

False-Negative Technetium-99m Methylene Diphosphonate Skeletal Scintigraphy in
a Small-Cell Lung Cancer Patient with Extensive Bone Marrow Involvement: A Case Report 169~174
Cheng-Yen Chang, Chien-Ming Chu

Solitary Nodular Pulmonary Amyloidosis – A Case Report and Review of the Literature 175~180
Yu-Chao Yu, Po-Kuei Hsu, Wen-Hu Hsu

Association of Temperature and PM_{2.5} with Exacerbations of Adult Chronic Airway Disease in a Small Urban Region of Northern Taiwan

Ping-Huai Wang

Introduction: Weather temperature and PM_{2.5} are known to affect respiratory problems. However, geographic heterogeneities have also been reported. We conducted this retrospective study to investigate the association of weather temperature and PM_{2.5} with exacerbations of adult chronic airway disease in a small region of northern Taiwan.

Methods: Medical records from our outpatient clinics and emergency department from April 2013 to March 2014 were screened for a main diagnosis of ICD 9 codes 490-493 and 496. Subjects aged ≥ 18 years were included. Meteorological data were obtained from the Central Weather Bureau, and data on ambient air pollution were provided by the Environment Protection Agency.

Results: A total of 45,084 events were screened, and of these, 1,438 met the criteria of exacerbation. The number of exacerbations (N_{Ex}) occurring from the index day through the next 4 days (lag 0-4) reflected mostly the effect of ambient air conditions on chronic airway disease ($\gamma=0.329$, $p<0.001$). Weather temperature was the most significant variable related to exacerbation during the study year ($\gamma=-0.515$, $p<0.001$). The PM_{2.5} concentrations on cold ($<23.6^{\circ}\text{C}$) and hot days ($\geq 23.6^{\circ}\text{C}$) differed significantly (31.9 ± 15.7 vs. 21.6 ± 9.6 $\mu\text{g}/\text{m}^3$, $p<0.001$). Multivariate analysis showed that PM_{2.5} on cold or hot days was significantly correlated with NEx lag 0-4 ($p=0.043$ and <0.001 , respectively).

Conclusion: Weather temperature greatly affected exacerbation risk. Furthermore, PM_{2.5} was significantly associated with exacerbations of chronic airway disease, regardless of whether the weather was hot or cold. (*Thorac Med* 2018; 33: 139-148)

Key words: asthma, COPD, air pollution

Division of Thoracic Medicine, Department of Internal Medicine, Far Eastern Memorial Hospital, Banchiao, New Taipei City, Taiwan; Oriental Institute of Technology, New Taipei City, Taiwan
Address reprint requests to: Dr. Ping-Huai Wang, Division of Thoracic Medicine, Department of Internal Medicine, Far Eastern Memorial Hospital, No. 21 Sec. 2 Nan-Ya South Road, Banchiao District, New Taipei City, Taiwan

在北台灣一小都會區域 PM_{2.5} 與氣溫對成人慢性呼吸道疾病急性發作之關聯

王秉槐

簡介：氣溫和 PM_{2.5} 對於慢性呼吸疾病病人影響很大，但是這個影響有相當的地域變異性。我們進行這個回溯性研究來探討在北台灣一小都會區域 PM_{2.5} 與氣溫對成人慢性呼吸道疾病急性發作之關聯。

方法：從 2013 年四月到 2014 年三月，根據本院門診及急診紀錄，年滿 18 歲以上的病人，用主診斷 (ICD9) 為 490-3 及 496 來篩選。天氣資料來自中央氣象局板橋測站，空氣汙染資料來自環保署板橋測站。

