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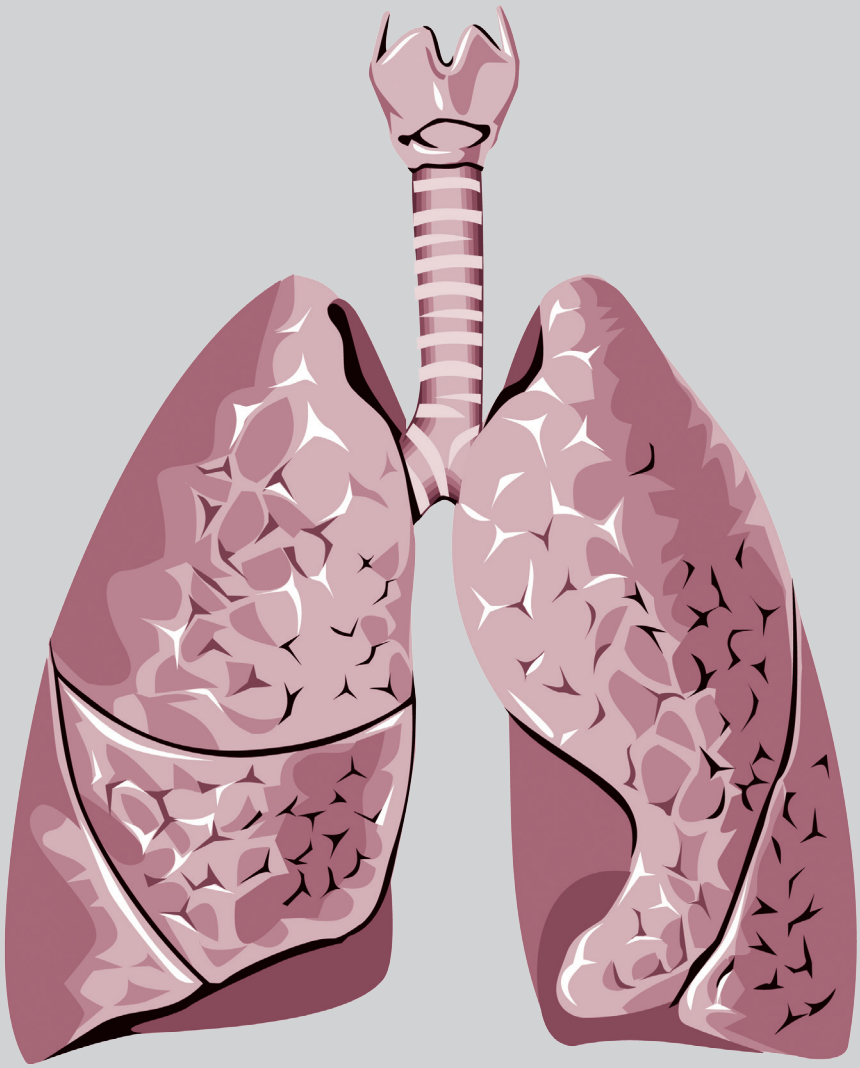

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High Mortality Rates of Pneumocystis jirovecii Pneumonia in Non-HIV-Positive Patients with Malignant Tumors: A Retrospective Observational Study

Kun-Tse Lin[1], Sheng-Hao Lin[1], Jun-Wei Lin[1], Kuo-Yang Huang[1]

Background: Pneumocystis jirovecii pneumonia (PJP) is a potentially life-threatening infection that occurs in severely immunocompromised patients. Polymerase chain reaction (PCR) testing of sputum samples may be a viable alternative to invasive testing for PJP. Lung cancer morbidity and mortality rates have always been among the highest worldwide, with lung cancer patients clinically infected with PJP having a particularly poor prognosis.

Methods: This retrospective observational study analyzed non-HIV-positive patients with PJP admitted to Changhua Christian Hospital from 2012 to 2022. Patients with PJP were defined as those with positive results from immunofluorescence quantitative PCR detection, chest radiography, or computed tomography (CT), or those with clinical symptoms and confirmation of PJP treatment during hospitalization. The patients and their data,including age, sex, use of intravenous and/or oral trimethoprim/sulfamethoxazole for PJP treatment, steroid treatment, and mortality, were collected from electronic medical records. Statistical analysis was performed using the Mann–Whitney test, Chi-square test, and Kaplan–Meier method.

