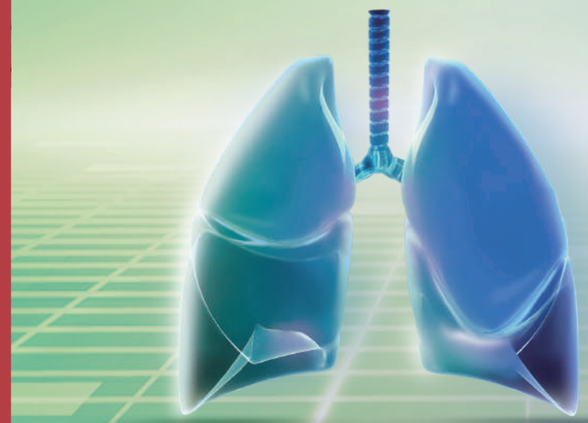
台灣胸腔暨重症加護醫學會
Taiwan Society of Pulmonary and
Critical Care Medicine

台灣胸腔暨重症加護醫學會
2022夏季會

2022 Summer Workshop of Taiwan Society of Pulmonary and Critical Care Medicine

Contents

點擊標題可前往頁面



2022 年 07 月 09 日（星期六）

點擊標題可前往頁面

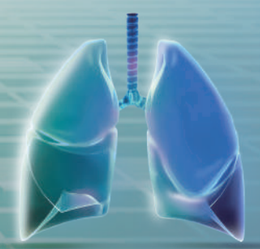
10:30	Registration			
12:00 | 13:20	宴會III廳	百合廳	桐花廳	梅花廳
	Airway Disease 荷商葛蘭素史克藥廠股份有限公司台灣分公司贊助	**Airway Disease** 臺灣阿斯特捷利康股份有限公司贊助	**Critical care** 新加坡商必帝股份有限公司贊助	**Airway Disease** 賽諾菲股份有限公司贊助
13:30 | 14:05	宴會III廳		宴會II廳	
	Progressive fibrosing interstitial lung disease: shining a light on an extension of IPF Moderator：**林慶雄副院長** Speaker ：**陳靜宜醫師**		**Biomarkers for Differentiating Active TB and Latent TB infection** Moderator：**黃明賢副院長** **涂智彥主任** Speaker ：**劉家榮主任**	
14:05 | 14:40	**Review and prospect in treatment of IPF** Moderator：**何肇基教授** Speaker ：**沈煥庭主任**		**The Possible Transmission Route for NTM** Moderator：**鍾欽文院長** **李岡遠副院長** Speaker ：**黃虹綾醫師**	
14:40 | 15:00	Coffee Break			
15:00 | 15:35	宴會III廳	宴會II廳	百合廳	
	Treatment of Patients with Pulmonary Hypertension Due to Interstitial Lung Disease Moderator：**徐武輝副院長** **高國晉教授** Speaker ：**唐士恩主任**	**The association of asthma and COVID-19: current perspective** Moderator：**王鶴健理事長** Speaker ：**陳冠元醫師**	**出國進修經驗分享座談** Moderator：**林恒毅院長** **陳育民教授** **詹明澄主任** Speaker ：**許超群教授** **張博瑞主任** **馮嘉毅主任** **陳家弘醫師**	
15:35 | 16:05	**Lung transplantation in CTD-ILD: The physician's perspective** Moderator：**徐武輝副院長** **高國晉教授** Speaker ：**黃繼賢主任**	**COPD: Coagulation-associated Pulmonary Disease: A comprehensive Literative Review** Moderator：**彭殿王教授** Speaker ：**王俊隆主任**		
16:05 | 16:40	**Lung transplantation in CTD-ILD: The surgeon's perspective** Moderator：**徐武輝副院長** **高國晉教授** Speaker ：**江旰恒醫師**	**Industry Trends of Thoracic Cavity Precision Health in Hsinchu Science Park** Moderator：**余忠仁院長** Speaker ：**黃博偉副處長**		
16:50 | 18:10	宴會II廳	百合廳	桐花廳	梅花廳
	Airway Disease, ILD and Oncology 台灣百靈佳殷格翰(股)公司贊助	**Airway Disease** 臺灣阿斯特捷利康股份有限公司贊助	**Oncology** 嬌生股份有限公司楊森藥廠贊助	**Airway Disease** 荷商葛蘭素史克藥廠股份有限公司台灣分公司贊助
18:30 | 20:30	晚宴			

2022 年 07 月 10 日（星期日）

點擊標題可前往頁面

08:30	Registration	
08:40 | 09:20	宴會III廳	宴會II廳
	Application of Artificial Intelligence (AI) in ARDS Moderator：**曹昌堯教授** **吳杰亮副院長** Speaker ：**趙文震醫師**	**Sleep and Airway Disease** Moderator：**陳濘宏教授** Speaker ：**莊立邦主任**
09:20 | 10:00	**Application of Business Intelligence (BI) in ARDS** Moderator：**曹昌堯教授** **吳杰亮副院長** Speaker ：**曾皓陽醫師**	**The causal relationship between Interstitial Lung Disease (ILD) & Obstructive Sleep Apnea (OSA)** Moderator：**杭良文教授** Speaker ：**傅彬貴主任**
10:00 | 10:20	Coffee Break	
10:20 | 11:00	宴會III廳	宴會II廳
	Recent progress about ECMO in ARDS Moderator：**黃崇旂教授** **陽光耀教授** Speaker ：**錢穎群醫師**	**Role of liquid NGS at time of suspected advanced NSCLC** Moderator：**施金元教授** **夏德椿主任** Speaker ：**楊景堯醫師**
11:00 | 11:40	**Recent progress about Cell Therapy in ARDS** Moderator：**黃崇旂教授** **陽光耀教授** Speaker ：**張克威醫師**	**Body fluid based analysis of driver mutations in non-small cell lung cancer** Moderator：**林孟志教授** **王金洲主任** Speaker ：**江起陸醫師**
11:50 | 13:10	宴會II廳	百合廳	桐花廳	梅花廳
	Oncology 台灣拜耳股份有限公司贊助	**Oncology** 台灣必治妥施貴寶股份有限公司 台灣小野藥品工業股份有限公司贊助	**Oncology** 武田藥品工業股份有限公司贊助	**Airway Disease** 友華生技醫藥股份有限公司贊助

大 會 結 束



晚宴資訊

(席次有限，需先報名取得晚宴入場卷，一卷一人)

謹訂於 111年07月09日(星期六) 晚上06點30分

設宴於 **新竹豐邑喜來登大飯店 東館5樓多功能廳**
(新竹縣竹北市光明六路東一段265號)

因防疫考量及場地限制下，晚宴席次有限。
請於06/20開始，於學會官網「2022夏季會專區」報名，額滿為止。
將於大會報到時發放晚宴入場券，憑卷入場。
若有任何問題請洽學會秘書處(02-23144089、0910-356-922)。

晚宴接駁車(車滿即發車):
- 07/09 20:00發車,新竹喜來登→高鐵新竹站
- 07/09 20:30發車,新竹喜來登→高鐵新竹站

(實際發車時間以大會晚宴結束為主)

接駁車時刻表

07/09(六)10:00-18:30，每半小時發車
07/10(日)07:30-13:30，每半小時發車

◎ 07/09(六)不行駛
＊ 07/10(日)不行駛

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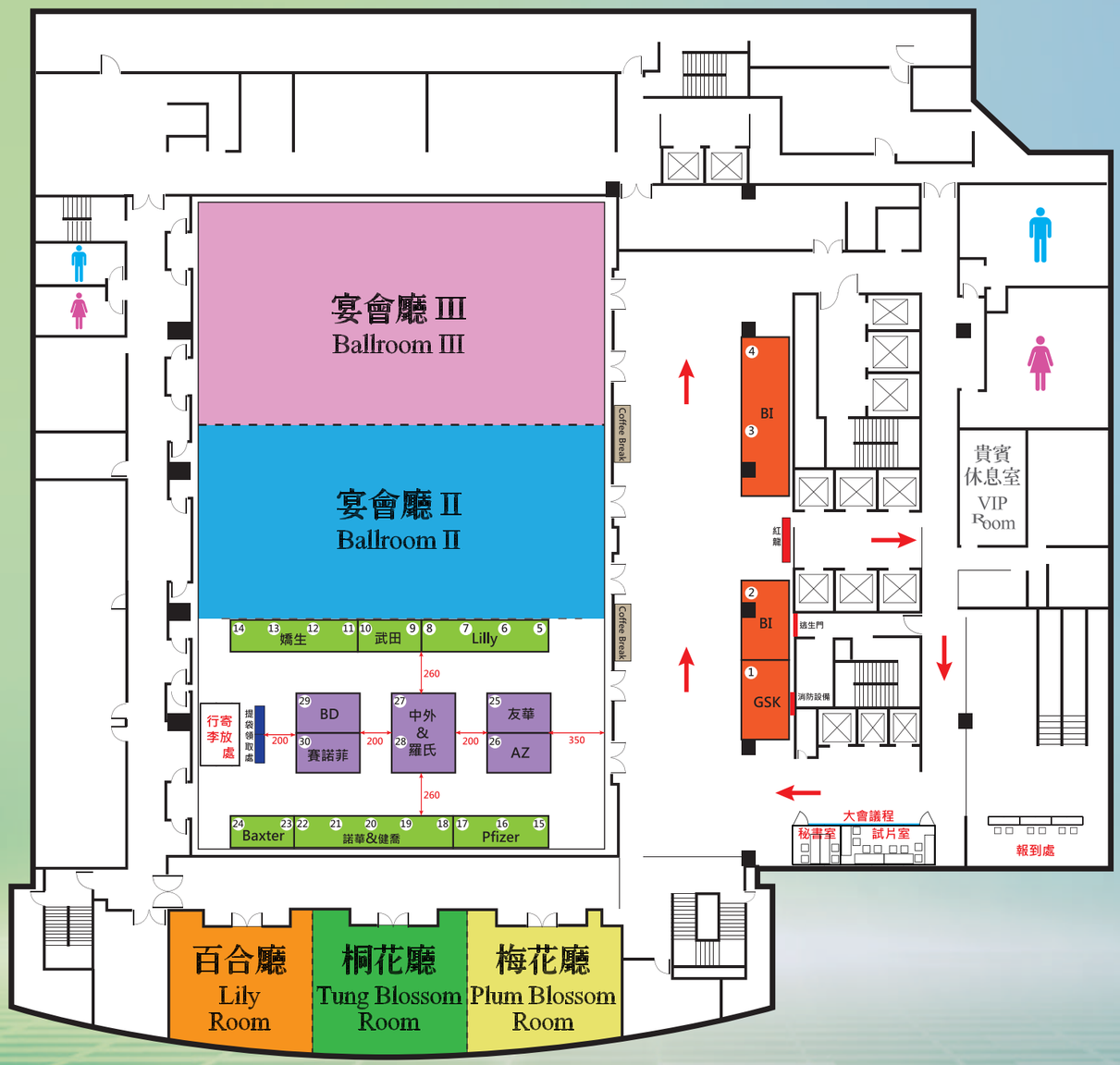
場地平面圖



