

Thursday, November 7th, 2019

- Sapphire Ball Room -

**10:30 ~ 15:00**

1. Adverse Events of as-needed Inhaled Corticosteroid and Formoterol versus Short Acting Beta2 Agonists in Asthma Exacerbations: A Meta-Analysis  
Martin Kristoffer E. Ogbac<sup>\*</sup>, Rodolfo V. Dizon, Jr.  
(Section Of Pulmonary Medicine, Perpetual Help Medical Center - Las Piñas, Las Piñas, Philippines)
2. Reliever Therapy using Inhaled Corticosteroid and Formoterol versus Short Acting Beta2 Agonist in Chronic Asthmatic Patients: A Meta-Analysis  
Martin Kristoffer Ogbac<sup>\*</sup>, Rodolfo Dizon Jr  
(Section Of Pulmonary Medicine, Perpetual Help Medical Center - Las Piñas, Las Piñas, Philippines)
3. Impact of Asthma Quality Evaluation Program Conducted by Korean Government on Burden of Asthma Patients  
Mir Kim<sup>\*</sup>, Sung-Ryeol Kim, Jung-Won Park, Jae-Hyun Lee, Hye Jung Park  
(Department of Internal Medicine, Gangnam Severance Hospital, Yonsei University College of Medicine, Institute of Allergy, Division of Allergy and Immunology, Seoul, Republic of Korea)
4. Study on the Ideal Intubation Time in In-Hospital Cardiac Arrest Patients : Retrospective Cohort study  
Chan Young Jeong<sup>\*</sup>  
(Department of Internal Medicine, Seoul National University Bundang Hospital, Seongnam, Republic of Korea)
5. Comparison of clinical characteristics and the ICU admission adequacy of ICU patients before and after implementation of Well-dying Law.  
Sang hoon Lee<sup>\*</sup>, Junghyun Kim, Jee-min Kim, Ji Yeon Lee, Ina Jeong, Joon Sung Joh  
(Pulmonary and Critical Care, National Medical Center, Seoul, Republic of Korea)
6. The effect of vitamin C in patients with severe viral pneumonia with respiratory failure  
Song-I Lee<sup>1,2\*</sup>, Jin-Won Huh<sup>2</sup>, Jae-Seung Lee<sup>2</sup>, Sang Bum Hong<sup>2</sup>  
(<sup>1</sup>Pulmonary and Critical Care Medicine, Chungnam National University College Of Medicine, Daejeon, Republic of Korea, <sup>2</sup>Pulmonary and Critical Care Medicine, Asan Medical Center, Seoul, Republic of Korea)
7. Usefulness of heart rate variability for the prediction of sudden cardiac arrest using real-time biosignals in intensive care unit  
Ji Eun Park<sup>1\*</sup>, Kwang Joo Park<sup>1</sup>, Yun Jung Jung<sup>1</sup>, Wou Young Chung<sup>1</sup>, Keu Sung Lee<sup>1</sup>, Joo Hun Park<sup>1</sup>, Seung Soo Shin<sup>1</sup>, Jong Hwan Jang<sup>2</sup>, Duk Yong Yoon<sup>2</sup>

(<sup>1</sup>Department of Pulmonary and Critical Care Medicine, Ajou University School of Medicine, Suwon, Republic of Korea , <sup>2</sup>Department of Biomedical informatics, Ajou University School of Medicine, Suwon, Republic of Korea)

8. Acute respiratory distress syndrome caused by gadolinium: a case report  
Sung Jun Chung\* , Ho Joo Yoon , Yoomi Yeo , Hyun Lee , Tai Sun Park , Dong Won Park , Ji-Yong Moon , Sang-Heon Kim , Tae-Hyung Kim , Jang Won Sohn  
(Internal Medicine, Hanyang University College Of Medicine, Seoul, Republic of Korea)
9. Unplanned ICU readmission is related more medical care cost and poorer prognosis  
Seok Jeong Lee<sup>1\*</sup> , Yun Kyeong Yi <sup>2</sup> , Sang-Ha Kim<sup>1</sup> , Beomsu Shin <sup>1</sup> , Ji-Ho Lee <sup>1</sup> , Myeong Kyu Lee<sup>1</sup> , Saeb Yol Kim<sup>1</sup> , Suk-Joong Yong<sup>1</sup> , Won-Yeon Lee<sup>1</sup>  
(<sup>1</sup>Department of Internal Medicine, Yonsei University Wonju College Of Medicine, Wonju, Republic of Korea , <sup>2</sup>Department Of Medicine, The Graduate School of Yonsei University, Wonju, Republic of Korea)
10. Comparisons of predictive value of EWS models between young and old age patients  
Min Chul Kim<sup>1,2\*</sup> , Yeon Joo Lee<sup>1,2\*</sup> , Jun Yeun Cho<sup>3</sup> , Jong Sun Park<sup>1,2</sup> , Young-Jae Cho<sup>1,2</sup> , Ho Il Yoon<sup>1,2</sup> , Jae Ho Lee<sup>1,2</sup> , Choon-Taek Lee<sup>1,2</sup> , Yeon Joo Lee<sup>1,2</sup>  
(<sup>1</sup>Division of Pulmonary and Critical Care Medicine, Department of Internal Medicine, Seoul National University Bundang Hospital, Seongnam-Si, Republic of Korea , <sup>2</sup>Department of Internal Medicine, Seoul National University College of Medicine, Seoul, Republic of Korea , <sup>3</sup>Division of Pulmonary and Critical Care Medicine, Department of Internal Medicine, Chungbuk National University Hospital, Cheongju-si, Republic of Korea)
11. Detection of catalytic subunit of PI3K- $\delta$  in the mitochondria of inflammatory cells from lipopolysaccharide-instilled mice  
Yong Chul Lee<sup>1,2\*</sup> , Hee Jung Kim<sup>1,2</sup> , Jae Seok Jeong<sup>1,2</sup> , So Ri Kim<sup>1,2</sup>  
(<sup>1</sup>Department of Internal Medicine, Research Center for Pulmonary Disorders, Chonbuk National University Medical School, Jeonju, Republic of Korea , <sup>2</sup>Research Institute of Clinical Medicine of Chonbuk National University-Biomedical Research Institute, Chonbuk National University Hospital, Jeonju, Republic of Korea)
12. Catalytic subunit of phosphoinositide 3-kinase  $\delta$ , p110 $\delta$ , in the mitochondria of inflammatory cells may reflect the disease activity of the PI3K- $\delta$ -driven severe pulmonary disorders  
Yong Chul Lee<sup>1,2\*</sup> , Hee Jung Kim<sup>1,2</sup> , Jae Seok Jeong<sup>1,2</sup> , So Ri Kim<sup>1,2</sup>  
(<sup>1</sup>Department of Internal Medicine, Research Center for Pulmonary Disorders, Chonbuk National University Medical School, Jeonju, Republic of Korea , <sup>2</sup>Research Institute of Clinical Medicine of Chonbuk National University-Biomedical Research Institute, Chonbuk National University Hospital, Jeonju, Republic of Korea)
13. Protective effects of N-acetylcysteine loaded in biocompatible nanoparticle on lipopolysaccharide-induced acute lung injury model in rats  
Sung Kyoung Kim<sup>1\*</sup> , Seongchan Kim<sup>2\*</sup> , Seung Joon Rho<sup>3</sup> , Joon Young Choi<sup>1</sup> , Shin Young Kim<sup>1</sup> , So Hyang Song<sup>1</sup> , Chi Hong Kim<sup>1</sup>

(<sup>1</sup>Department Of Internal Medicine, St. Vincent's Hospital, The Catholic University Of Korea, Suwon, Republic of Korea , <sup>2</sup>Center For Biomaterials, Biomedical Research Institute, Korea Institute Of Science and Technology, Seoul, Republic of Korea , <sup>3</sup>Research Institute Of Medical Science, St. Vincent's Hospital, The Catholic University Of Korea, Suwon, Republic of Korea)

14. Safety and effectiveness of rehabilitation for patients with ECMO with Briding to lung transplatation (BTT)

Woo jung Seo <sup>1\*</sup> , You Na Oh<sup>1</sup> , Younsuck Koh<sup>1</sup> , Chae-Man Lim<sup>1</sup> , Jin-Won Huh<sup>1</sup> , Won Kim<sup>2</sup> , Sang-Bum Hong<sup>1</sup>

(<sup>1</sup>Department Of Pulmonary and Critical Care Medicine, Asan Medical Center, Seoul, Republic of Korea , <sup>2</sup>Department of Rehabilitation Medicine, Asan Medical Center, Seoul , Republic of Korea)

15. Evaluation of Soft Mist Inhaler Technique and Effects of Educational Training

Jonggeol Jang<sup>1\*</sup> , Kwan Ho Lee<sup>1</sup> , Jin Hong Jung<sup>1</sup> , Kyeong Cheol Shin<sup>1</sup> , Eun Yeung Choi<sup>1</sup> , Hyun Jung Jin<sup>1</sup> , June Hong Ahn<sup>1</sup> , Kyung Soo Hong <sup>1</sup> , Young Seok Lee<sup>1</sup> , EUNA Lee <sup>1</sup> , Mi Jung Nam<sup>2</sup>

(<sup>1</sup>Department Of Internal Medicine, Yeungnam University College Of Medicine, Deagu, Republic of Korea , <sup>2</sup>Office Of Education and Management Service, Yeungnam University Medical Center, Daegu, Republic of Korea)

16. The effect of Helicobacter pylori infection on decline of lung function

Ha Youn Lee<sup>1\*</sup> , Hye-Rin Kang<sup>2</sup> , Ye Jin Lee<sup>2</sup> , Seung Ho Choi<sup>3</sup> , Deog Kyeom Kim<sup>4</sup>

(<sup>1</sup>Division of Pulmonary and Critical Care Medicine, Department of Internal Medicine, Veterans Health Service Medical Center, Seoul, Republic of Korea , <sup>2</sup>Division of Pulmonary and Critical Care Medicine, Department of Internal Medicine, Seoul National University Hospital, Seoul, Republic of Korea , <sup>3</sup>Department of Internal Medicine and Healthcare Research Institute, Healthcare System Gangnam Center, Seoul National University Hospital, Seoul, Republic of Korea , <sup>4</sup>Division of Pulmonary and Critical Care Medicine, Department of Internal Medicine, Seoul Metropolitan Government-Seoul National University Boramae Medical Center, Seoul National University College of Medicine, Seoul, Republic of Korea)

17. Use of inhaler devices in elderly patients with respiratory disease

Ha Youn Lee<sup>\*</sup> , Jin Hwa Song , Yeonkyung Park , Ha-Kyeong Won , Keun Bum Chung , Young Mee Ahn , Byoung Jun Lee

(Division Of Pulmonary and Critical Care, Department of Internal Medicine, Veterans Health Service Medical Center, Seoul, Republic of Korea)