Results: A total of 234 patients with PJP were identified, among whom 190 had no HIV. The non-HIV-positive patients with PJP were found to have the highest incidence of PJP and the highest mortality rates ($p=0.021$). Among patients with solid tumors, those with lung cancer had the highest incidence. In a comparison between lung and non-lung cancer patients, age was the only variable that differed significantly ($p=0.025$).

Conclusion: The current study showed that non-HIV-positive patients with PJP had an increased incidence of malignant tumors and high mortality rates. PJP is a risk factor for mortality in patients with malignant tumors. ***(Thorac Med 2023; 38: 271-280)***

Key words: *Pneumocystis jirovecii* pneumonia (PJP), *Pneumocystis carinii* pneumonia (PCP),distribution ratio, risk factors, mortality, outcome

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Does it Matter Where the Heart Stops? rCAST Score Performance in Predicting Outcomes of in-hospital Cardiac Arrest patients

Chao-Hsien Chen[1,2], Chieh-Jen Wang[2,3], I-Ting Wang[2,3], Sheng-Hsiung Yang[2,3], Chang-Yi Lin[2,3]

Objectives: The characteristics of patients with in-hospital cardiac arrest (IHCA) are generally considered to be different from those with out-of-hospital cardiac arrest (OHCA). The revised post-Cardiac Arrest Syndrome for Therapeutic hypothermia (rCAST) score has been proven to be a good predictive score for neurologic outcomes and mortality in OHCA patients who receive therapeutic temperature management (TTM); however, its application in IHCA patients has yet to be evaluated.

Methods: In this retrospective study, we enrolled adult post-cardiac arrest syndrome (PCAS) patients who had an IHCA and received TTM from 2017 to 2021 at our hospital. Their medical records were extracted to calculate the rCAST score and analyze their outcomes.

Results: A total of 37 patients were enrolled for analysis. The average rCAST score was 5.6±3.6, and 51.4% and 48.6% of the patients were classified into the low and moderate severity categories, respectively. The areas under the curves for the rCAST score were 0.780 (95% confidence interval [CI]: 0.614-0.899) to predict poor neurologic outcomes, and 0.809 (95% CI: 0.647-0.919) to predict mortality at day 28. Only those patients in the low severity category were associated with survival and favorable neurologic outcome benefits.

Conclusion: Our preliminary results suggest that the rCAST score had moderate accuracy in predicting poor neurologic outcomes and mortality at 28 days in IHCA patients receiving TTM. Further large-scale studies are warranted to confirm these findings. ***(Thorac Med 2023; 38: 281-288)***

Key words: Mortality, neurologic outcome, in-hospital cardiac arrest, post-cardiac arrest syndrome, rCAST, targeted temperature management

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Importance of Identifying Chronic Pulmonary Aspergillosis During Treatment of Nontuberculous Mycobacterium Lung Disease – A Case Report

Yu-Song Tang[1], Chau-Chyun Sheu[1,2], Hung-Ling Huang[1,3,4]

Chronic pulmonary aspergillosis (CPA) following nontuberculous mycobacterial lung disease (NTM-LD) has been observed increasingly worldwide in recent years. Identification of CPA in patients with NTM-LD is crucial because the prognosis is worse than that for patients with NTM-LD alone. The complexity and similarities of these concurrent diseases is a clinical challenge, and treatments for both diseases might conflict due to the complicated interaction of multi-drug use.

This study reported the case of an older man with a low body mass index, previous tuberculosis infection with fibrocavitary lung lesions, and chronic obstructive pulmonary disease under inhaled and oral corticosteroid treatment who developed CPA with deteriorating symptoms after receiving months of effective antimicrobial treatment for *Mycobacterium kansasii* lung disease. The patient's general condition improved after treatment for CPA. This case demonstrated that CPA can develop during treatment for NTM-LD, especially in patients with certain risk factors, and that prompt treatment of CPA is required. ***(Thorac Med 2023; 38: 289-296)***

Key words: Chronic pulmonary aspergillosis, *Mycobacterium kansasii* lung disease, nontuberculous mycobacterial lung disease, treatment, voriconazole

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A Huge Ancient Schwannoma at the Middle Mediastinum: Case Report