結果：總共 45,084 個病歷資料被篩選，其中 1,438 個符合研究定義的急性發作。從當日到之後四日，這五天急性發作病例數的總和最能代表環境空氣狀態對慢性呼吸道疾病的影響 ($\gamma=0.329$, $p<0.001$)。就整個研究年度，氣溫是影響急性發作最重要的因子 ($\gamma=-0.515$, $p<0.001$)。根據平均氣溫 23.6°C，將研究年度分為冷天和熱天，PM_{2.5} 在冷天和熱天濃度有顯著差異 (31.9 ± 15.7 vs. 21.6 ± 9.6 $\mu\text{g}/\text{m}^3$, $p<0.001$)。利用多變數分析，PM_{2.5} 在冷天和熱天都與從當日到之後四日，這五天急性發作病例數的總和有顯著關聯 ($p=0.043$ 及 <0.001)

結論：氣溫對急性發作有很大影響。除此之外，不論在冷或熱天，PM_{2.5} 也跟慢性呼吸道疾病急性發作相關。(*胸腔醫學 2018; 33: 139-148*)

關鍵詞：氣喘，肺阻塞，空氣汙染

Discrepancy between Oxygen Saturation Values Derived from Pulse Oximetry and Co-Oximetry in Drug-Induced Methemoglobinemia: A Case Report and Review of the Literature

Yu-San Chien, Ping-Hung Kuo

The main factors leading to measurement errors in pulse oximetry include vasoconstriction, severe anemia, skin pigmentation and dyshemoglobinemia. Methemoglobinemia is one of the most easily overlooked conditions and may result in functional anemia and cellular hypoxia. Exogenous drugs and stress are common offenders. We report a 76-year-old woman with a history of idiopathic thrombocytopenic purpura, who was admitted to our intensive care unit because of severe community-acquired pneumonia complicated with respiratory failure. Drug-induced methemoglobinemia and a discrepancy between oxygen saturation values derived from pulse oximetry and arterial blood analysis were observed during hospitalization. After discontinuation of the offending drugs, these abnormalities gradually diminished. Experience from this case suggests that dyshemoglobinemia should be always listed in the differential diagnosis of an incorrect result from pulse oximetry in intensive care units. (*Thorac Med* 2018; 33: 149-155)

Key words: discrepancy, oxygen saturation, pulse oximetry, methemoglobinemia

Department of Internal Medicine, National Taiwan University Hospital, Taipei, Taiwan
Address reprint requests to: Dr. Ping-Hung Kuo, Department of Internal Medicine, National Taiwan University Hospital, No. 7, Chung-Shan South Road, Taipei 100, Taiwan

藥物引起的變性血紅素導致脈動測氧器測得的 氧合指數誤差之病例報告

簡郁珊 郭炳宏

脈動測氧器臨床上常用來監測病患的血氧濃度；而導致其讀數異常的原因包括嚴重的血管收縮、嚴重貧血、皮膚表面色素沉著、及變性血紅素等。其中變性血紅素跟正常血紅素相比，攜帶氧氣的功能較差，可能因此造成細胞缺氧，形成主要跟藥物的使用或承受壓力有關。

我們報告一位 76 歲的女性，因肺炎併發呼吸衰竭入住加護病房。病患因血小板低下併紫斑症，故需要每天服用 dapsone，因痰液培養出 *Stenotrophomonas maltophilia*，故使用 levofloxacin 與 trimethoprim/sulfamethoxazole 治療。在住院過程中，她的動脈測氧器測得的氧合指數，明顯比動脈血氧分析所測得的值低，其變性血紅素濃度也有升高；故我們立即停用上述藥物，而兩種氧合指數都漸趨正常。

由這個經驗，我們應注意所監測病患的血氧濃度可能會受到體內變性血紅素的影響，而有錯誤的讀數，若證實有這樣的狀況，應立刻停止使用可能相關的藥物。(*胸腔醫學* 2018; 33: 149-155)

關鍵詞：變性血紅素 (methemoglobin)，脈動測氧器，氧合指數

A Case Report: Anthracofibrosis Presenting as a Lung Mass with Bilateral Hilar and Mediastinal Lymphadenopathy