18. Impact of COPD Quality Evaluation Program Conducted by Korean Government on Burden of COPD Patients

Manwoo Lee<sup>1\*</sup> , Sung-Ryeol Kim<sup>2,3</sup> , Jung-Won Park<sup>2,3</sup> , Jae-Hyun Lee<sup>2,3</sup> , Hye Jung Park<sup>1</sup>

(<sup>1</sup>Department of Internal Medicine, Yonsei University College of Medicine, Seoul, Republic of Korea , <sup>2</sup>Institute of Allergy, Department of Internal Medicine, Yonsei University College of Medicine, Seoul, Republic of Korea , <sup>3</sup>Division of Allergy and

Immunology, Department of Internal Medicine, Yonsei University College of Medicine, Seoul, Republic of Korea)

19. **Withdrawn**

20. The effect of adherence to maintenance inhaler for initial treatment of chronic obstructive pulmonary disease on acute exacerbation in Korea  
Sang-Ha Kim<sup>\*</sup>, Sae Byol Kim, Beomsu Shin, Ji-Ho Lee, Seok Jeong Lee, Myoung Kyu Lee, Won-Yeon Lee, Suk Joong Yong  
(Department Of Internal Medicine, Yonsei University Wonju College Of Medicine, Wonju, Republic of Korea)
21. Protease and Antiprotease Imbalance in Retired Coal Miners with Airflow Limitation  
Jae Hoon Shin<sup>\*</sup>, JooHwan Hwang, Jong Seong Lee, Byung-Soon Choi  
(Institute Of Occupation & Environment, KCOMWEL, Incheon, Republic of Korea)
22. The Relationship between Autoantibodies and Lung Function of COPD patients exposed to inorganic dust  
Jin Ee Baek<sup>\*</sup>, Jae Hoon Shin  
(Pathogenic Laboratory Research, Institute Of Occupation and Environment, Incheon, Republic of Korea)
23. Effects of Self-Help Group Program on Patients with Chronic obstructive pulmonary disease  
Jonggeol Jang<sup>1\*</sup>, Kwan Ho Lee<sup>1</sup>, Jin Hong Chung<sup>1</sup>, Kyeong Cheol Shin<sup>1</sup>, Eun Young Choi<sup>1</sup>, Hyun Jung Jin<sup>1</sup>, June Hong Ahn<sup>1</sup>, Mi Sook Lee<sup>2</sup>, So Hee Bang<sup>2</sup>, Da Yeong Park<sup>2</sup>  
(<sup>1</sup>Department Of Internal Medicine, Yeungnam University College Of Medicine, Deagu, Republic of Korea, <sup>2</sup>Office Of Education and Management, Yeungnam University Medical Center, Deagu, Republic of Korea)
24. Which “Na” COPD patients progress to “Da” with the Korea classification?  
Hye Sook choi<sup>1\*</sup>, Yong Bum Park<sup>2</sup>, Seung Hyun Lee<sup>1</sup>, Kyung Hee Son<sup>1</sup>, Won Kun Kwak<sup>1</sup>, Jung Mi Lee<sup>1</sup>, Kwang Ha Yoo<sup>3</sup>  
(<sup>1</sup>Internal Medicine, Kyung Hee Medical Center, Seoul, Republic of Korea, <sup>2</sup>Internal Medicine, Kangdong Sacred Heart Hospital, Seoul, Republic of Korea, <sup>3</sup>Internal Medicine, Konkuk University Hospital, Seoul, Republic of Korea)
25. The effect of LAMA and LABA on lung function in bronchiectasis patients  
Suyeon Lee<sup>\*</sup>, Yeon Mok Oh, Sei Won Lee, Jae Seung Lee  
(Department Of Pulmonology, Asan Medical Center, University Of Ulsan College Of Medicine, Seoul, Republic of Korea)
26. Comparison of low and high FENO in COPD patients  
Sung Jun Chung<sup>\*</sup>, Jang Won Sohn  
(Pulmonary, Hanyang, Seoul, Republic of Korea)
27. The Usefulness Of Direct Hemoperfusion With Polymyxin B-immobilized Fiber (PMX-DHP) In Patients With Acute Exacerbation Of Interstitial Lung Disease

Mingyo Seo\* , Jae Ha Lee , Hang Jea Jang , Jin Han Park  
(Division Of Pulmonology, Department Of Internal Medicine, Inje University Haeundae Paik Hospital, Inje University College Of Medicine, Busan, Republic of Korea)

28. Clinical characteristics of Idiopathic pulmonary fibrosis patients with acute exacerbation  
Seung Hoon Kim\* , Jin Woo Kim , Gyu Yeon Kim , Hyun Soo Joo  
(Internal Medicine, The Catholic University College Of Medicine, Seoul, Republic of Korea)

29. Occupational and Environmental Risk factors of Idiopathic Pulmonary Fibrosis Risk factor of IPF: Systematic review and Meta-analysis  
SeungHyun Jung\* , Young Mee Ahn , Byoung Jun Lee , Keun Bum Chung , HaYoun Lee , Ha-Kyeong Won , Jin Hwa Song , Yeonkyung Park  
(Division of Pulmonary and Allergy, Department of Internal Medicine, Veterans Health Service Medical Center, Seoul, Republic of Korea)

30. Nintedanib in patients with chronic fibrosing interstitial lung diseases with progressive phenotype: the INBUILD trial†  
Jin Woo Song†<sup>1\*</sup> , Kevin R Flaherty<sup>2</sup> , Athol U Wells<sup>3,4</sup> , Vincent Cottin<sup>5,6</sup> , Anand Devaraj<sup>7</sup> , Yoshikazu Inoue<sup>8</sup> , Luca Richeldi<sup>9</sup> , Simon Walsh<sup>4</sup> , Susanne Stowasser<sup>10</sup> , Carl Coeck<sup>11</sup> , Rainer-Georg Goeldner<sup>12</sup> , Emmanuelle Clerisme-Beaty<sup>10</sup> , Rozsa Schlenker-Herceg<sup>13</sup> , Kevin K Brown<sup>14</sup>  
(<sup>1</sup>Department of Pulmonary and Critical Care Medicine, ASAN Medical Centre, University of Ulsan College of Medicine, Seoul, Republic of Korea , <sup>2</sup> Division of Pulmonary and Critical Care Medicine, University of Michigan, Ann Arbor, MI, United States , <sup>3</sup>National Institute for Health Research Respiratory Biomedical Research Unit, Royal Brompton and Harefield NHS Foundation Trust, London, United Kingdom , <sup>4</sup>National Heart and Lung Institute, Imperial College, London, United Kingdom , <sup>5</sup>Respiratory Diseases Department, National Reference Center for Rare Pulmonary Diseases, Lyon, France , <sup>6</sup> Respiratory Diseases Department, Louis Pradel Hospital, Claude Bernard Lyon 1 University, Lyon, France , <sup>7</sup>Department Of Radiology, Royal Brompton and Harefield NHS Foundation Trust, London, United Kingdom , <sup>8</sup> Clinical Research Center, National Hospital Organization, Kinki-Chuo Chest Medical Center, Sakai City, Osaka, Japan , <sup>9</sup>Fondazione Policlinico A. Gemelli IRCCS, Università Cattolica del Sacro Cuore, Rome, Italy , <sup>10</sup> TA Inflammation Med, Boehringer Ingelheim International GmbH, Ingelheim Am Rhein, Germany , <sup>11</sup> Pulmonology, SCS Boehringer Ingelheim Comm.V., Brussels, Belgium , <sup>12</sup> Biostatistics and Data Sciences, Boehringer Ingelheim Pharma GmbH & Co. KG, Biberach, Germany , <sup>13</sup> Clinical Research, Boehringer Ingelheim Pharmaceuticals, Inc., Ridgefield, CT, United States , <sup>14</sup> Department of Medicine, National Jewish Health, Denver, United States)

31. The prediction of risk factors of tyrosine kinase inhibitor-induced pneumonitis in non-small cell lung cancer  
Hyojae Kang\* , Bumhee Yang , Bin Hwangbo  
(Division of Pulmonology, Center for Lung Cancer, National Cancer Center, Goyang, Republic of Korea)

32. Safety of immune checkpoint inhibitors in lung cancer patients with interstitial lung disease  
Ho Cheol Kim<sup>1\*</sup> , Jae Cheol Lee<sup>2</sup> , Jin Woo Song<sup>1</sup>  
(<sup>1</sup>Department of Pulmonary and Critical Care Medicine, University of Ulsan College of Medicine, Seoul, Republic of Korea , <sup>2</sup>Department of Oncology, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Republic of Korea)
33. Acute exacerbation of rheumatoid arthritis associated interstitial lung disease  
Ho Young Lee<sup>\*</sup> , Jin Woo Song  
(<sup>1</sup>Department of Pulmonary and Critical Care Medicine, University of Ulsan College of Medicine, Asan Medical Center, Seoul, Republic of Korea)
34. The role of blood Krebs von den Lungen-6 (KL-6) as a biomarker in patients with chronic hypersensitivity pneumonitis  
Yeon Joo Kim<sup>\*</sup> , Jin Woo Song , Kwanghun Choi  
(Pulmonology, Asan Medical Center, Seoul, Republic of Korea)
35. Clinical characteristics of secondary organizing pneumonia  
Myungkyu Kim<sup>\*</sup> , Eun Jin Kim  
(Department Of Internal Medicine, Daegu Catholic University Hospital, Daegu, Republic of Korea)
36. The role of vascular endothelial growth factor-D as a biomarker in Korean patients with lymphangioliomyomatosis  
Kwanghun Choi<sup>\*</sup> , Miae Kim , Sujin Moon , Jin Woo Song  
(Department of Pulmonary and Critical Care Medicine, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Republic of Korea)
37. Long-term clinical course and outcome of Korean patients with microscopic polyangiitis associated interstitial lung disease  
Donghee Lee<sup>1\*</sup> , Jinwoo Song<sup>1</sup> , Jooae Choe<sup>2</sup> , Heesang Hwang<sup>3</sup>  
(<sup>1</sup>Department of Pulmonary and Critical Care Medicine, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Republic of Korea , <sup>2</sup>Department Of Radiology, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Republic of Korea , <sup>3</sup>Department Of Pathology, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Republic of Korea)
38. Clinical features and outcome of Korean patients with pleuroparenchymal fibroelastosis  
Won Min Oh<sup>1\*</sup> , Jin Woo Song<sup>1\*</sup> , Song-I Lee<sup>3\*</sup> , Hee Sang Hwang<sup>5\*</sup> , Eun Jin Chae<sup>4\*</sup> , Jae Ha Lee<sup>2\*</sup>  
(<sup>1</sup>Pulmonary and Critical Care Medicine, Asan Medical Center, University Of Ulsan College Of Medicine, Seoul, Republic of Korea , <sup>2</sup>Division Of Pulmonology and Critical Care Medicine, Haeundae Paik Hospital, Inje University College Of Medicine, Busan, Republic of Korea , <sup>3</sup>Department Of Pulmonology and Critical Care Medicine, Chungnam National University Hospital, Chungnam National University School of Medicine, Daejeon, Republic of Korea , <sup>4</sup>Department Of Radiology, Asan Medical Center, University

of Ulsan College of Medicine, Seoul, Republic of Korea , <sup>5</sup>Department Of Pathology, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Republic of Korea)