Shuo-Ying Dai[1], Cheng-Lin Wu[4], Ren-Hao Chan[3], Jenq-Chang Lee[3], Ying-Yuan Chen[2]

Schwannoma is the most common mediastinal peripheral nerve sheath tumor, and is usually located at the posterior mediastinum. Ancient schwannoma, an uncommon variant of schwannoma, is a slow-growing benign tumor with the degenerative features of cyst formation, calcification, hemorrhage and hyalinization. Due to the pleomorphism of ancient schwannomas, they are difficult to diagnose based on clinical presentation, imaging studies, and histopathological reviews of core biopsy alone. Here, we reported the case of a huge middle mediastinal ancient schwannoma accidently found by chest X-ray, that had not been diagnosed in 2 attempts at core biopsy. Surgical pathology finally confirmed this ancient schwannoma after video-assisted thoracic surgery. Successful surgical tumor removal can provide not only an accurate pathological diagnosis, but also radical treatment to prevent unexpected events in the future. ***(Thorac Med 2023; 38: 297-302)***

Key words: Ancient schwannoma, neurilemoma, mediastinal tumor, video-assisted thoracic surgery

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Silicosis Presenting with Exudative Pleural Effusion and Parietal Pleural Nodule Diagnosed by Medical Thoracoscopy: A Case Report and Literature Review

Chi-Wei Lin[1], Che-Chia Chang[1], Jing-Lan Liu[2], Shu-Yi Huang[1], Yu-Ching Lin[1,3,4], Chieh-Mo Lin[1,5,6]

Chronic silicosis is a common form of silicosis, which is a fibrotic pulmonary disease induced by inhalation of respiratory crystalline silica. In addition to pulmonary nodular opacities, pleural involvement such as visceral pleural invagination and pleural thickening are well documented in chronic silicosis. Pleural effusion is a less common presentation of silicosis, but it has been reported as the primary presentation in a few cases. There is also increasing evidence that exposure to silica is associated with the formation of exudative pleural effusion. However, evidence for the use of medical thoracoscopy for the diagnosis of silicosis remains limited.

Here, we reported the case of a 74-year-old male with decades of exposure to various kinds of dust. He was a former smoker with chronic obstructive pulmonary disease under medication control. He reported exertional dyspnea lasting for months, and chest X-ray showed blunting of the right costophrenic angle. His exudative pleural effusion was drained, but the cause was still unknown after laboratory studies. A thoracoscopy was performed, which revealed several whitish pleural nodules. A pathological examination showed silicotic nodules, and thus silicosis was diagnosed. ***(Thorac Med 2023; 38: 303-309)***

Key words: silicosis, pleural nodules, thoracoscopy, exudative pleural effusion

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Unusual Trachea–Carotid Artery Fistula Bleeding Rescued by Endovascular Stent: Case Report

Yi-An Li[1], Hung-Lung Hsu[2], Cheng-Hung How[1]

A tracheoarterial fistula (TAF) is an uncommon but devastating complication of tracheostomy. Its appropriate management remains debatable. In the case of tracheostomy bleeding, it is necessary to treat the TAF and plan immediate surgery for hemostasis. Herein, we describe the case of an 82-year-old woman with a trachea–carotid artery fistula at an unusual site who was treated successfully by inserting an endovascular stent to control bleeding and maintain airway patency. ***(Thorac Med 2023; 38: 310-314)***

Key words: tracheostomy, fistula (carotid artery), carotid artery, endovascular stent

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Lung Cancer with Small Bowel Metastasis and Perforation in A Chemotherapy-Naïve Patient: A Case Report

Chung-Chi Yu[1], Jung-Yueh Chen[1,2]

Lung cancer is a leading cause of cancer-related death worldwide. Most patients diagnosed with lung cancer were at an advanced stage. However, small bowel metastasis is rare in patients with lung cancer. We reported a rare case of lung cancer with small bowel metastasis presenting with hollow organ perforation before treatment for cancer. CT of the abdomen disclosed free air accumulation at the peritoneal cavity. A tumor invasion-related perforation at 100 cm proximal to the ileocecal valve was seen in an emergency abdominal laparotomy. The histopathologic report revealed squamous cell carcinoma. ***(Thorac Med 2023; 38: 315-319)***

Key words: Lung cancer; small bowel metastasis; hollow organ perforation; chemotherapy

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Granulomatosis with Polyangiitis: A Case report and Review of the Literature