宴會 III 廳

點擊標題可前往頁面

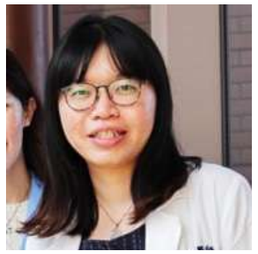
07/09

- Progressive fibrosing interstitial lung disease: shining a light on an extension of IPF / **漸進性纖維化間質性肺病 : 點亮特發性肺纖維化之外的黑暗**
- Review and prospect in treatment of IPF
- Treatment of Patients with Pulmonary Hypertension Due to Interstitial Lung Disease / **間質性肺疾病併發肺動脈高壓之治療**
- Lung transplantation in CTD-ILD: The physician's perspective / **肺移植於 CTD-ILD 的角色 : 內科醫師觀點**
- Lung transplantation in CTD-ILD: The surgeon's perspective / **肺移植於 CTD-ILD 的角色 : 外科醫師觀點**

07/10

- Application of Artificial Intelligence (AI) in ARDS / **人工智慧於 ARDS 的應用**
- Application of Business Intelligence (BI) in ARDS
- Recent progress about ECMO in ARDS / **葉克膜於 ARDS 的最新進展**
- Recent progress about Cell Therapy in ARDS / **細胞治療於 ARDS 的最新進展**

Agenda



Progressive fibrosing interstitial lung disease: shining a light on an extension of IPF

漸進性纖維化間質性肺病 : 點亮特發性肺纖維化之外的黑暗

陳靜宜 / Ching-Yi Chen, M.D
現職：義大醫院一般內科主治醫師
專長：Thoracic Oncology, Chronic Airway Disease, Obesity and Pulmonary Disease, Tuberculosis and Infectious Disease, Interstitial Lung Disease, Internal medicine, Critical care medicine

Abstract

Interstitial lung diseases (ILDs) are a heterogeneous group of disorders with various clinical courses characterized by inflammation or fibrosis of the pulmonary parenchyma. The prevalence of ILD is estimated at 74 cases per 100,000 in the USA and 76 cases per 100,000 in Europe and varies widely between age ranges. Idiopathic pulmonary fibrosis (IPF) is a prototype of progressive fibrosing ILD with a poor prognosis. Almost 13 to 40% of all non-IPF ILD cases will develop a progressive fibrosing phenotype (PF-ILD). Potential risk factors in PF-ILD includes specific connective tissue diseases, race, smoking, chronic aspiration or dust exposure, and continuous exposure to environmental antigens. Some researches indicate genetic factors may play an important role in PF-ILD.

Differentiating PF-ILDs from IPF within the spectrum of fibrotic lung diseases is important as it has management implications. There is no standardized definition. Clinical findings culminating in a PF-ILD diagnosis include the history of exposure or family disease, the presence of worsening cough and exertional dyspnea, physical finding of auscultatory fine crackles, and elevated circulating autoantibodies. Chest high-resolution computed tomography (HRCT) revealed typical pattern of architectural distortion with fibrosis. Multidisciplinary team discussion for PF-ILD is important for the diagnosis. Based on clinical trials, PF-ILD was defined with fibrosis exceeding 10% of lung volume on recent chest HRCT, FVC decline ≥10% of the normal predicted values within the preceding 24 months, and FVC decline by 5% -10% of the normal predicted values within 24 months and with either worsening symptoms or worsening CT scan may indicate progressive fibrosis.

Management of PF-ILD includes pharmacologic treatment and non-pharmacologic treatment. First-line pharmacologic therapy in PF-ILD consists of treatment of the underlying disorder, such as immunosuppressive agents. Antifibrotic therapy may reduce FVC decline in systemic sclerosis-ILD and other PF-ILDs which play an important role in the change of the patients' life.

PF-ILD robs patients' breath and life gradually. We are working hard to shine a light on understanding, recognize, and change it.

Review and prospect in treatment of IPF

沈煥庭 / Huan-Ting Shen, M.D.
現職：台中慈濟醫院胸腔內科主任
專長：上呼吸道感染、肺炎、肺結核、氣喘、慢性阻塞性肺病、肋膜積水、氣胸、肺癌、重症加護醫學、敗血症、呼吸治療、胸腔影像學判讀、胸部超音波檢查、支氣管鏡檢查

Abstract

Idiopathic pulmonary fibrosis (IPF) is the most common fibrotic ILD. IPF presented with an imaging and pathological pattern of usual interstitial pneumonia (UIP) without identifiable cause. It occurs more commonly in men and is more common in people older than 60 years of age. IPF is a chronic and irreversible disease, gradually progressing to respiratory failure and death. The advance of anti-fibrotic agents and associated skills in this decade raise the hope of the IPF treatment. In this lecture, I will review the classic articles and clinical trials of the IPF treatment and try to point out the possible trends in the future.

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Agenda

Treatment of Patients with Pulmonary Hypertension Due to Interstitial Lung Disease
間質性肺疾病併發肺動脈高壓之治療

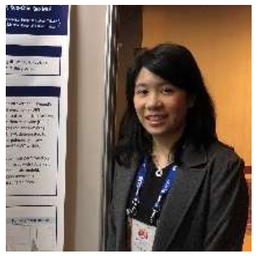
唐士恩 / Shih-En Tang, M.D., Ph.D.
現職：三軍總醫院 將官檢查室主任
國防醫學院 醫學系助理教授
專長：重症醫學、胸腔呼吸道疾病、胸腔感染、胸腔疾病診斷

Abstract

Pulmonary hypertension (PH) is a common complication of interstitial lung disease (ILD) and is associated with worse outcomes and increased mortality. The World Health Organization (WHO) classifies patients with PH into five groups based upon etiology. Group 3 PH can be caused by several lung disorders including obstructive lung disease, restrictive lung disease (eg, interstitial lung disease, kyphoscoliosis), other lung disease with mixed obstruction and restriction (eg, pulmonary fibrosis with emphysema), hypoxia without lung disease (eg, high altitude, sleep-disordered breathing, obesity hypoventilation), developmental lung disorders (eg, bronchopulmonary dysplasia, congenital lobar emphysema). Treatment of the underlying condition is indicated in all patients with group 3 PH.

Pharmacologic agents used for Pulmonary arterial hypertension (PAH)-directed therapy include prostacyclin pathway agonists (eg, epoprostenol, treprostinil, iloprost, selexipag), phosphodiesterase-5 (PDE5) inhibitors (eg, sildenafil, tadalafil), nitric oxide-cyclic guanosine monophosphate enhancers including soluble guanylate cyclase stimulators (riociguat) and endothelin receptor antagonists (ERA; eg, bosentan, ambrisentan, macitentan). While many of these agents have efficacy in the treatment of patients with group 1 PAH, their efficacy in group 3 PH is limited, and in some cases may be harmful. With the exception of inhaled treprostinil, none of these agents have been approved for use in group 3 PH. The poor performance of PAH-directed therapy in this population may be partially explained by vasodilatory effects of these agents that may exacerbate ventilation-perfusion abnormalities and worsen gas exchange in patients with lung disease.

This lecture will focus on the management of PH-ILD, with particular reference to previous and current pharmacologic studies in this area.



Lung transplantation in CTD-ILD: The physician's perspective

肺移植於 CTD-ILD 的角色 : 內科醫師觀點

黃繼賢 / Chi-Hsien Huang, M.D.
現職：桃園長庚內科病房主任、桃園長庚胸腔科主治醫師
專長：胸腔醫學、重症醫學、肺癌、肺移植

Abstract

Lung transplantation is now recognized as a last resort for extending and improving quality of life in end stage lung disease. The global population of interstitial lung disease receiving lung transplantation has been increasing in the past decade, surpassing COPD and has become the most common indication of lung transplantation. Among interstitial lung disease, connect-tissue disease related interstitial lung disease (CTD-ILD) encompasses a wide group of autoimmune disorders that have pulmonary fibrosis as one of their manifestations. Despite the established benefit for lung transplantation in idiopathic pulmonary fibrosis, solid evidence of that in CTD-ILD is still developing. In the talk, evidence illuminating the unique feature of CTD-ILD in pre-transplantation medical therapy, transplantation referral timing and post-transplantation multidisciplinary care will be reviewed.

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Agenda

Lung transplantation in CTD-ILD: The surgeon's perspective

肺移植於 CTD-ILD 的角色 : 外科醫師觀點

江旰恒 / Xu-heng Chiang, M.D.
現職：台大醫院教學部 主治醫師
專長：一般胸腔手術、內視鏡胸腔手術、胸腔創傷手術

Abstract

Interstitial lung diseases (ILDs), arising from a broad spectrum of divergent etiologies, can also be one the most serious pulmonary complications of an underlying autoimmune or connective tissue disease (CTD-ILD). For example, systemic lupus erythematosus, rheumatoid arthritis, progressive systemic sclerosis, dermatomyositis and polymyositis, ankylosing spondylitis, Sjogren's syndrome, and mixed connective tissue disease are representative CTDs that may cause ILD, the leading cause of death in patients with CTD.
The management of CTD-ILD is challenging because of the large heterogeneity in disease behavior and the lack of solid guidance of standard treatments for clinicians. Conventional therapies for CTD-ILD indicate immunosuppressive agents including either glucocorticoids or glucocorticoid-sparing drugs. Even though the progression of CTD-ILD is often irreversible and probably leads to end-stage interstitial pulmonary fibrosis.
Lung transplantation has emerged as a viable option for patients with end-stage CTD-ILD, and is also indicated by the International Society for Heart and Lung Transplantation's treatment guideline for CTD-ILD. However, CTD patients are often considered suboptimal candidates for lung transplantation due to concerns about unpredictable outcomes and complex postoperative care. Therefore, only around 1% of all lung transplants are associated with CTD-ILD between 1995 to 2016.
Thus, limited experience has been shared by lung transplantation surgical teams either worldwide or from Taiwan. We have reviewed the existing literature and would share our own experience about CTD-ILD and lung transplantation.