39. Prevalence and risk factors for bronchiolitis obliterans syndrome and potential bronchiolitis obliterans syndrome in patients after lung transplantation  
Se Hyun Kwak<sup>1\*</sup> , Moo Suk Park<sup>1</sup> , Su Jin Jeong<sup>3</sup> , Jin Gu Lee<sup>2</sup> , Hyo Chae Paik<sup>2</sup> , Song Yee Kim<sup>1</sup>  
(<sup>1</sup>Division of Pulmonology, Department of Internal Medicine, Severance Hospital, Seoul, Republic of Korea , <sup>2</sup>Department of Thoracic and Cardiovascular Surgery, Severance Hospital, Seoul, Republic of Korea , <sup>3</sup>Department of Internal Medicine-Infection, Severance Hospital, Seoul, Republic of Korea)
40. Two Cases of Interstitial Lung Disease Induced by the Root of *Achyranthes japonica*  
Nakai  
Yong Sub Na\*  
(Department Of Pulmonology and Critical Care Medicine, Chosun University Hospital, Gwangju, Republic of Korea)
41. Role of Clusterin in Protection Against Hyperoxic Lung Injury in Mice  
Jung Yeon Hong\* , Mi Na Kim , Eun Gyul Kim , Jae Woo Lee , Kyung Won Kim , Myung Hyun Sohn  
(Department of Pediatrics, Institute of Allergy, Brain Korea 21 PLUS Project for Medical Science, Yonsei University College of Medicine, Seoul, Republic of Korea)
42. Deletion of Activated Leukocyte Cell Adhesion Molecule (ALCAM/CD166) Aggravates Pulmonary Fibrosis  
Mi Na Kim\* , Jung Yeon Hong , Eun Gyul Kim , Jae Woo Lee , Kyung Won Kim , Myung Hyun Sohn  
(Department of Pediatrics , Institute of Allergy, Institute for Immunology and Immunological Diseases, Brain Korea 21 PLUS Project for Medical Science, Yonsei University College of Medicine, Seoul, Republic of Korea)
43. **Withdrawn**
44. **Withdrawn**
45. The effect of 12-hydroxyeicosatetraenoic acid in idiopathic pulmonary fibrosis  
Kwanghun Choi<sup>1\*</sup> , Miae Kim<sup>1</sup> , Sujin Moon<sup>1</sup> , Hyun Ju Yoo<sup>2</sup> , Jin Woo Song<sup>1</sup>  
(<sup>1</sup>Pulmonary and Critical Care Medicine, Asan Medical Institute of Convergence Science and Technology, Seoul, Republic of Korea , <sup>2</sup>Convergence Medicine, Asan Medical Institute of Convergence Science and Technology, Seoul, Republic of Korea)
46. Naringenin mitigates paraquat induced pulmonary fibrosis via inhibition of inflammation and oxidative stress in animal model.  
Deepika Singh<sup>1\*</sup> , Manvendra Singh<sup>1,2</sup>  
(<sup>1</sup>Department Of Pharmaceutical Sciences, SHUATS, Allahabad, India , <sup>2</sup>Department Of Computer Science and Sciences, HMFA-MIET, AKTU, Lucknow, India)

47. Association between peripheral blood/bronchoalveolar lavage eosinophilia and significant oxygen requirements in patients with acute eosinophilic pneumonia  
Joon Young Choi<sup>1\*</sup>, Chin Kook Rhee<sup>2</sup>, Jeong Uk Lim<sup>2</sup>, Ho Jung Jeong<sup>3</sup>, Ji Eun Lee<sup>3</sup>  
(<sup>1</sup>Division of Pulmonary, Allergy and Critical Care Medicine, Department of Internal Medicine, St. Vincent's Hospital, Suwon City, Republic of Korea, <sup>2</sup>Division of Pulmonary, Allergy and Critical Care Medicine, Department of Internal Medicine, Seoul St. Mary's Hospital, Seoul, Republic of Korea, <sup>3</sup>Division of Pulmonary and Critical Care Medicine, Department Of Medicine, The Armed Forces Capital Hospital, Seongnam City, Republic of Korea)
48. In-depth proteomic analysis of human bronchoalveolar lavage fluid towards the biomarker discovery for lung cancers  
Jun-Hyung Lee<sup>3</sup>, Jin-Young Kim<sup>2</sup>, Min-Sik Kim<sup>3</sup>, Seung Hyeun Lee<sup>1</sup>, Jung Mi Lee<sup>1\*</sup>, Myung Jae Park<sup>1</sup>, Won Gun Kwack<sup>1</sup>, Kyoung-Hee Sohn<sup>1</sup>, Hye Sook Choi<sup>1</sup>  
(<sup>1</sup>Department of Internal Medicine, Kyung Hee University School of Medicine, Seoul, Republic of Korea, <sup>2</sup>Division of Mass Spectrometry Research, Korea Basic Science Institute, Seoul, Republic of Korea, <sup>3</sup>Department of New Biology, Daegu Gyeongbuk Institute of Science and Technology, Daegu, Republic of Korea)
49. Risk Factors Associated with EGFR Mutated Advanced Lung Cancer  
Won-Il Choi<sup>1\*</sup>, Jihyeon Jeong<sup>2</sup>, Choong Won Lee<sup>3</sup>  
(<sup>1</sup>Department Of Internal Medicine, Keimyung University School Of Medicine, Daegu, Republic of Korea, <sup>2</sup>Department of Statistics, Kyungpook National University, Daegu, Republic of Korea, <sup>3</sup>Department of Occupational & Environmental Medicine, Sungso Hospital, Andong, Republic of Korea)
50. A case of multiple, severe adverse effects of immunotherapy after complete remission of lung cancer.  
Choonhee Son<sup>\*</sup>, Soojung Um, Bo-Hyoung Kang, Dong-Hyun Lee, In-Soo Kim  
(Pulmonology, Dong-A University, Busan, Republic of Korea)
51. Concordance with artificial intelligence and multidisciplinary tumor board for lung cancer  
min-seok kim<sup>1,2\*</sup>, Bo-Gun Kho<sup>1,2</sup>, Chul-Kyu Park<sup>1,2</sup>, In-Jae Oh<sup>1,2</sup>, Young-Chul Kim<sup>1,2</sup>, Seok Kim<sup>1,3</sup>, Ju-Sik Yun<sup>1,3</sup>, Sang-Yun Song<sup>1,3</sup>, Kook-Joo Na<sup>1,3</sup>, Jae-Uk Jeong<sup>1,4</sup>, Mee Sun Yoon<sup>1,4</sup>, Sung-Ja Ahn<sup>1,4</sup>, Sae-Ryung Kang<sup>1,5</sup>, Su Woong Yoo<sup>1,5</sup>, Seong Young Kwon<sup>1,5</sup>, Hee-Seung Bom<sup>1,5</sup>, Woo-Yeol Jang<sup>1,6</sup>, In-Young Kim<sup>1,6</sup>, Tae-Bum Lee<sup>1,7</sup>, Yoo-Duk Choi<sup>1,7</sup>  
(<sup>1</sup>Lung and Esophageal Cancer Clinic, Chonnam National University Hwasun Hospital, Jeonnam, Republic of Korea, <sup>2</sup>Department of Internal Medicine, Chonnam National University Medical School, Gwangju, Republic of Korea, <sup>3</sup>Department of Thoracic and Cardiovascular Surgery, Chonnam National University Medical School, Gwangju, Republic of Korea, <sup>4</sup>Department of Radiation Oncology, Chonnam National University Medical School, Gwangju, Republic of Korea, <sup>5</sup>Department of Nuclear Medicine, Chonnam National University Medical School, Gwangju, Republic of Korea, <sup>6</sup>Department of Neurosurgery, Chonnam National University Medical School, Gwangju, Republic of Korea, <sup>7</sup>Department of Pathology, Chonnam National University Medical School, Gwangju, Republic of Korea)

52. A Case of Locally Invasive Inflammatory Myofibroblastic Tumor of the Lung with Multifocal Metastases: Successful Response to Systemic Corticosteroid  
Young Jae Lee<sup>1,2\*</sup>, Yong Chul Lee<sup>1,2</sup>, Jae Seok Jeong<sup>1,2</sup>, So Ri Kim<sup>1,2</sup>, Kum Ju Chae<sup>3</sup>, Yeon Hee Han<sup>4</sup>, Myoung Ja Chung<sup>5</sup>  
(<sup>1</sup>Department of Internal Medicine, Research Center for Pulmonary Disorders, Chonbuk National University Medical School, Jeonju, Republic of Korea, <sup>2</sup>Research Institute of Clinical Medicine, Chonbuk National University-Biomedical Research Institute of Chonbuk National University Hospital, Jeonju, Republic of Korea, <sup>3</sup>Department of Radiology, Chonbuk National University Medical School, Jeonju, Republic of Korea, <sup>4</sup>Department of Nuclear medicine, Chonbuk National University Medical School, Jeonju, Republic of Korea, <sup>5</sup>Department of Pathology, Chonbuk National University Medical School, Jeonju, Republic of Korea)
53. Sudden isolated pulmonary metastasis from malignant fat-forming solitary fibrous tumor of thigh : A case report  
Kyung Jun Heo<sup>1,2\*</sup>, Jae Seok Jeong<sup>1,2</sup>, So Ri Kim<sup>1,2</sup>, Yong Chul Lee<sup>1,2</sup>  
(<sup>1</sup>Department of Internal Medicine, Research Center for Pulmonary Disorders, Chonbuk National University Medical School, Jeonju, Republic of Korea, <sup>2</sup>Research Institute of Clinical Medicine, Chonbuk National University-Biomedical Research Institute of Chonbuk National University Hospital, Jeonju, Republic of Korea)
54. Clinical features and survival in lung cancer patients with rheumatoid arthritis  
Dong Won Park<sup>1\*</sup>, Jiin Choi<sup>2</sup>, Kyung-Il Han<sup>1</sup>, Min Ju Jo<sup>1</sup>, Sung Jun Chung<sup>1</sup>, Yoomi Yeo<sup>1</sup>, Tai Sun Park<sup>1</sup>, Hyun Lee<sup>1</sup>, Ji-Yong Moon<sup>1</sup>, Sang-Heon Kim<sup>1</sup>, Tae-Hyung Kim<sup>1</sup>, Ho Joo Yoon<sup>1</sup>, Jang Won Sohn<sup>1</sup>  
(<sup>1</sup>Department of Internal Medicine, Hanyang University College of Medicine, Seoul, Republic of Korea, <sup>2</sup>Biostatistical Consulting and Research Lab, Medical Research Collaborating Center, Hanyang University, Seoul, Republic of Korea)
55. Clinico-pathologic characteristics and radiographic features of patients concurrently diagnosed lung cancer and active pulmonary tuberculosis  
Hwa Young Lee<sup>1\*</sup>, Jung Won Heo<sup>2</sup>, Hye Seon Kang<sup>2</sup>, Chan Kwon Park<sup>3</sup>, Jin Woo Kim<sup>4</sup>, Sang Haak Lee<sup>5</sup>, Seung Joon Kim<sup>1</sup>, Chang Dong Yeo<sup>5</sup>  
(<sup>1</sup>Allergy and Pulmonology, Seoul St Mary's Hospital, The Catholic University Of Korea, Seoul, Republic of Korea, <sup>2</sup>Allergy and Pulmonology, Bucheon St Mary's Hospital, The Catholic University Of Korea, Gyeonggi-Do, Republic of Korea, <sup>3</sup>Pulmonology, Yeoido St Mary's Hospital, The Catholic University Of Korea, Seoul, Republic of Korea, <sup>4</sup>Pulmonology, Uijeongbu St Mary's Hospital, The Catholic University Of Korea, Gyeonggi-Do, Republic of Korea, <sup>5</sup>Pulmonology, Eunpyeong St Marys' Hospital, The Catholic University Of Korea, Seoul, Republic of Korea)
56. Polymorphisms in Immune Checkpoint Genes and Clinical Outcomes of Patients with Small Cell Lung Cancer Treated with Platinum Doublet Chemotherapy  
Seung Soo Yoo<sup>1\*</sup>, Jae Yong Park<sup>1,2</sup>, Jang Hyuck Lee<sup>2</sup>, Jin Eun Choi<sup>2</sup>, Kyung Min Shin<sup>3</sup>, Sun Ha Choi<sup>1</sup>, Hyewon Seo<sup>1</sup>, Shin Yup Lee<sup>1</sup>, Jaehee Lee<sup>1</sup>, Seung Ick Cha<sup>1</sup>, Chang Ho Kim<sup>1</sup>  
(<sup>1</sup>Internal Medicine, Kyungpook National University, Daegu, Republic of Korea,