Kung-Yang Wang[1], Ching-Yao Yang[1]

Granulomatosis with polyangiitis (GPA), formerly called Wegener granulomatosis, is a rare vasculitis affecting the small vessels. It commonly involves the upper respiratory tract, lungs and kidneys, which lead to dyspnea, hemoptysis or hematuria. The damage to the organs can be fatal. Though the exact mechanisms leading to GPA are not well understood, anti-neutrophil cytoplasmic antibodies are considered to be associated with the inflammation in GPA. The diagnosis of GPA is based on clinical presentation, laboratory findings and image studies. The 2022 American College of Rheumatology and European Alliance of Associations for Rheumatology recently developed revised classification criteria for GPA. Treatment consists of an induction phase and a maintenance phase with glucocorticoid or immunosuppressive agents such as cyclophosphamide, rituximab or methotrexate. GPA is a rare disease in Taiwan. Here, we reported the case of a patient with GPA, who presented with bilateral lung cavitary nodules and consolidations. The diagnosis was proven by echo-guided lung biopsy. The patient showed a good response to cyclophosphamide pulse therapy and was under maintenance therapy with rituximab and oral prednisolone. ***(Thorac Med 2023; 38: 320-324)***

Key words: Granulomatosis with polyangiitis, anti-neutrophil cytoplasmic antibodies

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Successful Remission of a Large Post-intubation Tracheal Rupture with Conservative Management – A Case Report

Hsin-Wei Lin[1], Yen-Hsiang Tang[2], Yu-Hui Yang[3], Hsin-Pei Chung[1]

Iatrogenic tracheal rupture is a rare but life-threatening complication that can occur during an endotracheal intubation procedure. An iatrogenic rupture might be due to any one of various factors, including stylet-induced tracheal injury and an incorrect endotracheal tube size. The treatment strategy for iatrogenic tracheal rupture is challenging, and depends on the laceration length, size, location, and underlying disease. Surgical repair is often required for a large rupture, while conservative management is considered sufficient for small and stable lacerations. Mediastinitis, and even death could occur if the rupture cannot be handled properly.

We present the case of a 67-year-old woman with heart failure, who was diagnosed with a large tracheal rupture after emergency endotracheal intubation. She received conservative treatment for the tracheal rupture, rather than surgical repair, and bronchoscopic examination on the 8th day after intubation showed the rupture was healing. The patient was successfully extubated later. Therefore, conservative management may be considered for large post-intubation tracheal ruptures in a high-risk surgical candidate. ***(Thorac Med 2023; 38: 325-329)***

Key words: tracheal rupture, endotracheal intubation, endotracheal tube cuff

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Pulmonary Rehabilitation Facilitates Lung and Muscle Strength Recovery in a Critically Ill Patient with COVID-19 with Acute Respiratory Distress Syndrome

Hui-Chin Chen[1,2,9], Jui-Fang Liu[1,2,9], Ya-Chi Wang[3], Chun-Mei Huang[4], Shu-Hua Chi[5], Hwei-Ling Chou[6], Tien-Pei Fang[1,7], Hui-Ling Lin[1,7,8]

We presented the case of a critically ill COVID-19 patient with acute respiratory distress syndrome who received 6 weeks of pulmonary rehabilitation after being extubated. The patient was referred to the hospital for a severe acute respiratory syndrome Coronavirus-2 (SARS CoV-2) test due to close contact with confirmed COVID-19 cases. He presented with mild fever and a sore throat on the first day of admission. Tachypnea and desaturation were noted on day 6. A non-rebreathing mask was employed until day 10, when his dyspnea and tachypnea deteriorated into acute respiratory failure. He was then intubated and mechanically ventilated. After comprehensive treatments, he was weaned off ventilator support and then extubated on day 31. He received 6 weeks of pulmonary rehabilitation in the post-acute phase, beginning the day after extubation. The multiple-intervention pulmonary rehabilitation program included pursed-lip breathing, diaphragmatic breathing, cough training, upper and lower limb exercises, incentive spirometry, intermittent positive pressure breathing, inspiratory muscle training, and chest physiotherapy. The patient benefited from early post-acute phase pulmonary rehabilitation, as evidenced by improvement in muscle strength, peak inspiratory flow, lung volume, and the 6-minute walking test. ***(Thorac Med 2023; 38: 330-337)***