Application of Artificial Intelligence (AI) in ARDS
人工智慧於 ARDS 的應用

趙文震 / Wen-Cheng Chao, M.D., Ph.D.
現職：臺中榮總重症醫學部主治醫師
專長：胸腔重症、免疫醫療、人工智慧

Abstract

Artificial intelligence (AI), including machine learning and deep learning, is increasingly used in medical fields, so-called health intelligence (HI). AI-facilitated health care requires the education of clinicians to use and design the AI-HI in the near future.
The machine learning model processes numerous features and generates classification/ prediction models with relatively high accuracy; however, the practical application of machine learning in the medical field remains challenging due to the lack of explanation, so-called black-box issue. In this talk, we will demonstrate how we develop explainable machine learning to establish outcome prediction models using Taiwan Severe Influenza Dataset, prolonged mechanical ventilation and critical care datasets at Taichung Veterans General Hospital. In brief, we provided interpretability at domain-level, feature-level and individual-level through illustrating cumulative feature importance based on clinical domains, SHapley Additive exPlanations (SHAP), partial dependent plot (PDP), and Local Interpretable Model-agnostics (LIME). We will also show how we cooperated with Industrial Technology Research Institute and used a deep learning-based pain classifier by the facial expression of critically ill patients.
We will then focus on ARDS and demonstrate how we used Grad-CAM to illustrate the interpretability of determination of acute respiratory distress syndrome (ARDS) by chest X-ray (CXR). Accumulating evidence have shown that the crucial need for ARDS subendotypes and under-recognition of ARDS are currently two essential clinical niches in ARDS. A number of machine learning-based approaches have been used to identify ARDS sub-phenotype, mainly hyper-inflammatory and hypo-inflammatory subendotypes. Moreover, automated ARDS recognition by clinical variables and ventilatory waveforms might be enhanced by computer-aided pattern recognition in the near future.
In conclusion, physicians should be educated to use and design AI-aided health care in ARDS, particularly automated detection and identification of subendotype of ARDS.

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Agenda

Application of Business Intelligence (BI) in ARDS Introduction

曾皓陽 / How-Yang Tseng, M.D.
現職：中國醫藥大學附設醫院胸腔暨重症系主治醫師
專長：一般內科學、胸腔疾病及重症加護醫學

Abstract

The health system produces and stores more electronic data than ever before. Intensive care unit (ICU) clinicians are especially exposed to a large amount of information from many sources, including electronic medical reports, bedside monitors, laboratory results, mechanical ventilator data, and interprofessional recommendations.
The use of electronic business intelligence (BI) systems for data analytics and visualization can improve the efficiency of the data-driven decision-making process through real-time analytics for data collection, management, and integration. “Microsoft Power BI” is one of the BI tools that gather, process, and turn big data into visually compelling and easy-to-process charts and graphs, which can also improve the service quality in the medical system.
Acute respiratory distress syndrome (ARDS) is a critical condition with high mortality rate. Lung protective strategy and adjunctive intervention are associated with improved survival in patients with ARDS. However, the implementation of effective therapies remains low.
The experience in China medical university hospital (CMUH) ICU of using BI for data real-time visualization and data-driven decision support is associated with improvement in ARDS diagnosis, lung protective strategy and adjunctive therapy, which enhanced the outcomes of patients with ARDS in the ICU. And this work indicates the potential for enhancing the management of patients with ARDS.

Recent progress about ECMO in ARDS
葉克膜於 ARDS 的最新進展

錢穎群 / Ying-Chun Chien, M.D., Ph.D.
現職：臺大醫院胸腔內科主治醫師
專長：胸腔重症、胸腔感染症、肺癌

Abstract

Extracorporeal membrane oxygenation (ECMO) is a heart-lung by-pass machine as a lifesaving therapy in patients with refractory respiratory failure or cardiac failure. Severe acute respiratory distress syndrome (ARDS) is one of the causes of refractory respiratory failure. The majority of patients requiring ECMO for ARDS uses veno-venous cannulation (VV-ECMO). In this section, we will review the evidence of ECMO for adult ARDS and some related topics will be covered, such as sedation, mechanical ventilator settings, and prone combination. During COVID pandemic, ECMO was also applied for a lot of patients with COVID-related respiratory failure or ARDS. There are no data to suggest deviation from conventional ECMO device or patient management when applying ECMO for them. But there is still little difference in practice. The updated information will be provided.

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2022 Summer Workshop of Taiwan Society of Pulmonary and Critical Care Medicine
Agenda

Recent progress about Cell Therapy in ARDS
細胞治療於 ARDS 的最新進展

張克威 / Ko-Wei Chang, M.D.
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Abstract

Mesenchymal stromal cell (MSC) therapies have been developed for several different kinds of disease nowadays, such as degenerative disease, orthopedic disease, autoimmune disease, or immune rejection, and they are also emerging as a promising therapeutic choice for patients with acute respiratory distress syndrome (ARDS). In the previous researches, the possible mechanisms that the MSC therapies improving ARDS outcomes include immunomodulatory effect, reparative effect, and antimicrobial effect. Although there are only a few clinical trials about MSC therapies in ARDS patients published, such as START study and MUST ARDS study, more and more studies are in progress especially during the COVID-19 pandemic. However, there are still many unsolved problems with using MSC in ARDS patients like the optimal dose, optimal frequency, administration route, and so on. It is necessary to have more researches to widely apply MSC therapies to ARDS patients.

宴會 II 廳

點擊標題可前往頁面

07/09

- Biomarkers for Differentiating Active TB and Latent TB infection / 用於區分活動性結核病和潛伏結核感染的生物指標
- The Possible Transmission Route for NTM / NTM 可能的傳播途徑
- The association of asthma and COVID-19: current perspective
- COPD: COagulation-associated Pulmonary Disease: A comprehensive Literature Review / 重新認識”阻塞性”肺病
- Industry Trends of Thoracic Cavity Precision Health in Hsinchu Science Park / 新竹科學園區胸腔精準健康產業趨勢

07/10

- Sleep and Airway Disease / 睡眠和呼吸道疾病
- The causal relationship between Interstitial Lung Disease (ILD) & Obstructive Sleep Apnea (OSA) / 間質性肺病與阻塞性睡眠呼吸中止症之因果關係
- Role of liquid NGS at time of suspected advanced NSCLC/ 疑似晚期肺癌時 , 液態次世代基因定序的角色
- Body fluid based analysis of driver mutations in non-small cell lung cancer/ 非小細胞肺癌病患使用體液檢體進行基因檢測之臨床應用

台灣胸腔暨重症加護醫學會
Taiwan Society of Pulmonary and Critical Care Medicine
台灣胸腔暨重症加護醫學會2022夏季會
2022 Summer Workshop of Taiwan Society of Pulmonary and Critical Care Medicine

Agenda

Biomarkers for Differentiating Active TB and Latent TB infection

用於區分活動性結核病和潛伏結核感染的生物指標

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Abstract

Tuberculosis (TB) remains a global infectious disease that threatens humanhealth. The latest data indicate that a considerable percentage of the population with latent TB infection (LTBI) and the lack of differential diagnosis between LTBI and active TB may be potential reasons for the high TB morbidity and mortality. The tuberculin skin test (TST) and interferon-gamma release assays (IGRA) have been used to detect TB infection. However, these methods failed to distinguish LTBI from active TB. A better biomarker for differentiating active TB and LTBI is needed.

Since TB infection is a complicated interaction between Mycobacterium tuberculosis (Mtb) and the host's immune response, the development of a biomarker that can differentiate LTBI from active TB might come from both the mycobacteria and its host. From the aspect of mycobacteria, antigens encoded in the LTBI-region of difference (RD) of Mtb are promising biomarkers for discriminating LTBI from active TB. From the aspect of hosts, markers of immune cells and levels of host cytokines including IFN-gamma, TNF-alpha, IL-2, IL-10, IL-17, IP-10, IL-12, VEGF may also serve as useful biomarkers. Furthermore, with the progress of artificial intelligence and bioinformatics, new algorithms such as the ImmunoScore (IS) model have been introduced in distinguishing LTBI from active TB. In addition, omics technologies have provided valuable insights for understanding the transcriptomic, proteomic, and metabolomic changes of TB infection during dormancy and reactivation.

Generally said, optimal biomarkers for differentiating active TB and LTBI are still lacking currently. The development of a better diagnostic technology requires a deep understanding of both the mycobacteria and its host. This may become an active area of future research.

The Possible Transmission Route for NTM
NTM 可能的傳播途徑

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Abstract

Nontuberculous mycobacteria (NTM) are known as environmental organisms, they are commonly found in both natural environments, and human engineered environment, such as soil, dust and water in many parts of the world. In general, aerosolization and subsequent inhalation were the major route of NTM lung disease. In addition to environmental factors, host factors play an important role in the development of NTM lung disease. Though most of NTM diseases are not contagious, but person to person transmission has been reported in sporadic cases with destruction lung diseases. The impact of demographic diversity on distribution of different NTM species has been identified, which might be contributed from climate, temperature, soil quality and humidity. As the global increase of both NTM isolate numbers and the incidence of NTM lung disease, a comprehensive understanding of the infection source, transmission route and epidemiology of NTM is essential for the prevention and control NTM infection.