Li-Hsia Chang, Shang-Yun Ho, Bing-Yen Wang, Sheng-Hao Lin, Chia-Fu Tsai,
Ching-Hsiung Lin

Anthracofibrosis is a medical term introduced to the thoracic literature in 1969. It is characterized by a bronchoscopic finding of multiple dark anthracotic pigmentations on large airway mucosa with and without bronchial narrowing or obliteration. The incidence of anthracofibrosis is rising due to the increasing air pollution, tuberculosis, biomass fuel, and mineral dust exposure. Anthracofibrosis should be considered as an additional differential diagnosis for bilateral hilar and mediastinal lymphadenopathy, even without bronchial narrowing. There are documented associations between anthracosis and lung cancer (especially squamous cell, small cell carcinoma and adenocarcinoma) in recent reports; therefore, every patient with anthracofibrosis, a detailed history-taking regarding exposure to risk factors is critical. (*Thorac Med* 2018; 33: 156-162)

Key words: anthracofibrosis, mediastinal lymphadenopathy, anthracosis, indoor air pollution

Division of Chest Medicine, Department of Internal Medicine, Changhua Christian Hospital, Changhua, Taiwan
Address reprint requests to: Dr. Ching-Hsiung Lin, Division of Chest Medicine, Department of Internal Medicine,
Changhua Christian Hospital, No. 135 Nanshiao Road, Changhua City, 500, Taiwan

以肺腫瘤和雙側肺門及縱膈腔淋巴結腫大為表現的 碳末沉著症：病例報告與文獻回顧

張麗霞 何上芸 王秉彥 林聖皓 蔡嘉富 林慶雄

碳末沉著症首先在 1969 年胸腔醫學文獻被發現。它的特點是經由支氣管鏡發現多個黑碳末色素沉著在大氣道的粘膜而造成有或無支氣管狹窄及閉塞。其發生率隨著空氣污染，肺結核，生物燃料使用和礦物粉塵暴露而增加。本案例主要報導一位 72 歲的職業畫家男性，因胸悶和呼吸困難而就醫。其胸部電腦斷層顯示肺腫瘤和雙側肺門及縱膈腔淋巴結腫大，最終被證實為碳末淋巴結內腫大。因此，在無支氣管狹窄的雙側肺門和縱膈腔淋巴結腫大的鑑別診斷，碳末沉著症應被列入。最近的醫學文獻記載，碳末沉著症與肺癌的發生有相關性（尤其是鱗狀細胞癌，小細胞癌和腺癌）。因為有證據顯示其未來會發展成肺癌的可能性，所以對於每位碳末沉著症之患者，詳細詢問暴露的危險因子是至關重要的。（*胸腔醫學* 2018; 33: 156-162）

關鍵詞：碳末沉著症，縱膈腔淋巴結腫大，煤塵肺病，室內空氣污染

Invasive Pulmonary Aspergillosis in a Chronic Alcoholic: A Case Report

Li-Hsia Chang, Shang-Yun Ho*, Sheng-Hao Lin, Yu-Jen Cheng**, Bin-Chuan Ji, Ching-Hsiung Lin

Invasive pulmonary aspergillosis (IPA) is a cause of life-threatening opportunistic infection in severely immunocompromised individuals, causing the mortality rate to dramatically increase. IPA has been reported in patients without classical risk factors. Non-classical risk factors are high-dose steroid in COPD patients, liver cirrhosis, and disturbed immunoregulation due to critical illness; however, chronic alcoholism has not been reported as a risk factor before.