Key words: COVID-19, acute respiratory distress syndrome, pulmonary rehabilitation, pulmonary function, exercise capacity

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Hypercapnic Obstructive Sleep Apnea Caused by Straight Back Syndrome with Innominate Artery Compression of the Trachea

Ming-Sheng Shen[1,2], Yi-Chang Lin[3], Yu-Cheng Wu[4], Chia-Hsin Liu[2]

Straight back syndrome, a congenital deformity involving a loss of normal thoracic spinal curvature, can cause variable degrees of mediastinal compression, and is an easily overlooked cause of airway obstruction in adults. Herein, we report a case of acute hypercapnic respiratory failure in a 54-year-old man who was incidentally diagnosed with hypercapnic obstructive sleep apnea during hospitalization. Subsequent computed tomography and bronchoscopy of the thorax revealed severe tracheal stenosis caused by innominate artery compression of the trachea and straight curvature of the thoracic spine with a reduced anteroposterior diameter of the thoracic cavity. The patient underwent reconstruction of the innominate artery, and his symptoms were subsequently alleviated. These findings highlight the importance of thorough and timely diagnostic evaluations in order to efficiently recognize and treat straight back syndrome, thereby improving patient outcomes. ***(Thorac Med 2023; 38: 338-343)***

Key words: OSAS, hypercapnia, straight back syndrome (SBS), innominate artery compression, tracheal stenosis

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Giant Cell Tumor of Bone with Lung Metastasis: A Case Report

Tien-Hsin Jeng[1], Yi-Han Hsiao[2,3,4]

Giant cell tumor of bone is a benign bone tumor with locally aggressive behavior that is usually curative after surgery, and rarely presents with distant metastasis. Herein, we presented a case of lung metastasis of giant cell tumor of the right phalanx, which had undergone surgical resection 18 months prior to presentation. The lung metastasis was treated by denosumab injection. Although giant cell tumor of bone has been considered a benign disease, our case showed the potential of both distant metastasis and the use of denosumab as a treatment option for patients with lung metastasis of giant cell tumor. ***(Thorac Med 2023; 38: 344-350)***

Key words: giant cell tumor of bone, lung metastasis, denosumab

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Amiodarone Pulmonary Toxicity Mimicking Metastatic Lesions: A Case Report

Rou-Jun Chou[1], Ching-Yao Yang[1]

Amiodarone is a widely-used antiarrhythmic agent. One of the most serious and well-discussed adverse effects of amiodarone is pulmonary toxicity, which can lead to severe pulmonary fibrosis if not diagnosed and managed promptly. Here, we reported a patient with multiple pulmonary nodules over bilateral lower lungs, which was initially suspected to be malignancy. The lung biopsy confirmed the diagnosis of amiodarone pulmonary toxicity. The lung nodules were resolved after amiodarone discontinuation and corticosteroid treatment. ***(Thorac Med 2023; 38: 351-356)***

Key words: Amiodarone, drug-induced pulmonary toxicity, pulmonary nodule

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Think Outside the box in Cases of Severe Asthma Attack-Refractory Pulmonary Embolism in Severe Asthma: A Case Report and Literature Review

Yang Li[1], Ruei-Lin Sun[1], Kang-Cheng Su[1,2]

The interplay between thrombosis and inflammation has been recognized in the past decade. Asthma, one of the most common chronic inflammatory diseases, may increase the risk of pulmonary embolism (PE), particularly in those with higher asthma severities and coexisting risks for PE. While asthmatics may present to an emergency department with acute dyspnea, PE is not usually considered an attributable cause at first. However, PE can be life-threatening if timely diagnosis and management are delayed. We reported an obese female with severe asthma presenting with acute dyspnea due to coexisting PE, which was unrecognized initially and resulted in cardiopulmonary compromise requiring advanced life support with extracorporeal membrane oxygenation. Although emergency reperfusion therapy with ultrasound-assisted catheter-directed thrombolysis and concurrent infusion of thrombolytic agents failed, she was rescued with a 2nd course of thrombolytic therapy. The association between PE and asthma, as well as the risks and treatment for PE are reviewed in this article. ***(Thorac Med 2023; 38: 357-365)***

Key words: pulmonary embolism; severe asthma; thrombolytic therapy; ultrasound-assisted catheter-directed thrombolysis

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