<sup>2</sup>Biochemistry and Cell Biology, Kyungpook National University, Daegu, Republic of Korea , <sup>3</sup>Radiology, Kyungpook National University, Daegu, Republic of Korea)

57. Environmental risk factors for lung cancer in female never-smokers  
Ji-Eun Kim<sup>1,2\*</sup> , In-Jae Oh<sup>1,2</sup> , Min-Seok Kim<sup>1,2</sup> , Ha-Young Park<sup>2</sup> , Tae-Ok Kim<sup>2</sup> , Hong-Joon Shin<sup>2</sup> , Bo-Gun Kho<sup>1,2</sup> , Cheol-Kyu Park<sup>1,2</sup> , Yong-Soo Kwon<sup>2</sup> , Yu-Il Kim<sup>2</sup> , Sung-Chul Lim<sup>2</sup> , Young-Chul Kim<sup>1,2</sup> , Tae-Bum Lee<sup>1,3</sup> , Yoo-Duk Choi<sup>1,3</sup>  
(<sup>1</sup>Lung and Esophageal Cancer Clinic, Chonnam National University, Hwasun Hospital, Hwasun, Jeonnam, Republic of Korea , <sup>2</sup>Department of Internal Medicine, Chonnam National University Medical School, Gwangju, Korea, Republic of Korea , <sup>3</sup>Department of Pathology, Chonnam National University Medical School, Gwangju, Republic of Korea)
58. Two Gene Prognostic Model with ERCC1 and BRCA1 in Non–Small-Cell Lung Cancer Patients Treated With Platinum Doublets  
MINJEONG KIM<sup>1\*</sup> , JEONG-SEON RYU<sup>1</sup> , EUN-SOON SHIN<sup>2</sup> , YEON-KYEONG YOO<sup>2</sup> , SEUNG-MIN KWAK<sup>1</sup>  
(<sup>1</sup>Internal Medicine, Inha University Hospital, Incheon, Republic of Korea , <sup>2</sup>DNA Link, DNA Link, Seoul, Republic of Korea)
59. Predictive factors of osimertinib as salvage treatment for metastatic EGFR T790M positive lung adenocarcinoma  
Ji Young Park<sup>1\*</sup> , Seung Hun Jang<sup>1</sup> , Hwan Il Kim<sup>1</sup> , Joo-Hee Kim<sup>1</sup> , Sunghoon Park<sup>1</sup> , Yong Il Hwang<sup>1</sup> , Ki-Suck Jung<sup>1</sup> , Jinwon Seo<sup>2</sup>  
(<sup>1</sup>Division of Pulmonary, Allergy and Critical Care Medicine, Hallym University Sacred Heart Hospital, Anyang, Korea, Republic of , <sup>2</sup>Pathology, Hallym University Sacred Heart Hospital, Anyang, Korea, Republic of)
60. Genetic variants in glycolysis pathway are associated with clinical outcomes of chemotherapy in non-small cell lung cancer  
Sun Ha Choi<sup>1,2\*</sup> , Kwon hee won<sup>1</sup> , Yun Yong Seon<sup>1</sup> , Sook Kyung Do<sup>3,4</sup> , Jin Eun Choi<sup>3,5</sup> , Yong Hoon Lee<sup>1</sup> , Hyewon Seo<sup>1,2</sup> , Seung Soo Yoo<sup>1,2</sup> , Jaehee Lee<sup>1</sup> , Shin Yup Lee<sup>1</sup> , Seung Ick Cha<sup>1</sup> , Chang Ho Kim<sup>1</sup> , Jae Yong Park<sup>1</sup> , Chang Ho Kim<sup>1</sup> , Jae Yong Park<sup>1</sup>  
(<sup>1</sup>Internal Medicine, School of Medicine, Kyungpook National University, Daegu, Republic of Korea , <sup>2</sup>Lung Cancer Center, Kyungpook National University Chilgok Hospital, Daegu, Republic of Korea , <sup>3</sup>Biochemistry and Cell Biology, School of Medicine, Kyungpook National University, Daegu, Republic of Korea , <sup>4</sup>BK21 Plus KNU Biomedical Convergence Program, Department of Biomedical Science, Kyungpook National University, Daegu, Republic of Korea , <sup>5</sup>Cell and Matrix Research Institute, School of Medicine, Kyungpook National University, Daegu, Republic of Korea)
61. Polymorphism in ASCL1 target gene DDC is associated with clinical outcomes of small cell lung cancer patients  
Sun Ha Choi<sup>1,2\*</sup> , Ji Hyun Kim<sup>3</sup> , Jin Eun Choi<sup>3,5</sup> , Yun Yong Seon<sup>1</sup> , Kwon hee won<sup>1</sup> , Sun Ji Park<sup>1</sup> , Ji Eun Park<sup>1</sup> , Yong Hoon Lee<sup>1</sup> , Hyewon Seo<sup>1</sup> , Seung Soo Yoo<sup>1</sup> , Jaehee Lee<sup>1</sup> , Shin Yup Lee<sup>1,2</sup> , Seung Ick Cha<sup>1,2</sup> , Chang Ho Kim<sup>1</sup> , Jae Yong Park<sup>1,2,4</sup>  
(<sup>1</sup>Internal Medicine, School of Medicine, Kyungpook National University, Deagu, Republic of Korea , <sup>2</sup>Lung Cancer Center, Kyungpook National University Chilgok

Hospital, Daegu, Republic of Korea , <sup>3</sup>Biochemistry and Cell Biology, School of Medicine, Kyungpook National University, Daegu, Republic of Korea , <sup>4</sup>BK21 Plus KNU Biomedical Convergence Program, Department of Biomedical Science, Kyungpook National University, Daegu, Republic of Korea , <sup>5</sup>Cell and Matrix Research Institute, School of Medicine, Kyungpook National University, Daegu, Republic of Korea)

62. Expression of key regulatory molecules in necroptosis and its effect on the prognosis in non-small cell lung cancer

Ji Eun Park<sup>1\*</sup> , Jang Hyuck Lee<sup>2</sup> , Shin Yup Lee<sup>1</sup> , Hee Won Kwon<sup>1</sup> , Yong Seon Yun<sup>1</sup> , Sunji Park<sup>1</sup> , Ji Yun Jeong<sup>3</sup> , Eung Bae Lee<sup>4</sup> , Sun Ha Choi<sup>1</sup> , Yong Hoon Lee<sup>1</sup> , Hye won Seo<sup>1</sup> , Seung Soo Yoo<sup>1</sup> , Jaehee Lee<sup>1</sup> , Seung Ick Cha<sup>1</sup> , Chang Ho Kim<sup>1</sup> , Jae Yong Park<sup>1</sup>

(<sup>1</sup>Department of Internal Medicine, School of Medicine, Kyungpook National University, Daegu, Republic of Korea , <sup>2</sup>Department of Biochemistry, School of Medicine, Kyungpook National University, Daegu, Republic of Korea , <sup>3</sup>Department of Pathology, School of Medicine, Kyungpook National University, Daegu, Republic of Korea , <sup>4</sup>Department of Thoracic Surgery, School of Medicine, Kyungpook National University, Daegu, Republic of Korea)

63. **Withdrawn**

64. Identification of risk factors of pneumonia in lung cancer patients

Jung Won Heo<sup>1\*</sup> , Chang Dong Yeo<sup>2</sup> , Jin Woo Kim<sup>3</sup> , Ju Sang Kim<sup>4</sup> , Sung Kyoung Kim<sup>5</sup> , Chan Kwon Park<sup>6</sup> , Seung Joon Kim<sup>7,8</sup> , Sang Haak Lee<sup>2,8</sup> , Ji Young Kang<sup>7</sup> , Hye Seon Kang<sup>1</sup>

(<sup>1</sup>Division of Pulmonary, Critical Care and Sleep Medicine, Department of Internal Medicine, Bucheon St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea , <sup>2</sup>Division of Pulmonary, Critical Care and Sleep Medicine, Department of Internal Medicine, Eunpyeong St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea , <sup>3</sup>Division of Pulmonary, Critical Care and Sleep Medicine, Department of Internal Medicine, Uijeongbu St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea , <sup>4</sup>Division of Pulmonary, Critical Care and Sleep Medicine, Department of Internal Medicine, Incheon St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea , <sup>5</sup>Division of Pulmonary, Critical Care and Sleep Medicine, Department of Internal Medicine, St. Vincent's Hospital, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea , <sup>6</sup>Division of Pulmonary, Critical Care and Sleep Medicine, Department of Internal Medicine, Yeouido St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea , <sup>7</sup>Division of Pulmonary, Critical Care and Sleep Medicine, Department of Internal Medicine, Seoul St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea , <sup>8</sup>Cancer Research Institute, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea)

65. **Withdrawn**

66. Reversion after spontaneous sputum conversion in noncavitary nodular bronchiectatic Mycobacterium avium complex lung disease

Ock-Hwa Kim\* , Tae Sun Shim , Kyung-Wook Jo

(Division of Pulmonary and Critical Care Medicine, University of Ulsan College of Medicine, Asan Medical Center, Seoul, Republic of Korea)