台灣胸腔暨重症加護醫學會
Taiwan Society of Pulmonary and Critical Care Medicine
台灣胸腔暨重症加護醫學會2022夏季會
2022 Summer Workshop of Taiwan Society of Pulmonary and Critical Care Medicine
Agenda

The association of asthma and COVID-19: current perspective

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Abstract

Asthma is a disease characterized of airway inflammation, airway hyperresponsiveness and airway remodeling, which interacted with respiratory virus closely and contribute to each other. Therefore, in the pandemic of COVID-19 caused by the novel coronavirus SARS-CoV-2, we will discuss the update perspective of the association of asthma and COVID-19 in different aspects, including the role of SARS-CoV-2 for asthma initiation and exacerbation, whether asthma as a risk factor for SARS-CoV2-2 infection and COVID-19 prognosis, the relationship between severity, phenotype and endotype of asthma with COVID-19 risk and outcomes, the impact of asthma medications including biologics for severe asthma on the risk for SARS-CoV-2 infection and disease severity. Finally, the possible linkage of COVID-19 vaccination and asthma exacerbation.
In brief summary, the current evidence demonstrated SARS-CoV-2 infection contribute to asthma development is unknown and asthma may not be an independent risk factor of SARS-CoV-2 infection and disease severity. There is conflicting data about the severe asthma and COVID-19 severity but more severe asthma seemed to have higher risk of severe COVID-19. Regarding phenotype of asthma, non-allergic and comorbidities such as obesity, diabetes mellitus and hypertension increased COVID-19 severity. Furthermore, type-2 inflammatory endotype of asthma appears to reduce COVID-19 severity. In terms of impact of asthma medications on COVID-19, inhaled corticosteroid (ICS) is safe and may reduce severity of COVID-19, but chronic or recurrent use of systemic corticosteroid before SARS-CoV-2 infection may worse outcome of COVID-19. Biological treatment is severe asthma patients is safe and suggested to maintain. Lastly, the data on COVID-19 vaccination and asthma are scarce and may be potential risk for asthma exacerbation.

COPD: COagulation-associated Pulmonary Disease: A comprehensive Literature Review

重新認識”阻塞性”肺病

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Abstract

As we know, chronic obstructive pulmonary disease (COPD) ranks as third leading cause of mortality worldwide recently. Besides airflow limitation , the COPD related inflammatory process could be regarded as systemic involvement. Acute exacerbation of COPD (AECOPD) is life threatening and associated with poor prognosis. Activation of coagulation and hypercoagulability status play important role in both stable and AECOPD. Venous thromboembolism and cardiovascular comorbidities are encountered when dealing with COPD patients. Further approach for thromboembolic events and risks identification are crucial in clinical practice. In this review, initially we focus the essential elements and factors involved in the coagulation process like fibrinogen、D-dimer、thrombin、thrombin-antithrombin (TAT) complex、intrinsic and extrinsic pathway、protein C、protein S, etc. The determination of prognostic factors and prediction for COPD disease process are also discussed. The effects of possible anticoagulation therapy in COPD and optimal timing and approach methods are also elucidated. After this review, we provide a brand new concept in clinical scenario and deliver integrated care program and in time discovery of coagulation issue in COPD management.

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Taiwan Society of Pulmonary and Critical Care Medicine
台灣胸腔暨重症加護醫學會2022夏季會
2022 Summer Workshop of Taiwan Society of Pulmonary and Critical Care Medicine
Agenda

Industry Trends of Thoracic Cavity Precision Health in Hsinchu Science Park

新竹科學園區胸腔精準健康產業趨勢

黃博偉 副處長
現職：金屬工業研究發展中心醫療器材處副處長
專長：生物技術與醫療器材、法規與醫療器材、生醫材料、醫療器材法規

Abstract

Precision Health is an revolutionary approach which takes individual differences in people's genes, environments, and lifestyles into account, allowing healthcare professionals to provide precise and effective diagnosis and treatments for the right person at the right time. The Hsinchu Science Park has gradually become Taiwan's most important Precision Health ecosystem park. Currently, there are 116 Biotechnology medical device companies in the park, Taiwan has successfully boosted the development of the Precision Health industry cluster. Facing the fierce competition of globalization, Taiwan needs to enhance its competitiveness with interdependent clustering and highly integrated labor division. Thus, the HSP Precision Health cluster was formed to promote international branding and marketing, so that medical devices made in Taiwan become visible internationally.

Sleep and Airway Disease
睡眠和呼吸道疾病

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Abstract

Obstructive airway disease is a leading cause of morbidity and mortality and may frequently be complicated by sleep disorders. Insomnia and obstructive sleep apnea are commonly encountered in patients with obstructive airway disease. Nocturnal hypoxemia is also prevalent in obstructive airway disease may occur despite adequate awake oxygenation and can be especially severe in rapid eye movement sleep. Additionally, several factors can contribute to sleep-related hypoventilation. Recognition of hypoventilation can be vital as supplemental oxygen therapy itself can acutely worsen hypoventilation and lead to disastrous consequences. Comorbid sleep disorders portend worse sleep quality, diminished quality of life, and multifarious other adverse consequences. The awareness and knowledge regarding sleep comorbidities in obstructive airway disease has continued to evolve over past many years. There are still several lacunae, however, in our understanding of the etiologies, impact, and therapies of sleep disorders, specifically in patients with obstructive airway disease. This talk summarizes the concepts in prevalence, pathogenesis, diagnosis, and management of diverse sleep disorders in obstructive airway disease.

台灣胸腔暨重症加護醫學會
Taiwan Society of Pulmonary and Critical Care Medicine
台灣胸腔暨重症加護醫學會2022夏季會
2022 Summer Workshop of Taiwan Society of Pulmonary and Critical Care Medicine
Agenda

The causal relationship between Interstitial Lung Disease (ILD) & Obstructive Sleep Apnea (OSA)
間質性肺病與阻塞性睡眠呼吸中止症之因果關係

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專長：間質性肺病 (肺纖維化)、嚴重型氣喘、慢性阻塞性肺病、胸腔感染重症及呼吸衰竭

Abstract

Obstructive sleep apnea (OSA) is one of the most common comorbidities in patients with interstitial lung disease (ILD). The relationships between ILD and OSA are complex and possibly bidirectional. This lectures will review the current evidence and hypotheses regarding different aspects of the relationships between ILD and OSA, emphasizing the interactions between epidemiology, pathogenesis, and pathophysiology.

Role of liquid NGS at time of suspected advanced NSCLC

疑似晚期肺癌時 , 液態次世代基因定序的角色

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專長：內科學、胸腔醫學、肺癌、呼吸道內視鏡

Abstract

An expanding spectrum druggable driver mutations have been found in non-small cell lung cancer (NSCLC) with non-squamous histology in recent decades, including EGFR, ALK, ROS1, BRAF, MET, RET, KRAS, and NTRK, making the utility of broad molecular profiling via next-generation sequencing (NGS) at the initial diagnosis of advanced lung cancer an efficient approach. However, single-gene molecular tests for each driver gene are still carried out for untreated lung cancer patients in many institutes. The high cost, low accessibility, and long turnaround time form barriers to preclude the wide application of NGS. Liquid biopsy to analyze plasma cell-free DNA by NGS is another attractive method characterized by the advantages of less invasiveness and shorter turnaround time.[3-5] Thus, performing liquid NGS in addition to tissue genotyping could be a reasonable strategy that may decrease the time to treatment and identify more patients harboring driver mutations not detected by routine genetic tests.

We have conducted a prospective randomized trial “Blood First Taiwan: Guardant360 Use at the Time of Suspected Advanced Stage Non-Small Cell Lung Cancer (NSCLC)” which enrolled patients with suspicious advanced NSCLC and are expected to undergo tumor workup. All the eligible patients receive liquid NGS (Guardant360; Guardant Health, Redwood City, CA) immediately at the first visit and are randomized into two groups: Group A patients obtain the NGS results after the pathological diagnosis and the routine 4-gene molecular testing (EGFR, ALK, ROS1, and BRAF) turn out; group B patients are informed of the NGS results once the test is completed. The primary endpoint is the time-to-treatment of NSCLC, and the secondary endpoints are the proportion of confirmed advanced NSCLC diagnosis, the proportion of detected driver genes, objective response rate (ORR), progression-free survival (PFS), and overall survival (OS) relevant to anti-cancer therapies. A total of 180 patients were enrolled in our study, with 87 in group A and 93 in group B. Subjects with benign disease, other cancer types, small cell lung cancer, early-stage NSCLC were excluded, and there were 63 group A patients and 59 group B advanced NSCLC patients entering the final analysis. Most of the patients were adenocarcinoma (group A: 49 of 63, 77.8%; group B: 47 of 59, 79.7%). The prevalence of EGFR in the two groups was also similar, with 57.1% (36 of 63) in group A and 56.6% (34 of 59) in group B. Other driver mutations were rare in the two groups (group A: 2 ALK, 1 ROS1; group B: 2 BRAF and 1 MET exon 14 skipping). The median time to treatment of group A vs B was 33 vs 20 days, with a p-value <0.0001. The result was similar in patients receiving targeted therapy or chemo/immunotherapies. Among EGFR mutant patients who were treated with EGFR TKI, the ORR and PFS did not differ in group A and B (A vs B: ORR 53.8% vs 60.4%, p=0.412; PFS NE vs 11.9 months, p=0.329). However, in patients treated with immunotherapy with or without chemotherapy, group B patients seemed to have a longer PFS (A vs B, 4.5 vs NE months, p=0.010), though the data was premature. The enrollment of the prior study was stopped in Dec. 2021.

台灣胸腔暨重症加護醫學會
Taiwan Society of Pulmonary and Critical Care Medicine
台灣胸腔暨重症加護醫學會2022夏季會
2022 Summer Workshop of Taiwan Society of Pulmonary and Critical Care Medicine
Agenda

Body fluid based analysis of driver mutations in non-small cell lung cancer

非小細胞肺癌病患使用體液檢體進行基因檢測之臨床應用

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專長：一般胸腔內科、胸腔腫瘤、重症照護、胸腔超音波、支氣管鏡

Abstract

The identification of targetable gene alterations has transformed the management of advanced non-small cell lung cancer (NSCLC). The incorporation of tumor genotyping allows individualized therapy and leading to remarkable responses in selected patients treated with matched targeted therapies. Testing for tumor genomic alterations by using peripheral blood samples, commonly referred to as liquid biopsy, can be performed as a surrogate for tissue molecular testing when the tumor specimen is not enough. Liquid biopsy could be used concurrently or sequentially to tissue genotyping in clinical practice. However, the sensitivity of blood-based assay maybe relatively low in patients with low tumor volume due to the shedding of tumor-derived material could be limited.
Liquid biopsy is not limited to plasma, and tumor DNA circulating in other body fluids such as pleural fluid, cerebrospinal fluid, or cytology specimen-derived supernatant can be analyzed. In comparison to cell blocks, these fluids in close contact to the tumor may contain a more abundant tumor DNA with lower background noise compared to plasma. For example, we evaluated the usefulness of effusion supernatants as a medium for EGFR mutation testing in patients with EGFR–mutant NSCLC and malignant effusions. High detection rates were observed, and the rates in the sediment and supernatants were comparable. Notably, testing of supernatants from cytologically negative effusions yielded a mutation detection rate as high as 60% in these samples that are typically not subjected to molecular testing. Resistance mutations were also detected in the effusions of patients who had received EGFR–TKI treatment.
In this presentation, the clinical applications of body fluid-based analysis through cell-free tumor DNA to detect driver mutation in patients with advanced NSCLC will be reviewed.