Chronic alcoholics may often times be considered prone to IPA due to impaired lung defense mechanisms; however, IPA should be considered as a differential diagnosis for every case of antibiotic-resistant rapidly progressive pneumonia in chronic alcoholics. (*Thorac Med* 2018; 33: 163-168)

Key words: invasive pulmonary aspergillosis, alcoholic lung, fungal infection immunology

Department of Internal Medicine, Division of Chest Medicine; *Department of Radiology, **Department of Infection
Changhua Christian Hospital, Changhua, Taiwan

Address reprint requests to: Dr. Ching-Hsiung Lin, Department of Internal Medicine, Division of Chest Medicine ,
Changhua Christian Hospital, No. 135 Nanshiao Road, Changhua City, 500, Taiwan

侵襲性肺麴菌病發生於一位長期酗酒者：病例報告

張麗霞 何上芸* 林聖皓 鄭寓仁** 紀炳銓 林慶雄

侵襲性肺麴菌病在嚴重免疫不全的病人是造成重要致命性的伺機性感染。侵襲性肺麴菌病在沒有任何傳統危險因子的病人身上被報導過。這些非傳統的危險因子包括：使用高劑量類固醇的慢性阻塞性肺部疾病，肝硬化或因為嚴重的疾病造成免疫調節受到干擾。但是，長期酗酒過去並沒有被報導為危險因子。

一位 56 歲長期酗酒者有間歇性發燒及乾咳 2 週。他一開始被當成細菌性肺炎治療，但是隨後因為呼吸衰竭而死亡。經由半乳甘露聚糖抗原，肺泡沖洗液培養及支氣管切片，他被診斷為侵襲性麴菌病。

長期酗酒可以考慮為傾向產生侵襲性肺麴菌病及破壞肺部的防禦機制。在長期酗酒的病人，每個抗生素抗藥性及快速進展的肺炎個案，侵襲性肺麴菌病要被列為鑑別診斷。(胸腔醫學 2018; 33: 163-168)

關鍵詞：侵襲性肺麴菌病，酒精性肺，黴菌感染免疫學

False-Negative Technetium-99m Methylene Diphosphonate Skeletal Scintigraphy in a Small-Cell Lung Cancer Patient with Extensive Bone Marrow Involvement: A Case Report

Cheng-Yen Chang, Chien-Ming Chu

Small-cell lung cancer, 1 of the most common lung cancers, is characterized by an extremely aggressive clinical course with frequent widespread metastases. The skeletal system is a common metastatic site for small-cell lung cancers. Whole body bone scans have good sensitivity for detecting bone metastases in clinical practice. However, in rare cases such as unusual bone lesions, whole body bone scans may produce false negative results. In this case, a 79-year-old man with small cell lung cancer refractory to standard chemotherapy treatment and palliative radiation experienced progressive lower back pain. Technetium-99m methylene diphosphonate (Tc-99m MDP) whole body bone scan revealed nonspecific low-intensity uptake in the thoracic spine, but whole-spine magnetic resonance imaging (MRI) revealed multiple spinal metastases. MRI is superior to whole body bone scan for detecting bone marrow metastases and lytic bone lesions, and should be considered as an adjunctive method for evaluating patients with clinical symptoms of bone metastasis who show negative or nonspecific uptake on whole body bone scans. (*Thorac Med* 2018; 33: 169-174)

Key words: small-cell lung cancer, Tc-99m MDP whole body bone scan, bone marrow metastases, magnetic resonance imaging

Pulmonary and Critical Care Medicine, Respiratory Care Department, Chang Gung Memorial Hospital, Keelung, Taiwan, ROC

Address reprint requests to: Dr. Chien-Ming Chu, Pulmonary and Critical Care Medicine, Respiratory Care Department, Chang Gung Memorial Hospital, Keelung, 222, Mai-Chin Road, Keelung 204, Taiwan, ROC