67. Risk of Nontuberculous Mycobacterial Infection from the Use of Inhaled Corticosteroid in Obstructive Lung Disease  
Ji-Hoon Kim<sup>\*</sup>, So-Jin Kwak<sup>\*</sup>, Sae Byol Kim, Beomsu Shin, Seok Jeong Lee, Myoung Kyu Lee, Sang-Ha Kim, Won-Yeon Lee, Suk Joong Yong, Ji-Ho Lee  
(Internal Medicine, Yonsei University Wonju College of Medicine, Wonju/Gangwondo, Republic of Korea)
68. Clinical significance of nontuberculous mycobacteria isolation in patient with tuberculosis  
Woo Ho Ban<sup>\*</sup>, Ji Young Kang, Hye Seon Kang, Eung Gu Lee  
(Division of Pulmonary, Allergy and Critical Care Medicine, Department of Internal Medicine, The Catholic University of Korea, Seoul, Republic of Korea)
69. Microorganisms in patients with endobronchial tuberculosis  
Sae Byol Kim<sup>\*</sup>, Ji-Ho Lee, Seok Jeong Lee, Myoung Kyu Lee, Sang-Ha Kim, Won-Yeon Lee, Suk Joong Yong, Beomsu Shin  
(Department Of Internal Medicine, Yonsei University Wonju College Of Medicine, Wonju, Republic of Korea)
70. The Resistance of Extensively Drug-Resistant Tuberculosis (XDR-TB) to Clofazimine and  $\beta$ -lactam Antibiotics.  
Jihee Jung<sup>1\*</sup>, Myunggeun Chung<sup>2</sup>, Sangbong Han<sup>3</sup>, Sungwon Ryoo<sup>1</sup>, Sanghee Park<sup>1</sup>  
(<sup>1</sup>Clinical Research Center, Masan National Tuberculosis Hospital, Changwon-Si, Gyeongsangnam-Do, Republic of Korea, <sup>2</sup>Center For Genome Science, Korea National Institute Of Health, Chungju-Si, Chungcheongbuk-Do, Republic of Korea, <sup>3</sup>Thoracic Surgery Department, Masan National Tuberculosis Hospital, Changwon-Si, Gyeongsangnam-Do, Republic of Korea)
71. Overexpression of miRNA-148 suppresses tuberculous fibrosis by inhibiting NOX4 signaling  
Ji Young Hong<sup>1,2\*</sup>, Seong Ji Woo<sup>2</sup>, Youlim Kim<sup>1</sup>, ChangYoul Lee<sup>1</sup>, Myung Goo Lee<sup>1</sup>  
(<sup>1</sup>Division of Pulmonary and Critical Care Medicine, Chuncheon Sacred Heart Hospital, Chuncheon, Republic of Korea, <sup>2</sup>Institute of New frontier Research, Hallym University College of Medicine, Chuncheon, Republic of Korea)
72. Intra-cellular Activity of LCB01-0371, a Novel Oxazolidinone, against Mycobacterium Tuberculosis  
Da-Gyum Lee<sup>\*</sup>, Tae Yoon Kim, Ji Hee Jung, Ji Yeon Kim, Sang Hee Park, Yun Ho Jung, Sung Weon Ryoo  
(Clinical Research Center, Masan National Tuberculosis Hospital, Changwon, Republic of Korea)
73. Thresholds value of transrenal DNA for the diagnosis of pulmonary tuberculosis and treatment monitoring.  
Taeyoon Kim<sup>1\*</sup>, Hyun Kyung Kwak<sup>2</sup>, Chul-Ho Oack<sup>3</sup>, Jehun Kim<sup>3</sup>, Taeyun Kim<sup>4</sup>,

Sungweon Ryoo<sup>1</sup>

(<sup>1</sup>Clinical Research Center, Masan National Tuberculosis Hospital, Changwon, Republic of Korea , <sup>2</sup>Laboratory Medicine, Masan National Hospital, Changwon, Republic of Korea , <sup>3</sup>Division Of Pulmonology, Kosin University Gospel Hospital, Busan, Republic of Korea , <sup>4</sup>Department Of Internal Medicine, Kosin University Gospel Hospital, Busan, Republic of Korea)

74. DEVELOPMENT OF HIGH-THROUGHPUT ASSAY METHOD FOR THE SIMULTANEOUS ANALYSIS OF 24 ANTI-TUBERCULOSIS DRUGS USING LC-MS/MS

Minyoung Kim<sup>1,2\*</sup> , Jae-Gook Shin<sup>1,2,3</sup> , Dong-Hyun Kim<sup>1,2</sup> , Eun-Young Kim<sup>1,2,3</sup> , Jong-Ilyul Ghim<sup>1,2,3</sup> , Ji-Hye Kim<sup>1</sup>

(<sup>1</sup>Center for Personalized Precision Medicine of Tuberculosis, Inje University College of Medicine, Busan, Republic of Korea , <sup>2</sup>Department of Pharmacology and PharmacoGenomics Research Center, Inje University College of Medicine, Busan, Republic of Korea , <sup>3</sup>Department of Clinical Pharmacology, Inje University Busan Paik Hospital, Busan, Republic of Korea)

75. Development and validation of a dried-blood spots method for the simultaneous analysis of 21 anti-tuberculosis drugs using LC-MS/MS

Minyoung Kim<sup>1,2\*</sup> , Jae-Gook Shin<sup>1,2,3</sup> , Jong-Ilyul Ghim<sup>1,2,3</sup> , Eun-Young Kim<sup>1,2,3</sup> , Dong-Hyun Kim<sup>1,2</sup>

(<sup>1</sup>Center for Personalized Precision Medicine of Tuberculosis, Inje University College of Medicine, Busan, Republic of Korea , <sup>2</sup>Department of Pharmacology and PharmacoGenomics Research Center, Inje University College of Medicine, Busan, Republic of Korea , <sup>3</sup>Department of Clinical Pharmacology, Inje University Busan Paik Hospital, Busan, Republic of Korea)

76. An Exploratory Analysis of Tuberculosis-related Research in North Korean Medical Journal

Haesook Seo<sup>1\*</sup> , YoungSoo Cho<sup>1</sup> , JeongEun Suh<sup>1</sup> , ChongKyung Kim<sup>1</sup> , OhWoo Kwon<sup>2</sup> , Booyeon Kim<sup>2</sup>

(<sup>1</sup>Tuberculosis, Seoul Metropolitan Government Seobuk Hospital, Seoul, Republic of Korea , <sup>2</sup>Thoracic Surgery, Seoul Metropolitan Government , Seoul, Republic of Korea)

77. Epidemiological characteristics of Notified Foreign-born Tuberculosis cases in ROK (2016-2018)

Heejung Han<sup>\*</sup> , Mi-sun Park , Joosun Lee , Jiyeon Yang , Gayoung Chun , Jiyeon Han , Yoojin Jang

(TB Epidemic Investigation, Korea Centers For Disease Control & Prevention, Cheonju, Republic of Korea)

78. Risk factors for latent tuberculosis infection in contacts exposed to tuberculosis in congregate setting in Korea, 2018

Sunmi Han<sup>\*</sup> , Mi-sun Park , Sodam Lee , Youngman Kim , Jieun Kim , Shin Young Park , Korea Tuberculosis Epidemic Intelligence Service Team

(Division of Tuberculosis Epidemic Investigation, Korea Centers for Disease Control and Prevention, Cheongju-Si, Republic of Korea)

79. **Withdrawn**

80. A FEMALE 55-YEARS OLD WITH RELAPSE OF PULMONARY TUBERCULOSIS IN RURAL SETTING, BALI PROVINCE: CASE STUDY BASED ON FAMILY MEDICINE APPROACH

Muhammad Faisal Putro Utomo<sup>1\*</sup> , Anak Agung Gde Raka Prasetya Wibawa<sup>1</sup> , Komang Ayu Kartika Sari<sup>2</sup>

(<sup>1</sup>Faculty Of Medicine, Udayana University, Denpasar/Bali, Indonesia , <sup>2</sup>Department Of Public Health and Preventive Medicine, Udayana University, Denpasar/Bali, Indonesia)

81. Comparison of the Efficacy and Safety of Percutaneous Dilatational Tracheostomy with or without Bronchoscopic Guidance.

Tae-Ok Kim \*

(Pulmonology, Chonnam National University Hospital, Gwangju, Republic of Korea)

82. Retrospective analysis of transbronchial cryobiopsy: the first report in Korea

Woori Jo<sup>1\*</sup> , Chuiyong Pak<sup>1</sup> , Jin Hyoung Kim<sup>1</sup> , Soohyun Bae<sup>1</sup> , Byung Ju Kang<sup>1</sup> , Seung Won Ra<sup>1</sup> , Kwang Won Seo<sup>1</sup> , Jong Joon Ahn<sup>1</sup> , Soyeoun Lim<sup>2</sup> , Hee Jeong Cha<sup>3</sup> , Taehoon Lee<sup>1</sup> , Yangjin Jegal<sup>1</sup>

(<sup>1</sup>Department Of Internal Medicine, Ulsan University Hospital , Ulsan, Republic of Korea ,

<sup>2</sup>Department Of Radiology, Ulsan University Hospital, Ulsan, Republic of Korea ,

<sup>3</sup>Department Of Pathology, Ulsan University Hospital, Ulsan, Republic of Korea)

83. **Withdrawn**

84. Treatment outcomes of bronchial typical carcinoid tumor treated by laser ablation under rigid bronchoscopy

Noeul Kang\* , Byeong-Ho Jeong , Hojoong Kim

(Division of Pulmonary and Critical Care Medicine, Department of Medicine, Samsung Medical Center, Seoul, Republic of Korea)

85. Clinical correlation between chronic cough related symptoms and various objective parameters from lateral neck X-rays

Seohyun Kim\* , Tai Joon An , Wan Seo

(Department of Internal Medicine, Yeouido St. Mary's Hospital, Seoul, Republic of Korea)

86. Spectrographic analysis of normal and adventitious breath sounds in children

Sung Eun Kim<sup>2\*</sup> , Jong-seo Yoon<sup>1</sup>

(<sup>1</sup>Pediatrics, The the Catholic University of Korea, Seoul, Republic of Korea , <sup>2</sup>Pediatrics, Choeng-Yang Clinic, Cheong-Yang, Republic of Korea)

87. Prevalence of bronchiectasis among the subjects who performed a medical check-up in a health-screening center

Soo Han Kim<sup>1\*</sup> , Yeon-Mok Oh<sup>1</sup> , Young Ju Jung<sup>1,2</sup> , Sei Won Lee<sup>1</sup> , Jae Seung Lee<sup>1</sup>

(<sup>1</sup>Department Of Pulmonary and Critical Care Medicine, Asan Medical Center, Seoul, Republic of Korea , <sup>2</sup>Health Pomotion Center, Asan Medical Center, Seoul, Republic of Korea)

88. The KMBARC Registry: Protocol for a Multicenter Observational Cohort Study for Non-cystic Fibrosis Bronchiectasis in Korea