百合廳

出國進修經驗分享座談

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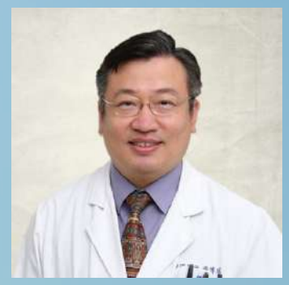
專長： 一般內科、胸腔內科、呼吸照護、結核病學、重症醫學
出國經驗：美國維吉尼亞州立大學醫學中心臨床研究員、美國哈佛大學公衛學院博士後研究員

張博瑞 / Po-Jui Chang, M.D., Ph.D.



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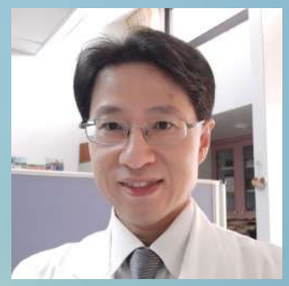
專長：難治型及嚴重氣喘、慢性阻塞性肺病及肺部復健、肺癌、重症醫學
出國經驗：英國倫敦大學帝國學院心肺研究中心博士

馮嘉毅 / Jia-Yih Feng, M.D., Ph.D.



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專長：慢性咳嗽、氣喘 / 氣促、慢性阻塞性肺疾病、肺感染症、肺結核病、胸腔腫瘤疾病、間質性肺病、重症照護
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Satellite Symposium

點擊標題可前往頁面

07/09

宴會 III 廳

- Airway Disease｜荷商葛蘭素史克藥廠股份有限公司台灣分公司贊助

宴會 II 廳

- Airway Disease & ILD & Oncology｜台灣百靈佳殷格翰股份有限公司贊助

百合廳

- Airway Disease｜臺灣阿斯特捷利康股份有限公司贊助
- Airway Disease｜臺灣阿斯特捷利康股份有限公司贊助

桐花廳

- Critical care｜新加坡商必帝股份有限公司贊助
- Oncology｜嬌生股份有限公司楊森藥廠贊助

梅花廳

- Airway Disease｜賽諾菲股份有限公司贊助
- Airway Disease｜荷商葛蘭素史克藥廠股份有限公司台灣分公司贊助

07/10

宴會 II 廳

- Oncology｜台灣拜耳股份有限公司贊助

百合廳

- Oncology｜台灣必治妥施貴寶股份有限公司 / 台灣小野工業股份有限公司贊助

桐花廳

- Oncology｜武田藥品工業股份有限公司贊助

梅花廳

- Oncology｜友華生技醫藥股份有限公司贊助

Agenda

宴會 III 廳 / 荷商葛蘭素史克藥廠股份有限公司台灣分公司贊助

How to predict treatment outcome of severe asthma, algorithm of initiating and switching biologics

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專長：肺癌、肺阻塞、 氣喘、特代性肺纖維化、肺炎、敗血症、內視鏡氣切手術

Abstract

台灣每年約 12 萬人罹患帶狀疱疹，台灣人患帶狀疱疹的終生風險高達 32.2%。帶狀皰疹患者絕大部分會經歷中重度疼痛，且高達 30% 的帶狀疱疹患者可能發生帶狀疱疹後遺神經痛 (post-herpetic neuralgia, PHN)，其疼痛可持續數月至數年之久。針對發生 PHN 的病人，即便使用緩解神經痛的藥物，僅有 14% 的病患達到滿意的症狀緩解。此外，若病人本身為 COPD 或 Asthma 的患者，罹患帶狀疱疹的風險也會提高。因此、疫苗成為預防帶狀疱疹的重要工具。這個常見且高度影響患者健康和生活品質的疾病即將有新的疫苗進駐台灣。 非活性重組帶狀疱疹疫苗的保護力和安全性為何？ 高風險族群為何？ 國內外如何建議接種？…在【帶狀疱疹疫苗最新進展】將為您提供最新的資訊和解答。

Critical appraisal of GINA 2022 update

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專長：氣喘及慢性阻塞性肺疾、慢性咳嗽、結核及感染性疾病

Abstract

氣喘是常見而且可能進程為嚴重的慢性呼吸道疾病，大幅增加病人及家庭社會的負擔。氣喘病患過度依賴急救藥物，而未常規使用含規律型吸入性類固醇藥物作為氣喘治療，可能使病患呼吸道持續在慢性發炎反應的狀態，久而久之造成氣道塑化，進一步加劇氣喘發作及惡化的風險。
GINA 全球哮喘防治創議其 2021 及 2022 的指引中，根據近年來幾篇臨床研究之結果，將氣喘治療依照急救藥物使用的不同，將氣喘治療分為兩個路徑，路徑一為”以低劑量 ICS-formoterol 為緩解藥物”，路徑二則為”以 SABA 為緩解藥物”，並標明路徑一為較偏好路徑。但根據 GINA 全球哮喘防治創議所引用的近年來幾篇臨床研究之結果及其實驗設計，真的路徑一”以低劑量 ICS-formoterol 為緩解藥物”在不同的 GINA STEP 皆為氣喘治療的最佳選擇嗎？而對於減少急救藥物的使用，並讓病患得到更好的氣喘控制，是否有其他的治療選擇及方法來幫助病患？這是筆者想透由這次演講跟各位先進及同好一起探討！

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Mortality in COPD: what should be alerted?

張博瑞 / Po-Jui Chang, M.D., Ph.D.
現職：林口長庚紀念醫院呼吸胸腔科系呼吸道疾病科主治醫師 / 林口長庚紀念醫院助理教授
專長：氣喘及慢性阻塞性肺疾、慢性咳嗽、結核及感染性疾病

Abstract

Chronic obstructive pulmonary disease (COPD) is ranked as the 3rd leading cause of death worldwide and the 8th leading cause of death in Taiwan in 2020, which represents an enormous burden to healthcare system and society. While recent studies provided new data that inhaled triple therapies could reduce all-cause mortality compared to dual therapies, it's worth considering who may benefit from treatment escalation. Large real-world evidence indicated only 6-23% of participants would be eligible for clinical trials of inhaled triple therapies in COPD. Majority of patients with COPD do not experience moderate to severe exacerbation in prior year. In a pooled analysis of over 6,000 patients showed no differences in survival between LAMA/LABA and LAMA/LABA/ICS in patients with moderate-to-very-severe COPD and a predominantly low risk of exacerbations, suggesting that the survival benefit of triple therapy seen in some recent studies may be specific to a high-risk population. In addition to reducing mortality, objectives of COPD management should be paid more attention on improving respiratory symptoms, lung function and comorbidities to prevent exacerbations.

台灣胸腔暨重症加護醫學會
Taiwan Society of Pulmonary and Critical Care Medicine
台灣胸腔暨重症加護醫學會2022夏季會
2022 Summer Workshop of Taiwan Society of Pulmonary and Critical Care Medicine
Agenda
宴會 II 廳 / 台灣百靈佳殷格翰股份有限公司贊助

What's hot in ILD

蔡英明 / Ying-Ming Tsai, M.D., Ph.D.
現職：高雄醫學大學醫學院副教授 / 胸腔內科主治醫師
專長：一般內科疾病、呼吸系統疾病（咳嗽、氣喘、支氣管炎、肺炎、慢性阻塞性肺病、肺結核 ...）、重症加護

Abstract

This year, ATS 2022 conference has been returning to an in-person format in San Francisco after two years on a virtual platform. Each year, thousands of respiratory medicine professionals gather to present and learn about groundbreaking advancements in the field at this great annual respiratory event. Due to the restriction from COVID contingence, I accessed the meeting via the virtual platform. Although I am not on-site in person, I still learned a lot. With my greatest honor and greatest humbleness, I would like to share my learning with my dear colleagues. I will try my best to address the hottest ILD topics in the 2022 ATS in my presentation and hope it will be useful for your clinical practice reference.
First, I would like to share the updates on 2022 ATS/ERS/JRS/ALAT's clinical practice guideline for IPF and PPF (Progressive Pulmonary Fibrosis) in adults. The key summary for the update of IPF is addressed as "Cryobiopsy is conditionally recommended regarding transbronchial lung cryobiopsy as an acceptable alternative to surgical lung biopsy in centers with appropriate expertise". No recommendation was made for or against genomic classifier testing. Conditional recommendations were made against antacid medication and antireflux surgery for the treatment of IPF. Besides IPF, the biggest update this year is to give the definition and recommendation for PPF. The guideline adopts the new term "progressive pulmonary fibrosis (PPF)", which is more acceptable for clinicians, instead of using the established term progressive fibrosing ILD. The key summary for PPF is addressed as "PPF was defined as at least two of three criteria (worsening symptoms, radiological progression, and physiological progression) occurring within the past year with no alternative explanation in a patient with an ILD other than IPF". The guideline also recommended current two antifibrotics, nintedanib and pirfenidone, and which one is the optimal choice for the management of IPF/PPF based on their clinical evidence.
Second, I would like to share my learning about key updates in current management IPF/PF-ILD/PPF. Nintedanib and pirfenidone are the recommended medicine to treat IPF. For other progressive fibrosing ILD, nintedanib has more comprehensive clinical evidence to support its role in PF-ILD/PPF. Thus, the new guideline 2022 only recommended nintedanib to treat IPF and PPF. For pirfenidone, it seems no more new clinical evidence to support its usage in ILD. Besides antifibrotics therapy, there are some remarkable findings in non-pharmacological therapy. In this session, I will present the key updated clinical evidence of pharmacological and non-pharmacologic therapies. I would also take some time to address the AE-ILD and what's the optimal clinical practice to mitigate the impact of AE-ILD.
Finally, I will share the information on new pipelines and novel treatments of IPF/PF-ILD/PPF. We can see there are several pipelines ongoing. The most attractive pipeline is BI1015550, a phosphodiesterase 4b inhibitor (PDE4b inhibitor). In its phase 2 result, BI

1015550 is novel PDE4b inhibitor showing a preferential enzymatic inhibitor of PED4B. According to the just-published result, BI1015550 has a differentiated target profile from approved PDE4 inhibitors and works synergistically with nintedanib. FDA has granted BI1015550 as the breakthrough therapy designation for IPF this February. In my presentation, I will demonstrate details of the BI 1015550 study design and its results.