肺小細胞癌合併多處骨髓轉移而核醫鎔骨頭掃描呈陰性影像：一病例報告

張正彥 朱建民

肺小細胞癌是肺部常見的惡性腫瘤，它常具有遠處轉移的傾向，而骨頭系統常是肺小細胞癌好發轉移的部位。我們經常在臨床上利用鎔-99 核醫骨頭掃描做肺小細胞癌是否合併骨頭轉移的檢查。鎔-99 核醫骨頭掃描檢查的敏感度很高，可以提供臨床評估很好的資訊。但在某些特殊骨髓轉移的病灶，在鎔-99 核醫骨頭掃描檢查會呈現陰性反應。我們報告一位 79 歲肺小細胞癌病人，經化學治療及放射線治療後，出現漸進性下背痛的症狀。在初步鎔-99 核醫骨頭掃描呈現無特異性局部陽性反應，而後經核磁共振檢查，顯示出多處脊椎骨及骨髓內腫瘤轉移病灶。顯示在初步鎔-99 核醫骨頭掃描呈現無特異性反應但在臨床上依然高度懷疑有骨頭轉移病灶之肺癌病人，應進一步進行核磁共振檢查。(*胸腔醫學* 2018; 33: 169-174)

關鍵詞：小細胞肺癌，核子全身骨骼掃描，骨轉移，磁共振造影

Solitary Nodular Pulmonary Amyloidosis – A Case Report and Review of the Literature

Yu-Chao Yu^{*,**}, Po-Kuei Hsu^{*,***}, Wen-Hu Hsu^{*}

Amyloidosis is a disease resulting from abnormal extracellular deposits of protein (insoluble amyloid polymers) in body tissues. Amyloidosis is classified into light-chain (AL) and reactive (AA) types. The deposit of these proteins leads to progressive organ injury and even death. However, localized pulmonary amyloidosis is rare and the findings on PET/CT scan are unclear. We herein report a 68-year-old female patient suffering from upper chest pain, and examinations showed a pulmonary nodule. FDG uptake was noted on the PET/CT scan. The diagnosis was made after video-assisted thoracoscopic surgery. This case study suggests that localized nodular pulmonary amyloidosis should be considered as a differential diagnosis of a newly diagnosed solitary pulmonary nodule. Pathologic examination should be performed to distinguish this disease from other diseases, especially pulmonary malignancies. (*Thorac Med* 2018; 33: 175-180)

Key words: pulmonary amyloidosis, PET/CT scan

*Division of Thoracic Surgery, Department of Surgery, Taipei Veterans General Hospital, Taipei, Taiwan;

Department of Surgery, National Yang-Ming University Hospital, I-Lan, Taiwan; *School of Medicine, National Yang-Ming University, Taipei, Taiwan

Address reprint requests to: Dr. Yu-Chao Yu, Division of Thoracic Surgery, Department of Surgery, Taipei Veterans General Hospital, 201, Section 2, Shih-Pai Road, Taipei, Taiwan

單一結節的肺部類澱粉沉積合併正子攝影 FDG 升高之 病例報告及文獻回顧

尤裕超^{*,**} 徐博奎^{*,***} 許文虎^{*}

類澱粉沉積是由不可吸收之類澱粉聚合物所形成不正常蛋白質，在身體組織內的細胞外質沉積所造成的疾病。類澱粉沉積的分類包括 ligh-chain 型 (AL 型) 和 reactive 型 (AA 型)，這些類澱粉沉積會逐漸的造成器官受損，進而導致死亡。然而局限性的類澱粉沉澱是很少見的，在正子攝影上的表現也不甚清楚。在此我們報告一個 68 歲女性，因為胸痛，在檢查後發現有單一的胸部結節，而正子攝影發現此節結對 FDG 有所升高。結節確切的診斷來自於胸腔內視鏡手術，而此病例告訴我們應該將局限性的肺部類澱粉沉澱，放進新發現單一肺部結節之鑑別診斷中，而確切的病理診斷是很重要的，尤其是要能夠和肺部惡性癌症區別。(*胸腔醫學* 2018; 33: 175-180)

關鍵詞：肺部類澱粉沉積，正子攝影

* 台北榮民總醫院 外科部 胸腔外科，** 國立陽明大學附設醫院 外科部，*** 國立陽明大學醫學院
索取抽印本請聯絡：尤裕超醫師，台北榮民總醫院 外科部 胸腔外科，11217 台北市北投區石牌路二段 201 號