Hyun Lee (1), Tae-Hyung Kim (1), Samg-Heon Kim (1)<sup>1\*</sup>, Hayoung Choi (2), Yun Su Sim (2)<sup>2</sup>, Shinhee Park (3), Bumhee Yang (4)<sup>3,4</sup>, Woo Jin Kim<sup>5</sup>, Kwang Ha Yoo<sup>6</sup>, Seung Jun Lee<sup>7</sup>, Ina Jeong<sup>8</sup>, Soo-Jung Um<sup>9</sup>, Ji-Hyun Lee<sup>10</sup>, Deog Kyeom Kim<sup>11</sup>, Byoung Soo Kwon (12), Chang-Hoon Lee (13)<sup>12,13</sup>, Hye Yun Park<sup>14</sup>, Chin Kook Rhee (15), Sang Haak Lee (16)<sup>15,16</sup>, Ju-Ok Na (17), An-Soo Jang (18)<sup>17,18</sup>, Ji Ye Jung (19), Ji-Ho Lee (20), Sang Ha Kim (20)<sup>19,20</sup>, Seung Won Ra<sup>21</sup>, Changhwan Kim<sup>22</sup>, Chang Youl Lee, Youlim Kim<sup>23</sup>, Hyun Kuk Kim<sup>24</sup>, Jae Seung Lee (25), Sei Won Lee (25), Yeon-Mok Oh (25)<sup>25</sup>

(<sup>1</sup>Department Of Internal Medicine, Hanyang University College Of Medicine, Seoul, Republic of Korea , <sup>2</sup>Division of Pulmonary, Allergy, and Critical Care Medicine, Department of Internal Medicine, Hallym University Kangnam Sacred Heart Hospital, Seoul, Republic of Korea , <sup>3</sup>Department of Pulmonary and Critical Care Medicine, Gangneung Asan Hospital, Gangneung, Republic of Korea , <sup>4</sup>Division of Pulmonology, Center of Lung Cancer, National Cancer Center, Goyang, Republic of Korea , <sup>5</sup>Department of Internal Medicine and Environmental Health Center, Kangwon National University Hospital, Chuncheon, Republic of Korea , <sup>6</sup>Division of Pulmonary, Allergy and Critical Care Medicine, Department of Internal Medicine, Konkuk University Hospital, Seoul, Republic of Korea , <sup>7</sup>Division of Pulmonology and Allergy, Department of Internal Medicine, Gyeongsang National University Hospital, Jinju, Republic of Korea , <sup>8</sup>Department of Internal Medicine, National Medical Center, Seoul, Republic of Korea , <sup>9</sup>Department of Internal Medicine, Dong-a University Hospital, Pusan, Republic of Korea , <sup>10</sup> Department of Allergy, Pulmonary and Critical Care Medicine, CHA Bundang Medical Center, Bundang, Republic of Korea , <sup>11</sup> Division of Pulmonary and Critical Care Medicine, Department of Internal Medicine, Seoul Metropolitan Government-Seoul National University Boramae Medical Center, Seoul, Republic of Korea , <sup>12</sup> Division of Pulmonary and Critical Care Medicine, Department of Internal Medicine, Seoul National University Bundang Hospital, Bundang, Republic of Korea , <sup>13</sup> Division of Pulmonary and Critical Care Medicine, Department of Internal Medicine, Seoul National University Hospital, Seoul, Republic of Korea , <sup>14</sup> Division of Pulmonary and Critical Care Medicine, Department of Medicine, Samsung Medical Center, Seoul, Republic of Korea , <sup>15</sup> Division of Pulmonary, Allergy and Critical Care Medicine, Department of Internal Medicine, Catholic University Seoul St. Mary's Hospital, Seoul, Republic of Korea , <sup>16</sup> Division of Pulmonary, Allergy and Critical Care Medicine, Department of Internal Medicine, Catholic University St. Paul's Hospital, Eunpyeong, Republic of Korea , <sup>17</sup> Department of Internal Medicine, Soonchunhyang University Cheonan Hospital, Cheonan, Republic of Korea , <sup>18</sup> Department of Internal Medicine, Soonchunhyang University Bucheon Hospital, Bucheon, Republic of Korea , <sup>19</sup> Division of Pulmonology, Department of Internal Medicine, Yonsei University Severance Hospital, Seoul, Republic of Korea , <sup>20</sup> Division of Pulmonary, Allergy and Critical Care Medicine, Department of Medicine, Wonju Severance Christian Hospital, Wonju, Republic of Korea , <sup>21</sup> Division of Pulmonary Medicine, Department of Internal Medicine, Ulsan University Hospital, Ulsan, Republic of Korea , <sup>22</sup> Department of Internal Medicine, Jeju National University Hospital, Jeju, Republic of Korea , <sup>23</sup> Division of Pulmonary, Allergy and Critical Care Medicine, Department of Internal Medicine, Hallym University Chuncheon Sacred Heart Hospital, Chuncheon, Republic of Korea , <sup>24</sup> Division of Pulmonary and Critical Care Medicine,

Department of Internal Medicine, Inje University Haeundae Paik Hospital, Pusan, Republic of Korea , <sup>25</sup> Department of Pulmonary and Critical Care Medicine, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Republic of Korea)

89. Comparison of the clinical outcomes of pulmonary sequestrations found in adults: surgery versus non-surgery

Ju Yeun Song<sup>1\*</sup> , Sang-Won Um<sup>1</sup> , Sung Goo Park<sup>2</sup> , Ho Yun Lee<sup>2,3</sup> , Byeong-Ho Jeong<sup>1</sup> , Kyungjong Lee<sup>1</sup> , Hojoong Kim<sup>1</sup> , O Jung Kwon<sup>1</sup>

(<sup>1</sup>Division of Pulmonary and Critical Care Medicine, Department of Medicine, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Republic of Korea ,

<sup>2</sup>Department of Radiology and Center for Imaging Science, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Republic of Korea , <sup>3</sup>Department of Health Sciences and Technology, SAIHST, Sungkyunkwan University, Seoul, Republic of Korea)

90. Prevalence and comorbidities of bronchiolitis: A nationwide population-based study in South Korea

Jong Seung Kim<sup>1,2\*</sup> , Yong Chul Lee<sup>2,3</sup> , Jae Seok Jeong<sup>2,3</sup> , So Ri Kim<sup>2,3</sup>

(<sup>1</sup>Department of Otorhinolaryngology-Head and Neck Surgery, Chonbuk National University Medical School, Jeonju, Republic of Korea , <sup>2</sup>Research Institute of Clinical Medicine, Chonbuk National University-Biomedical Research Institute of Chonbuk National University Hospital, Jeonju, Republic of Korea , <sup>3</sup>Department of Internal Medicine, Research Center for Pulmonary Disorders, Chonbuk National University Medical School, Jeonju, Republic of Korea)

91. Is bronchiolitis associated with sinusitis? A nationwide 10-year follow-up cohort study

Jong Seung Kim<sup>1,2\*</sup> , Yong Chul Lee<sup>2,3</sup> , Jae Seok Jeong<sup>2,3</sup> , So Ri Kim<sup>2,3</sup>

(<sup>1</sup>Department of Otorhinolaryngology-Head and Neck Surgery, Chonbuk National University Medical School, Jeonju, Republic of Korea , <sup>2</sup>Research Institute of Clinical Medicine, Chonbuk National University-Biomedical Research Institute of Chonbuk National University Hospital, Jeonju, Republic of Korea , <sup>3</sup>Department of Internal Medicine, Research Center for Pulmonary Disorders, Chonbuk National University Medical School, Jeonju, Republic of Korea)

92. The Disease Burden of Bronchiectasis in Korea: A National Database Study

Bumhee Yang<sup>1\*</sup> , Hayoung Choi<sup>2</sup> , Jun Hyeok Lim<sup>3</sup> , Hye Yun Park<sup>4</sup> , Danbee Kang<sup>5</sup> , Juhee Cho<sup>5</sup> , Sei Won Lee<sup>6</sup> , Yeon-Mok Oh<sup>6</sup> , Ji-Yong Moon<sup>7</sup> , Sang-Heon Kim<sup>7</sup> , Tae Hyung Kim<sup>7</sup> , Jang Won Sohn<sup>7</sup> , Ho Joo Yoon<sup>7</sup> , Hyun Lee<sup>7</sup>

(<sup>1</sup>Division of Pulmonology, Center of Lung Cancer, National Cancer Center, Goyang, Republic of Korea , <sup>2</sup>Division of Pulmonary, Allergy, and Critical Care Medicine, Department of Internal Medicine, Hallym University Kangnam Sacred Heart Hospital, Seoul, Republic of Korea , <sup>3</sup>Division of Pulmonology, Department of Internal Medicine, Inha University Hospital, Inha University School of Medicine, Incheon, Republic of Korea , <sup>4</sup>Division of Pulmonary and Critical Care Medicine, Department of Medicine, Samsung Medical Center, Seoul, Republic of Korea , <sup>5</sup>Department of Clinical Research Design and Evaluation, SAIHST, Sungkyunkwan University, Seoul, Republic of Korea , <sup>6</sup>Department of Pulmonary and Critical Care Medicine and Clinical Research Center for Chronic

Obstructive Airway Diseases, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Republic of Korea, <sup>7</sup>Department of Internal Medicine, Hanyang University College of Medicine, Seoul, Republic of Korea)