台灣胸腔暨重症加護醫學會
Taiwan Society of Pulmonary and Critical Care Medicine
台灣胸腔暨重症加護醫學會2022夏季會
2022 Summer Workshop of Taiwan Society of Pulmonary and Critical Care Medicine
Agenda

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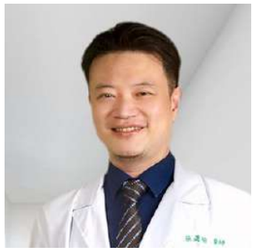

Optimal Consideration for Maximal Clinical Benefits in Various EGFR-mutant Populations

張晟瑜 / Cheng-Yu Chang, M.D.
現職：亞東醫院胸腔內科專任主治醫師 / 肺癌團隊召集人 / 亞東醫院副教授
專長：肺癌、慢性咳嗽、氣喘、慢性支氣管炎、肺炎、肺結核、重症醫學、老人醫學

Abstract

Worldwide, lung cancer is the most common cancer among men for both incidence and mortality, and among women has the third-highest incidence (after breast and colorectal cancers) and second-highest mortality (after breast cancer). There are two main types of lung cancer, small cell lung cancer (SCLC) and non-small cell lung cancer (NSCLC). In non-small cell lung cancer, adenocarcinoma is the largest population. About one-third of cases of NSCLC have metastatic disease, and 60–70% of SCLC have the extensive-stage disease. Survival for lung cancer falls as the stage at diagnosis becomes more advanced. The epidermal growth factor receptor (EGFR) regulates cell proliferation, apoptosis, angiogenesis, and tumor invasion. Mutations and amplification of EGFR are common in NSCLC, and they provide the basis for treatment with EGFR inhibitors. In Taiwan, about 50-60% of adenocarcinoma patients harbor EGFR sensitizing mutation. Driver mutations in the EGFR gene are found in a subset of lung adenocarcinomas and define cancers in which tumor cell survival is exquisitely dependent on epidermal growth factor receptor (EGFR) pathway signaling. The standard first-line therapy is EGFR tyrosine kinase inhibitors (TKIs) for patients with advanced non–small-cell lung cancer with a mutant epidermal growth factor receptor (EGFR). Afatinib is a selective, orally bioavailable ErbB family blocker that irreversibly blocks signaling from epidermal growth factor receptor (EGFR/ErbB1), human epidermal growth factor receptor 2 (HER2/ErbB2), and ErbB4 and has wide-spectrum preclinical activity against EGFR mutations. There are many different patient characteristics and mutation types that might have different treatment outcomes, such as brain metastasis, elderly, Asian, L858R, Del 19, and uncommon mutation patients. In this personalized medication era, how to choose the optimal treatment sequence has become critical for physicians. Due to recent progress in clinical trials and real-world evidence. Dr. Chang will give a speech about how to gain optimal outcomes and maximal clinical benefits in various EGFR-mutant populations according to recent evidence.

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Latest publication in GINA 2022 & how to prevent SABA trap in Taiwan local practice

傅彬貴 / Pin-Kuei Fu, M.D., Ph.D.
現職：臺中榮總間質性肺病整合照護中心主任 / 教育部定副教授
專長：間質性肺病 (肺纖維化)、嚴重型氣喘、慢性阻塞性肺病、胸腔感染重症及呼吸衰竭

Abstract

GINA 2022 的發表和近一年來更多的氣喘臨床實證揭開了 SABA 使用可能帶來的問題。本演講將針對氣喘最新發表，與台灣的臨床規範做結合，探討如何將文獻數據中看到對氣喘病人的效益，轉化為台灣臨床上可行的處方策略。

Advances in COPD care to address patients‘ unmet needs with real world case sharing

陳家弘 / Chia-Hung Chen, M.D.
現職：中國醫藥大學附設醫院 內科部胸腔暨重症系 主治醫師
專長：介入性支氣管鏡與呼吸道疾病包括慢性阻塞性肺病、氣喘

Abstract

現行慢性阻塞性肺病治療有許多不同藥物及吸入劑的選擇，然而整體疾病照護上仍未臻完善。本演講將討論目前在慢性阻塞性肺病治療上有哪些未被滿足的病患需求，同時也將探討新的複方吸入劑 Glycopyrronium/Formoterol 的科學實證與臨床案例分享，提供臨床醫師另一個不同的選擇，以期能幫助臨床治療之決策。

台灣胸腔暨重症加護醫學會
Taiwan Society of Pulmonary and Critical Care Medicine
台灣胸腔暨重症加護醫學會2022夏季會
2022 Summer Workshop of Taiwan Society of Pulmonary and Critical Care Medicine
Agenda

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會議時間 17:00-17:30

The evolving concept of clinical remission, where are we now

傅彬貴 / Pin-Kuei Fu, M.D., Ph.D.
現職：臺中榮總間質性肺病整合照護中心主任 / 教育部定副教授
專長：間質性肺病 (肺纖維化)、嚴重型氣喘、慢性阻塞性肺病、胸腔感染重症及呼吸衰竭

會議時間 17:30-17:50

How to apply the concept of clinical remission in real life

陳家弘 / Chia-Hung Chen, M.D.
現職：中國醫藥大學附設醫院 內科部胸腔暨重症系 主治醫師
專長：介入性支氣管鏡與呼吸道疾病包括慢性阻塞性肺病、氣喘

Abstract

嚴重性氣喘已邁向精準醫療的時代，生物製劑在嚴重氣喘治療上也具顯著的發展，討論 ” 治療目標 ” (Treat to Target) 或 Clinical Remission 也成為目前最火紅的議題。
特別邀請國內專家探討目前的研究進展，以及生物製劑在治療目標上的達成；也分享如何落實在臨床實務經驗中。同時間會議中也會發表，集結台灣嚴重氣喘專家對此議題的最新共識！

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Peripherally inserted central catheter in ICU setting - Patient selection and Placement

鄭宏煒 / Hung-Wei Cheng, M.D.
現職：臺北榮民總醫院 麻醉部 主治醫師
專長：一般麻醉 / 婦幼麻醉 / 長期中央靜脈導管置放 / 醫學模擬教育

Abstract

Peripherally-inserted central venous catheters (PICC) have been widely used for central venous access for long-term IV therapy .PICCs have been increasingly utilized because of safer placement and a lower rate of insertion-related mechanical complications and infection. Recently, ultrasound-guided PICC has been performed by many physicians. It has been also performed by intensivists at the bedside for critically ill patients who were transport risks. Moreover, experience sharing of what patients criterion are suitable for placing PICC in the wider range of clinical setting.

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Clinical considerations on navigating the diagnosis of common and rate EGFR mutations

謝明書 / Min-Shu Hsieh, M.D., Ph.D.
現職：台大醫院副教授 兼專任主治醫師 專長：胸腔病理、頭頸部病理

Abstract

EGFR mutations counts for roughly 50% of total mutations in Asia populations. Exon 19 and Exon 21 (L858R) can be sufficiently identified by traditional real-time polymerase reactions (PCR). Unlike Exon 19 and Exon 21, the 3rd most common EGFR mutation, Exon 20 insertion mutations, account for up to 4-12% of all mutations in EGFR mutations cannot be fully captured by PCR (cobas®).) As a consequence, next-generation sequencing (NGS) will need to adopt in company with PCR to identify all exon 20 insertions variants so that corresponding treatments can be accurately given.
Here we will run through some of the currently available single-gene PCR test and NGS panels on their clinical pros and cons specifically for the detection of exon 20 insertions.
Finally, some of the latest advanced in multi-gene PCR technique will also be discussed to evaluate its potential application in Taiwan to serve as an alternatives when NGS is not clinical accessible to patients (self-paid).

台灣胸腔暨重症加護醫學會
Taiwan Society of Pulmonary and Critical Care Medicine
台灣胸腔暨重症加護醫學會2022夏季會
2022 Summer Workshop of Taiwan Society of Pulmonary and Critical Care Medicine
Agenda

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Updating the strategy tackling EGFR Exon 20 Insertion Mutation: how to identify and how to sequence treatments

廖唯昱 / Wei-Yu Liao, M.D., Ph.D.
現職：臺大醫院胸腔內科主治醫師、臨床副教授
專長：一般內科胸腔科肺癌

Abstract

Exon 20 insertion is the third most common EGFR mutations occurred in adenocarcinoma Non-small-cell lung cancer (NSCLC) patients. These types of abnormality are known for bad treatment outcome when treated with 1st or 2nd generation tyrosine kinase inhibitors (TKIs) due to its resistance mechanisms. Amivantamab, the EGFR-MET bispecific antibody binds to each receptor's extracellular domain and therefore bypassing resistance at the TKI binding site.
The pivotal study, CHRYSALIS, is a phase I, open-label, dose-escalation, and dose-expansion study, investigating the efficacy and safety profile of amivantamab for patients with exon 20 insertion. Here we will briefly go through the original result of CHTYSALIS in terms of response rate, PFS and OS. A newly released data on the response analysis of patients with stable diseases in CHRYSALIS will be presented as well as other recent updates.
Based on the internal analysis of NTUH on the genetic profiles of patients with exon 20 insertion, it is found that nearly 40-50% of exon 20 insertion variants cannot be detected by traditional cobas® EGFR Mutation Test. How to clinical utilize NGS along with conventional PCR tests to optimize the screening of exon 20 insertions will also be briefly mentioned.

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Role of IL-4/IL-13 in Type 2 Inflammatory Diseases and clinical outcome in the treatment of severe asthma

郭漢彬 / Han-Pin Kuo, M.D., Ph.D.
現職：臺北醫學大學臨床醫學研究所教授、臺北醫學大學人工智慧醫療碩士在職專班教授
專長：胸腔醫學、臨床理學、臨床免疫學、臨床藥理學、腫瘤醫學

Abstract

Type 2 airway inflammation, characterized by eosinophilia and an elevated fraction of exhaled nitric oxide, mediates the vast majority of severe allergic and non-allergic asthma. Interleukin (IL)-4, IL-5, and IL-13 released from Th2 and non-Th2 cells, such as ILC2 cells, mast cells, basophils, eosinophils, etc. are crucial and central cytokines that drive the type 2 inflammation. IL-5 is involved in eosinophil maturation, activation, and survival prolongation. IL-4 and IL-13 are implicated in B cell maturation & class-switch, airway remodeling & fibrosis, airway smooth muscle proliferation & contractility, airway hyper-responsiveness, mast cell and basophil maturation & migration, eosinophil trafficking, and goblet cell metaplasia & mucus production. Most importantly, IL-4 and IL-13 cause epithelial barrier disruption by decreasing the expression of tight junction proteins, which allows submucosal penetration of allergens, pollutants, and micro-organism invasion. Epithelial disruption may trigger the release of epithelium-derived alarmins further augmenting T2 inflammation. Recent studies have also demonstrated the implication role of neurogenic inflammation in atopic diseases, including asthma. Type 2 cytokines, such as IL-13, elevate the ion channel expression on the mucosal epithelium and sensory nerve fibers, inducing bronchoconstriction and mucus hyper-secretion through the release of neuropeptides or activation of Transient receptorpotential (TRP) channel. Anti-IL4Rα therapy has been shown to reduce asthma exacerbation and improve lung function in T2 severe asthma patients. In addition, targeting IL-4 and IL-13 can offer significant efficacy in the control of asthma co-morbidities, such as chronic rhinosinusitis or atopic dermatitis. This supports the concept that targeting a key pathway could benefit multiple atopic diseases.

台灣胸腔暨重症加護醫學會
Taiwan Society of Pulmonary and Critical Care Medicine
台灣胸腔暨重症加護醫學會2022夏季會
2022 Summer Workshop of Taiwan Society of Pulmonary and Critical Care Medicine
Agenda

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United Airway management: from ENT point of view and clinical experience

葉德輝 / Te-Huei Yeh, M.D., Ph.D.
現職：台灣大學醫學院附設醫院耳鼻喉科副教授、台大醫院耳鼻喉科主治醫師
專長：耳鼻喉科學、鼻科學、鼻過敏、鼻竇內視鏡手術

Abstract

The EPOS2020 (European Position Paper on Rhinosinusitis and Nasal Polyps 2020) by the European Society of Rhinology have significantly changed the content of the previous version. The main reason is that recent studies on immune response of chronic rhinosinusitis (CRS) have renew the pathophysiology of CRS in the past. Up to date, refractory chronic rhinosinusitis with nasal polyps (CRSwNP) mostly belongs to the type 2 inflammation in the European and American races. Therefore, the use of new biological agents (Biologics) treatment for the type 2 CRSwNP should be considered. Present treatment protocol cannot improve the symptoms and quality of life of patients because of the recurrence even after repeated surgery. However, typing by immune response requires sophisticated laboratory technology to accurately determine the type of patients. Therefore, how to clarify the relationship between the clinical phenotype and the endotype of patients has become the most important topic in the construction of treatment blueprint for the CRS.
In terms of immune response, type 1-3 are distinguished mainly based on the subgroup of innate lymphoid cells (ILC) that guide inflammation after epithelial barrier of the nasal mucosa is broken through (Barrier Penetration). For type 2 inflammation, the main downstream cytokine products are IL-4, IL-5 and IL-13, which are related to allergic inflammation and increased IgE production, and the main infiltrating tissue is eosinophilic leukocytes. The typical manifestation is eosinophilic CRS. It is often associated with asthma and AERD (Aspirin Exacerbated Respiratory Disease) and impairment of olfactory function is commonly seen. Although data from Europe and the United States show that nearly 87% of CRSwNP patients belong to type 2 inflammation, the proportion of type 2 patients in the Asia-Pacific region is not as high as that in Europe and the United States. According to our data, only 57% of patients with CRSwNP belongs to eosinophilic CRS. The related components of type 2 inflammation, IL-4, IL-5, IL-13 and IgE, were further analyzed by surgical specimens, and the distribution was uneven in different anatomical locations. Therefore, whether the treatment blueprint designed by Europe and the United States is applicable to our patient population, and whether the Biologics treatment advertised in Europe and the United States has the same effect, needs further verification.

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Early optimizing management of COPD patients: From evidence to action

陳彥甫 / Yen-Fu Chen, M.D., Ph.D.
現職：臺大醫院雲林分院門診部主任
專長： 肺部疾病及感染、一般內科及重症加護疾病、慢性呼吸道疾病、胸腔腫瘤、肺癌、胸部超音波檢查 , 支氣管鏡檢查

Abstract

隨著老年化社會的到來及生活環境的變化，慢性阻塞性肺病是近年持續增加的慢性疾病，隨著藥物不斷的演進，現行慢性阻塞性肺病治療有許多不同的藥物選項以及不同類型的吸入裝置可供選擇，而要如何更加積極地在臨床操作上積極介入，精準地透過最合適的藥物治療，讓受照護病患可以在控制症狀的同時也預防降低未來急性惡化或是死亡率的風險，一直是相當熱門的話題。
本演講將透過過往發表文獻的討論並結合臨床經驗，提供可以幫助病患未被滿足需求的策略及建議，期待可以透過這個會議交流激發更好的病患照護品質。

帶狀疱疹疫苗最新進展

程劭儀 / Shao-Yi Cheng, M.D., Ph.D.
現職：臺大醫院家庭醫學部預防保健科主任、家庭醫學科副教授
專長：家庭醫學、婦女醫學、乳癌篩檢、安寧緩和醫療、旅遊醫學

Abstract

台灣每年約 12 萬人罹患帶狀疱疹，台灣人患帶狀疱疹的終生風險高達 32.2%。帶狀皰疹患者絕大部分會經歷中重度疼痛，且高達 30% 的帶狀疱疹患者可能發生帶狀疱疹後遺神經痛 (post-herpetic neuralgia, PHN)，其疼痛可持續數月至數年之久。針對發生 PHN 的病人，即便使用緩解神經痛的藥物，僅有 14% 的病患達到滿意的症狀緩解。此外 , 若病人本身為 COPD 或 Asthma 的患者 , 罹患帶狀疱疹的風險也會提高。因此、疫苗成為預防帶狀疱疹的重要工具。這個常見且高度影響患者健康和生活品質的疾病即將有新的疫苗進駐台灣。 非活性重組帶狀疱疹疫苗的保護力和安全性為何？高風險族群為何？國內外如何建議接種？… 在【帶狀疱疹疫苗最新進展】將為您提供最新的資訊和解答。

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2022 Summer Workshop of Taiwan Society of Pulmonary and Critical Care Medicine
Agenda

宴會 II 廳 / 台灣拜耳股份有限公司贊助

Latest updates on clinical data and profile in NSCLC patients with NTRK gene fusions

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現職：臺大醫院胸腔內科主治醫師、臨床副教授
專長：一般內科胸腔科肺癌

Abstract

Driver molecular aberrations, such as EGFR, KRAS and BRAF mutations, ALK, ROS1, RET, NTRK 1/2/3 rearrangements, play an important role in the oncogenesis of non-small-cell lung cancer (NSCLC). Overall, these molecular targets select about 70 % of advanced NSCLC East Asian patients who can be treated with the corresponding tyrosine kinase inhibitors (TKIs).
Fusions involving NTRK1, NTRK2, or NTRK3 are oncogenic drivers that are found in a variety of adult and pediatric tumor types, including < 1% of non–small-cell lung cancers (NSCLCs). Currently, the tropomyosin receptor kinase (TRK) inhibitors have shown promising efficacy and well tolerance in patients with NTRK fusion-positive solid tumors, regardless of tumor histology. The first-generation TRK inhibitors (larotrectinib and entrectinib) are recommended as the first-line treatment for locally advanced or metastatic NSCLC patients with positive NTRK fusion.
Larotrectinib is highly active with rapid and durable responses, extended survival benefit, and a favorable long-term safety profile in patients with advanced lung cancer harboring NTRK gene fusions, including those with CNS metastases.
In this talk, we will discuss the updated findings validating TRK fusions as key therapeutic targets and underscore the need to include NTRK fusion testing as part of comprehensive molecular profiling to identify patients likely to benefit from treatment with Larotrectinib.

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Overview of A New Combined Strategy for Advanced NSQ NSCLC in TASUKI-52

夏德椿 / Te-Chun Hsia, M.D., Ph.D.
現職：中國醫藥大學附設醫院重症醫學中心主任、內科部副主任
專長：一般內科、胸腔科肺癌、高壓氧治療

Abstract

The immunotherapy-based combination has become one of standard of care for first-line metastatic NSCLC without the driver gene mutation. However, there are some medical unmet needs with IO-Chemo combination therapy in our daily practice.
New TASUKI-52 regimen should be considered a viable new treatment strategy for treatment-naïve patients with advanced nonsquamous NSCLC, since its pivotal trial with Asian-based results demonstrated that treatment-naïve patients with stage IIIB/IV or recurrent nonsquamous NSCLC without sensitizing EGFR, ALK, or ROS1 alterations will benefit from nivolumab with carboplatin, paclitaxel, and bevacizumab.
The investigators also report that no new safety signals were observed and the incidence of treatment-related adverse events of grade 3 or 4 was comparable between the two arms, affecting 73.6% and 72.0% of patients given nivolumab and placebo, respectively.
The combination of distinct immune cycle inhibitors is another therapeutic strategy to prolong survival for patients. Recently results showed that combination of dual immunotherapy with or without limited chemotherapy bring durable response and long-term OS for advanced NSCLC patients. This talk will cover mechanism of action and the emerging update data of dual immunotherapy-based combination therapy in first-line metastatic NSCLC.

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How to Maximize Treatment Outcome for Patients : Real-World Considerations in The 1L Management of NSCLC

葉育雯 / Yu-Wung Yeh, M.D., Ph.D.
現職：新光吳火獅紀念醫院胸腔內科、肺癌多專科團隊召集人、天主教輔仁大學醫學系副教授
專長：肺癌、臨床技術學、呼吸及循環

Abstract

Immune checkpoint inhibitors (ICI) have revolutionized lung cancer treatment. Recently, dual immunotherapy-based combination therapy has broadened our first-line treatment options even more. CheckMate 227 and CheckMate 9LA have shown that the combination of distinct immune cycle inhibitors (nivolumab and ipilimumab) could provide long-term survival benefit and durable response in non-small cell lung cancer under trial conditions. In this session, we will explore the dual ICI option in real-world practice. When choosing ICI/dual ICI therapies in the 1st line setting, the consideration may include patient characteristics, method of obtaining biopsy specimens, platform used in determining PD-L1 status, duration of treatment, and cost, among others.