93. Impact of Bronchiectasis on Postoperative Pulmonary Complications after Extra-pulmonary Surgery in Patients with Airflow Limitation  
Bumhee Yang<sup>1\*</sup>, Hayoung Choi<sup>2</sup>, Bumsu Shin<sup>3</sup>, Sung Jun Chung<sup>5</sup>, Hyun Lee<sup>5</sup>, Hye Yun Park<sup>4</sup>  
(<sup>1</sup>Division of Pulmonology, Center of Lung Cancer, National Cancer Center, Goyang, Republic of Korea, <sup>2</sup>Division of Pulmonary, Allergy, and Critical Care Medicine, Department of Internal Medicine, Hallym University Kangnam Sacred Heart Hospital, Seoul, Republic of Korea, <sup>3</sup>Division of Pulmonary, Allergy and Critical Care Medicine, Department of Internal Medicine, Yonsei University Wonju Severance Christian Hospital, Yonsei University Wonju College of Medicine, Wonju, Republic of Korea, <sup>4</sup>Division of Pulmonary and Critical Care Medicine, Department of Medicine, Samsung Medical Center, Seoul, Republic of Korea, <sup>5</sup>Division of Pulmonary Medicine and Allergy, Department of Internal Medicine, Hanyang University College of Medicine, Seoul, Republic of Korea)
94. Comorbid Bronchiectasis Increases the Mortality of Corticosteroid-dependent Asthma  
Hyun Lee<sup>1\*</sup>, Jiin Ryu<sup>2</sup>, Eunwoo Nam<sup>2</sup>, Min Ju Jo<sup>1</sup>, Sung Jun Chung<sup>1</sup>, Yoomi Yeo<sup>1</sup>, Dong Won Park<sup>1</sup>, Tai Sun Park<sup>1</sup>, Ji-Yong Moon<sup>1</sup>, Tae-Hyung Kim<sup>1</sup>, Jang Won Sohn<sup>1</sup>, Sang-Heon Kim<sup>1</sup>, Ho Joo Yoon<sup>1</sup>  
(<sup>1</sup>Department Of Internal Medicine, Hanyang University College Of Medicine, Seoul, Republic of Korea, <sup>2</sup>Biostatistical Consulting and Research Lab, Medical Research Collaborating Center, Hanyang University, Seoul, Republic of Korea)
95. Implication of NEK7-licensed activation of NLRP3 inflammasome in eosinophilic nasal polyps  
Yong Chul Lee<sup>1,2\*</sup>, Jae Seok Jeong<sup>1,2</sup>, Jong Seung Kim<sup>2,3</sup>, So Ri Kim<sup>1,2</sup>, Hae Jin Park<sup>1,2</sup>, Kyeong Hwa Park<sup>1,2</sup>  
(<sup>1</sup>Department of Internal Medicine, Research Center for Pulmonary Disorders, Chonbuk National University Medical School, Jeonju, Republic of Korea, <sup>2</sup>Research Institute of Clinical Medicine, Chonbuk National University-Biomedical Research Institute of Chonbuk National University Hospital, Jeonju, Republic of Korea, <sup>3</sup>Department of Otorhinolaryngology-Head and Neck Surgery, Chonbuk National University Medical School, Jeonju, Republic of Korea)
96. Involvement of the phosphoinositide 3-kinase- $\delta$ /hypoxia-inducible factor-1 $\alpha$ /vascular endothelial growth factor inflammatory axis in the development of sinonasal inverted papilloma  
Jae Seok Jeong<sup>1,2\*</sup>, Yong Chul Lee<sup>1,2</sup>, Jong Seung Kim<sup>2,3</sup>, So Ri Kim<sup>1,2</sup>, Hae Jin Park<sup>1,2</sup>, Kyeong Hwa Park<sup>1,2</sup>  
(<sup>1</sup>Department of Internal Medicine, Research Center for Pulmonary Disorders, Chonbuk National University Medical School, Jeonju, Republic of Korea, <sup>2</sup>Research Institute of Clinical Medicine, Chonbuk National University-Biomedical Research Institute of Chonbuk National University Hospital, Jeonju, Republic of Korea, <sup>3</sup>Department of

Otorhinolaryngology-Head and Neck Surgery, Chonbuk National University Medical School, Jeonju, Republic of Korea)

97. Clinical characteristics of diffuse panbronchiolitis in Chonbuk province  
Kyung Jun Heo<sup>1,2\*</sup>, Jae Seok Jeong<sup>1,2</sup>, Yong Chul Lee<sup>1,2</sup>  
(<sup>1</sup>Department of Internal Medicine, Research Center for Pulmonary Disorders, Chonbuk National University Medical School, Jeonju, Republic of Korea, <sup>2</sup>Research Institute of Clinical Medicine, Chonbuk National University-Biomedical Research Institute of Chonbuk National University Hospital, Jeonju, Republic of Korea)
98. Noninvasive atypical thymic carcinoid tumors with Cushing's syndrome: a case report  
Ki Hoon Jung<sup>1,2\*</sup>, Jae Seok Jeong<sup>1,2</sup>, So Ri Kim<sup>1</sup>, Yong Chul Lee<sup>1</sup>  
(<sup>1</sup>Department of Internal Medicine, Research Center for Pulmonary Disorders, Chonbuk National University Medical School, Jeonju, Republic of Korea, <sup>2</sup>Research Institute of Clinical Medicine, Chonbuk National University-Biomedical Research Institute of Chonbuk National University Hospital, Jeonju, Republic of Korea)
99. Validation of the Korean version of Bronchiectasis Health Questionnaire  
Hyun Kuk Kim<sup>1,4\*</sup>, Yeon-Mok Oh<sup>1,4</sup>, Hyun Lee<sup>3,4</sup>  
(<sup>1</sup>Department of Pulmonary and Critical Care Medicine, Haeundae Paik Hospital, Inje University College of Medicine, Busan, Republic of Korea, <sup>2</sup>Department of Pulmonary and Critical Care Medicine, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Republic of Korea, <sup>3</sup>Division of Pulmonary Medicine and Allergy, Department of Internal Medicine, Hanyang University College of Medicine, Seoul, Republic of Korea, <sup>4</sup>Korean Multicentre Bronchiectasis Research Collaboration (KMBARC) Researchers, Republic of Korea)
100. NOVEL SELF NANO EMULSIFYING FORMULATION OF FUROSEMIDE: A DRUG USED IN PULMONARY EDEMA  
Pankajkumar Yadav\*  
(Pharmaceutical Sciences, SHUATS, Prayagraj, India)
101. Safety of early orthopedic surgery in patients with intermediate/low- or low-risk pulmonary embolism  
Ho Cheol Kim<sup>1\*</sup>, Jin-Han Park<sup>2</sup>, Jong-Min Song<sup>3,4</sup>, Jae-Joon Hwang<sup>5</sup>, Sang-Bum Hong<sup>1,4</sup>, Yeon-Mok Oh<sup>1</sup>, Sang-Do Lee<sup>1</sup>, Jae Seung Lee<sup>1,4</sup>  
(<sup>1</sup>Department of Pulmonary and Critical Care Medicine, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Republic of Korea, <sup>2</sup>Department of Internal Medicine, Haeundae Paik Hospital, Inje University College of Medicine, Busan, Republic of Korea, <sup>3</sup>Division of Cardiology, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Republic of Korea, <sup>4</sup>Center for Pulmonary Hypertension and Venous Thrombosis, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Republic of Korea, <sup>5</sup>Department of Pulmonary and Critical Care Medicine, Kyung Hee University Hospital at Gangdong, Seoul, Republic of Korea)
102. Isolated left pulmonary artery agenesis presenting as hemoptysis in adulthood: A case report

So Ri Kim<sup>1\*</sup> , Kum Ju Chae<sup>2</sup> , Yong Chul Lee<sup>1</sup> , Yeong Hun Choe<sup>1</sup> , Seung Yong Park<sup>1</sup> , Jae Seok Jeong<sup>1</sup>

(<sup>1</sup>Division of Respiratory Medicine and Allergy, Department of Internal Medicine, Chonbuk National University Medical School, Jeonju, Republic of Korea , <sup>2</sup>Department of Radiology, Chonbuk National University Medical School, Jeonju, Republic of Korea)

103. A case of SAPVF manifested as a single chronic consolidative lesion with air bronchogram

Chan Yang Cho<sup>1,2\*</sup> , Jae Seok Jeong<sup>1,2</sup> , So Ri Kim<sup>1,2</sup> , Yong Chul Lee<sup>1,2</sup>

(<sup>1</sup>Department of Internal Medicine, Research Center for Pulmonary Disorders, Chonbuk National University Medical School, Jeonju, Republic of Korea , <sup>2</sup>Research Institute of Clinical Medicine, Chonbuk National University-Biomedical Research Institute of Chonbuk National University Hospital, Jeonju, Republic of Korea)

104. A case of pulmonary cement embolism treated by rivaroxaban

Hyun Jung Kim\*

(Internal Medicine, Keimyung University Dongsan Medical Center, Daegu, Republic of Korea)

105. case series of survivors and non-survivors with high risk pulmonary thromboembolism receiving extracorporeal membrane oxygenation

Gae-Eil Jang<sup>1\*</sup> , Won Ho Jang<sup>2</sup> , Yang Ki Kim<sup>3</sup> , Jung Hwa Hwang<sup>4</sup> , Somy Koo<sup>3</sup> , Soo Taek Uh<sup>3</sup> , Ki Up Kim<sup>3</sup> , Bo Young Lee<sup>3</sup>

(<sup>1</sup>Department of Internal Medicine, Soonchunhyang University Hospital, Seoul, Republic of Korea , <sup>2</sup>Department Of Cardiothoracic Surgery, Soonchunhyang University Hospital, Seoul, Republic of Korea , <sup>3</sup>Department of Allergy and Respiratory Diseases, Soonchunhyang University Hospital, Seoul, Republic of Korea , <sup>4</sup>Department Of Radiology, Soonchunhyang University Hospital, Seoul, Republic of Korea)

106. Pleural Fluid ADA Level in Tuberculous Pleurisy can be Low in Old Age, Critically Ill Patients with Multi-organ Failure

Sae Byol Kim\* , Beomsu Shin , Ji-Ho Lee , Seok Jeong Lee , Myoung Kyu Lee , Won-Yeon Lee , Suk Joong Yong , Sang-Ha Kim

(Department Of Internal Medicine, Yonsei University Wonju College Of Medicine, Wonju, Republic of Korea)

107. Is the higher ADA in the pleural effusion associated with the higher probability of TB pleurisy?

Junsu Choe\* , Byeong-Ho Jeong

(Division of Pulmonary and Critical Care Medicine, Department of Medicine, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Republic of Korea, Samsung Medical Center, Seoul, Republic of Korea)

108. Comparison of clinical, laboratory, and radiologic features of undiagnosed pleural effusion and malignant pleural effusion with cytology-negative results

Ji Eun Park\* , Sunji Park , Sun Ha Choi , Yong Hoon Lee , Hye won Seo , Seung Soo Yoo , Shin Yup Lee , Seung Ick Cha , Jae Yong Park , Chang Ho Kim , Jaehee Lee

(Department of Internal Medicine, Kyungpook National University School of Medicine, Daegu, Republic of Korea)