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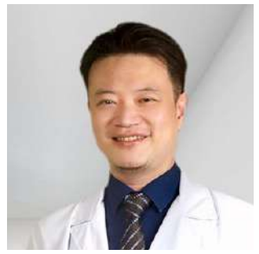

Alunbrig - A new force for ALK+ NSCLC frontline treatment

張晟瑜 / Te-Chun Hsia, M.D., Ph.D.
現職：亞東醫院胸腔內科專任主治醫師 / 肺癌團隊召集人 / 亞東醫院副教授
專長：肺癌、慢性咳嗽、氣喘、慢性支氣管炎、肺炎、肺結核、重症醫學、老人醫學

Abstract

Target therapies for ALK-rearranged Non-small cell lung cancer (NSCLC) have evolved over the last decade. Several new generations of ALK inhibitors have demonstrated their superiority in efficacy over the first ALK inhibitor, crizotinib1. Approximately 70% of patients eventually develop brain metastases during treatment with crizotinib2,3. Hence, the drug's ability to penetrate CNS and demonstrate intracranial efficacy becomes critical.
Brigatinib is a 2nd generation ALK inhibitor approved for first-line use in patients with advanced ALK+ NSCLC, as well as those who have progressed on crizotinib. In its phase 2 ALTA trial, brigatinib demonstrated significant clinical efficacy in patients of crizotinib treatment failure. An unprecedented median IRC-assessed PFS of 16.7 months and IRC-assessed iPFS of 18.4 months4. The ALTA-1L final analysis validated brigatinib's superior efficacy in ALK inhibitor-naïve patients (mPFS HR 0.48 for brigatinib vs crizotinib), and highlighted its overall survival benefit in patients with baseline brain metastases (mOS HR 0.43) after a 4-year follow-up. Brigatinib was well tolerated, with asymptomatic laboratory abnormalities and GI symptoms being the most common (>25% of patients) treatment-emergent adverse events5.
In a real-world setting, the subsequent treatment following brigatinib still exhibited durable benefits (median time-to-treatment discontinuation of 8.0 months in lorlatinib post-brigatinib)6. To date, the best sequence of ALK inhibitors still needs to be determined, with a variety of ALK inhibitors in sequencing strategies, allowing extended survival or increased quality of life for ALK+ NSCLC patients.

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What should we consider for the patients of ALK-positive advanced NSCLC

Maximilian Johannes Hochmair, Doctor of medicine
Department of Respiratory and Critical Care Medicine, Klinik Floridsdorf (older name Krankenhaus Nord)

Education

1994 – 2001	Study of Medicine at University of Vienna

Work Experiences

Since 2019	Leader of the Respiratory Oncology Unit (ROU) at Klinik Floridsdorf
Since 2016	Lector of the Sigmund Freud University
2009-2019	Leader of the Respiratory Oncology Unit (ROU) at Otto-Wagner-Hospital/Vienna
Since 2015	Editorial Board Member of Memo Oncology
Since 2014	Leader of the "Arbeitskreis Pneumologische Onkologie" of the Austrian Society of Pneumology
2011 – 2014	National Delegate of the European Respiratory Society
Since Nov. 2008	Internship at Otto-Wagner-Hospital/Vienna
Since Oct. 2008	Member of the Steering Committee as Media Liaison Officer of the Austrian Society of Pneumology (ASP – www.ogp.at)
Aug. – Okt. 2008	Internship at Paediatric clinic/Glanzing
July 2005	Internship at Department of surgery/Vienna
Aug. – Jun. 2005	Internship at Cardiac Care Unit/Vienna
Mar. – Jul. 2004	Internship at Department of Pneumology/Vienna
Jul. 03 – Feb. 2004	Internship at Department of Pneumology/Charite-Germany
Okt. 02 – Jun. 03	Internship at Department of Allergy, Dermatology and Immunology/ Vienna
Jul. 02 – Sep. 02	Internship at General Medicine/Vienna
Dec. 01 – May 02	Internship at Military Hospital/Vienna

Special Interests and Diploma
Diploma in Palliative care medicine
Diploma in Medicine of Sport
Diploma from Medicine of nutrition
Training at military-medicine
Principal Investigator, as well Co and Sub investigator in many international phase III studies (Keylink 6+8, Keynote 189+24, IMPOWER 030+133, LUX Lung Trail 3+8, ALTA1L+2L, REVEL, ASCEND 4, Geometry, GIOTAG, AEGEAN, CASPIAN, Hudson, GIOTAG, ALTA 1L+2L,….)

Additional Skills
GCP (good clinical practice) 09/2008
Languages: German (mother tongue), English, French, Spanish and Hungarian (modest command)

Pre-reviewed Publications:

„Durvalumab, with or without tremelimumab, plus platinum-etoposide in first-line treatment of extensive-stage small-cell lung cancer: 3-year overall survival update from CASPIAN5."
Paz-Ares L, Chen Y, Reinmuth N, Hotta K, Trukhin D, Statsenko G, Hochmair MJ, 7, Özgüroglu M, Ji JH, Garassino MC, Voitko O, Poltoratskiy M, Musso E, Havel L, Bondarenko I, Losonczy G, Conev N, Mann H, Dalvi TB, Jiang H, Goldman JW
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Cho A, Hennenberg J, Untersteiner H, Hirschmann D, Gatterbauer B, Zöchbauer-Müller S, Hochmair MJ, Preusser M, Rössler K, Dorfer C, Frischer JM, Furtner J
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„Implementation of MET Molecular Testing in the Clinic: Latest Evidence for Mesenchymal–Epithelial Transition Inhibitors in Non-small Cell Lung Cancer."
Hochmair MJ,1 Malapelle U
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Role of Extra-fine Particle in Treating Asthma Patients – Evidence from Clinical Trial and Real-world Study

傅彬貴 / Pin-Kuei Fu, M.D., Ph.D.
現職：臺中榮總間質性肺病整合照護中心主任 / 教育部定副教授
專長：間質性肺病 (肺纖維化)、嚴重型氣喘、慢性阻塞性肺病、胸腔感染重症及呼吸衰竭

Abstract

近年來肺部小呼吸道的疾病 (Small Airway Dysfunction) 一直受到國際間的重視，而吸入劑藥物的顆粒大小與肺部小呼吸道的藥物沉積率息息相關，本次演講透過台中榮總傅彬貴醫師從臨床試驗到真實世界上使用超細微粒 (Extra-fine particle) 的 ICS/LABA 與其他吸入劑的比較，來讓各位醫師了解更多 Extra-fine particle 的吸入型藥物對於台灣病人臨床上的益處。

The Extra-fine Regimen of Triple Therapy - Flexibility and Clinical Experience in ICU

黃俊凱 / Chun-Kai Huang, M.D.
現職：台大醫院內科部胸腔科主治醫師、台灣大學醫學院臨床講師
專長：胸腔醫學、重症醫學、呼吸系統疾病

Abstract

目前台灣在三合一吸入劑的選擇越來越多元，不同於其他乾粉吸入劑 Trimbow 為唯一超細微粒 (Extra-fine particle) pMDI 三合一吸入劑，Trimbow 上市至今已累積許多臨床使用經驗，本次演講透過台大醫院黃俊凱醫師分享臨床使用經驗，來了解 pMDI 可以如何靈活運用於日常的臨床情境。

末梢性 μ型

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適應症 治療成人因鴉片類藥物引起之便秘 (Opioid-induced constipation, OIC)

用法用量 成人建議劑量為每日口服1次0.2 mg
停止投與類鴉片藥物時, 亦應停止投與本藥

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RYBREVANT® (肺倍恩) 已取得衛服部核准，單一療法適用於罹患帶有表皮生長因子受體(EGFR) exon 20插入突變之局部晚期或轉移性非小細胞肺癌(NSCLC) 的成人病人，作為含鉑類化學療法治療失敗後之治療。

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[適應症]
單一療法適用於罹患帶有表皮生長因子受體(EGFR) exon 20插入突變之局部晚期或轉移性非小細胞肺癌(NSCLC)的成人病人，作為含鉑類化學療法治療失敗後之治療。
此適應症為依據替代指標(整體反應率和反應持續期間)採加速核准的方式，後續需執行確認性試驗以證明確實達到臨床上的效益。

[禁忌症] 無。

[用法用量]
選擇病人
應依據是否出現 EGFR exon 20 插入突變來選擇適合使用RYBREVANT治療的病人。
建議劑量
以基礎期體重為依據的RYBREVANT建議劑量如表1所示。RYBREVANT應先連續4週每週給藥一次，並將第1週的初始劑量以分劑輸注的方式分別於第1天和第2天給藥，之後再每2週給藥一次，直到疾病惡化或出現無法接受的毒性反應為止。建議於每次輸注RYBREVANT之前先投予前置用藥。應依據仿單內之表5的輸注速率靜脈投予稀釋後的RYBREVANT。

表1： 以基礎期體重為依據的RYBREVANT建議劑量

基礎期體重*	建議劑量	RYBREVANT 350毫克/7毫升小瓶的支數
低於80公斤	1050毫克	3
高於或等於80公斤	1400毫克	4

*不需因後續的體重變化而調整劑量。

[特殊警語及注意事項]
- 輸注相關反應–RYBREVANT可能會引發輸注相關反應(IRR) 。
- 間質性肺病/肺炎(Pneumonitis) - RYBREVANT可能會引發間質性肺病(ILD)/肺炎。
- 皮膚不良反應 - RYBREVANT可能會引發皮疹(包括痤瘡樣皮膚炎)、搔癢和皮膚乾燥。
- 眼睛毒性 - RYBREVANT可能會引發眼睛毒性反應，包括角膜炎、乾眼症狀、結膜發紅、視力模糊、視覺損害、眼睛搔癢、以及葡萄膜炎。
- 胚胎-胎兒毒性 - 根據其作用機制和動物模型試驗的發現，對孕婦投予RYBREVANT可能會導致胎兒傷害。

[副作用]
臨床試驗的經驗
最常見(≥20%)的不良反應為皮疹、輸注相關反應、甲溝炎、肌肉骨骼疼痛、呼吸困難、噁心、水腫、咳嗽、疲倦、口炎、便秘、嘔吐和搔癢

[使用前請詳閱仿單警語及注意事項]
Reference: USPI May 2021_v2101
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