109. Calcifying fibrous tumor of the pleura without calcification  
Wonkyo Yi<sup>1,2\*</sup>, Jae Seok Jeong<sup>1,2</sup>, So Ri Kim<sup>1,2</sup>, Yong Chul Lee<sup>1,2</sup>  
(<sup>1</sup>Department of Internal Medicine, Research Center for Pulmonary Disorders, Chonbuk National University Medical School, Jeonju, Republic of Korea, <sup>2</sup>Research Institute of Clinical Medicine of Chonbuk National University-Biomedical Research Institute, Chonbuk National University Hospital, Jeonju, Republic of Korea)
110. A Case of Pleural Extravasation of Total parenteral Nutrition due to Central venous catheter(CVC) Migration  
Hyo Jin Kim\*, Sung Hyun Kim, Jun Hyeong Kim, Ji Young Yang, Hongyeul Lee, Young-Min Lee, Hyun-Kyung Lee  
(Division of Pulmonary, Allergy and Critical Care Medicine, Department of internal Medicine, Inje University Busan Paik Hospital, Busan, Republic of Korea)
111. Smoking habit and blood heavy metal level of active electronic cigarette smokers : data from the 2013-2017 KNHANES  
Woo Ho Ban\*, Sang Haak Lee, Hye Seon Kang  
(Division of Pulmonary, Critical Care and Sleep Medicine, Department of Internal Medicine, The Catholic University of Korea, Seoul, Republic of Korea)
112. Ventilator-Associated Pneumonia Secondary to Sphingomonas paucimobilis Infection in a Septic Shock Patient: A Case Report  
Martin Kristoffer E. Ogbac\*, Pilar Madelyn P. Rozul  
(Section Of Pulmonology, Perpetual Help Medical Center - Las Piñas, Las Piñas, Philippines)
113. Comparison of clinical characteristics and prognosis of Pneumocystis jirovecii pneumonia in patients with immunocompromised and non-immunocompromised conditions  
Hong-Joon Shin\*, Min-Seok Kim, Bo Gun Kho, Ha Young Park, Tae-Ok Kim, Cheol-Kyu Park, Yong-Soo Kwon, In-Jae Oh, Yu-Il Kim, Sung-Chul Lim, Young-Chul Kim  
(Department of Internal Medicine, Chonnam National University Medical School, Gwangju, Republic of Korea)
114. Pneumocystis jirovecii pneumonia in rheumatoid arthritis patient treated with methotrexate but without prednisolone: A case report  
Seungtae Han\*, Jungwon Noh  
(Internal Medicine, Hankook Hospital, Jeju/Jeju, Republic of Korea)
115. Clinical impact of the N-terminal prohormone of brain natriuretic peptide on patients hospitalized for community-acquired pneumonia  
Hyewon Seo\*, Seung-Ick Cha, Sun-Ha Choi, Yong-Hoon Lee, Seung-Soo Yoo, Shin-Yup Lee, Jaehee Lee, Chang-Ho Kim, Jae-Yong Park  
(Department of Internal Medicine, School of Medicine, Kyungpook National University, Daegu, Republic of Korea)

116. An elementary school tuberculosis investigation case report: the patient was household contact  
Eun Jung Lee , Ji Young Kim , Young Sun Choi , Eun Jung Lee , Young Man Kim , Mi Sun Park , In Sik Kong , Ok Park  
(TB Epidemic Investigation, Korea Centers for Disease Control and Prevention, Cheongju,korea, Republic of Korea)
117. A contact investigation of the transmission of Mycobacterium tuberculosis in a psychiatric hospital  
Eun- young Kim\* , Ae-jung Lee , Jin-a Park , Ji eun Kim , Sung eun Kim , ju young park , Shin-Young Park , Mi-sun Park  
(Division of TB Epidemic investigation, Center for Disease Prevention ,KCDC)
118. Tuberculosis contact investigation in nine childcare facilities  
Su Jin Park\* , Mi Sun Park , Yun Choi , Ji Eun Kim  
(Division of TB Investigation, Korea Centers for Disease Control and Prevention, Cheongju-si, Chungcheongbuk-do, Republic of Korea)
119. Relationship between serum ferritin level and pulmonary function in former smokers: An Analysis of Nationally Representative Sample  
Taeyun Kim<sup>1\*</sup> , Hyunji Choi<sup>2</sup> , Jehun Kim<sup>1</sup> , Chul-Ho Oak<sup>1</sup> , Tae-Won Jang<sup>1</sup> , Mann-Hong Jung<sup>1</sup>  
(<sup>1</sup>Pulmonology, Kosin University Gospel Hospital, Busan, Republic of Korea ,  
<sup>2</sup>Laboratory Medicine, Kosin University Gospel Hospital, Busan, Republic of Korea)
120. The association between endoscopically diagnosed reflux esophagitis and lung function decline in healthy screening population  
Hye-Rin Kang<sup>1\*</sup> , Ye Jin Lee<sup>1</sup> , Seo Young Yoon<sup>2</sup> , Ha Youn Lee<sup>3</sup> , Tae Yun Park<sup>2</sup> , Jung Kyu Lee<sup>2</sup> , Eun Young Heo<sup>2</sup> , Seung Ho Choi<sup>5</sup> , Hee Soon Chung<sup>2,4</sup> , Deog Keom Kim<sup>2,4</sup>  
(<sup>1</sup>Division of Pulmonary and Critical Care Medicine, Department of Internal Medicine, Seoul National University Hospital, Seoul, Republic of Korea , <sup>2</sup>Division of Pulmonary and Critical Care Medicine, Department of Internal Medicine, Seoul Metropolitan Government-Seoul National University Boramae Medical Center, Seoul, Republic of Korea , <sup>3</sup>Division of Pulmonary and Critical Care Medicine, Veteran Health Service Medical Center, Seoul, Republic of Korea , <sup>4</sup>Department of Internal Medicine, Seoul National University College of Medicine, Seoul, Republic of Korea , <sup>5</sup>Department of Internal Medicine, Healthcare Research Institute, Healthcare System Gangnam Center, Seoul National University Hospital, Seoul, Republic of Korea)
121. Lack of inhaled bronchodilator treatment effect in the bronchiectasis patients with restrictive spirometric pattern  
Hyun-Il Gil<sup>1\*</sup> , Hyunkyoo Cho<sup>1</sup> , Byeong-Ho Jeong<sup>1</sup> , Hongseok Yoo <sup>1</sup> , Byung Woo Jhun<sup>1</sup> , Sun Hye Shin<sup>1</sup> , Jiyeon Kang<sup>1</sup> , Junsu Choe<sup>1</sup> , Noeul Kang<sup>1</sup> , Yeonseok Choi<sup>1</sup> , Hyun Lee<sup>2</sup> , Hye Yun Park<sup>1</sup>  
(<sup>1</sup>Division of Pulmonary and Critical Care Medicine, Department of Medicine, Samsung Medical Center, Seoul, Republic of Korea , <sup>2</sup>Division of Pulmonary Medicine and Allergy,

Department of Internal Medicine, Hanyang University College Of Medicine, Seoul, Republic of Korea)

122. **Withdrawn**

123. Is Smoking Status associated with Handgrip Strength in General Population?; Analysis of data from Korean National Health and Nutrition Examination Survey from 2014 and 2016

Ho Cheol Kim<sup>1\*</sup> , Ju-Young Kim<sup>1</sup> , Tae Hoon Kim<sup>1</sup> , Sun Mi Ju<sup>2</sup> , Jeong Wan You<sup>2</sup> , Seung Jun Lee<sup>2</sup> , YG Choi<sup>2</sup> , YY Jeong<sup>2</sup> , JD Lee<sup>2</sup>

(<sup>1</sup>Department Of Internal Medicine, Gyeongsang National University Changwon Hospital, Changwon, Gyeongsang National University School of Medicine, Cahngwon, Republic of Korea , <sup>2</sup>Department Of Internal Medicine, Gyeongsang National University Hospital, Gyeongsang National University School of Medicine, Jinju, Republic of Korea)

124. The Effects of Pulmonary Rehabilitation during Chest Radiotherapy in Patients with Malignancy

Myeong Geun Choi\* , Jae Seung Lee , Yeon-Mok Oh , Sang-Do Lee , Sei Won Lee (Department of Pulmonary and Critical Care Medicine, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Republic of Korea)

125. Pulmonary function and effects of body position in patients with obstructive sleep apnea

Sei Won Kim\* , Hyeon Hui Kang , Woo Ho Ban , Chang Dong Yeo , Sang Haak Lee (Department of Internal Medicine, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea)

126. Sleep Disordered Breathing in patients with lung cancer

Sei Won Kim\* , Woo Ho Ban , Chang Dong Yeo , Sang Haak Lee , Hyeon Hui Kang (Department of Internal Medicine, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea)

127. Sleep duration and its associations with quality of life in adults with chronic kidney disease: results from the 2007-2015 KNAHNES

Hyo Jin LEE\* , Jaeyoung Cho , Nakwon kwak , Sun Mi Choi , Jinwoo Lee , Chang-Hoon Lee , Young Sik Park , Sang-Min Lee , Chul-Gyu Yoo , Young Whan Kim (Division of Pulmonary and Critical Care Medicine, Department of Internal Meidicine, Seoul National University Hospital, 101 Daehak-ro, Jongno-gu, Seoul, 03080, Republic of Korea)

128. Sleep duration and its associations with health-related quality of life in patients with chronic obstructive pulmonary disease: results from the 2007-2015 KNAHNES

So Jeong Kim\* , Nakwon kwak , Sun Mi Choi , Jinwoo Lee , Young Sik Park , Chang-Hoon Lee , Sang-Min Lee , Chul-Gyu Yoo , Young Whan Kim , Jaeyoung Cho (Division of Pulmonary and Critical Care Medicine, Department of Internal Medicine, Seoul National University Hospital, 101 Daehak-ro, Jongno-gu, Seoul, 03080, Republic of Korea)

129. Air pollution and incidence of lung cancer by histological type in Korean adults : A Korean National Health Insurance Service Health Examinee Cohort Study  
Dahye Moon<sup>1\*</sup> , Woojin Kim<sup>1</sup> , Sungok Kwon<sup>2</sup> , Sungyoung Kim<sup>3</sup>  
(<sup>1</sup>Department of Internal Medicine, Kangwon National University Hospital, Chuncheon, Republic of Korea , <sup>2</sup>Biomedical Research Institute, Kangwon National University Hospital, Chuncheon, Republic of Korea , <sup>3</sup>Department of Cancer Control and Population Health, Graduate School of Cancer Science and Policy, National Cancer Center, Goyang-si, Republic of Korea)
130. Serial changes in spirometry and diffusing capacity in patients with humidifier disinfectant related lung injury  
Dong Kyu Oh<sup>1,3\*</sup> , Jin Won Huh<sup>1</sup> , Soo-Jong Hong<sup>2,3</sup> , Chae-Man Lim<sup>1</sup> , Younsuck Koh<sup>1</sup> , Sang-Bum Hong<sup>1,3</sup>  
(<sup>1</sup>Department of Pulmonary and Critical Care Medicine, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Republic of Korea , <sup>2</sup>Department of Pediatrics, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Republic of Korea , <sup>3</sup>Environmental Health Center, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Republic of Korea)
131. Long-term exposure to PM 2.5 AND imaging phenotypes IN CODA COHORT  
Youlim Kim<sup>1\*</sup> , Woo Jin Kim<sup>2</sup> , Chang Youl Lee<sup>1</sup> , Sung Ok Kwon<sup>2</sup>  
(<sup>1</sup>Department Of Pulmonary, Allergy and Critical Care Medicine, Hallym University Chuncheon Sacred Heart Hospital, Chuncheon-Si/Gangwon-Do, Republic of Korea , <sup>2</sup>Department of Internal Medicine and Environmental Health Center, Kangwon National University, Chuncheon-Si/Gangwon-Do, Republic of Korea)
132. The effect of air pollutants DEP on junctional proteins, claudins in both nose and lung in a mouse model  
Pureun-Haneul Lee<sup>\*</sup> , An-Soo Jang , Byeong-Gon Kim , Jisu Hong , Yun-Ki Lee , June-Hyuck Lee , Sung-Woo Park , Do-Jin Kim  
(Department of Internal Medicine, Soonchunhyang University Bucheon Hospital, Bucheon, Republic of Korea)
133. Humidifier disinfectant-associated asthma and decreased diffusing capacity of the lung  
Chuiyong Pak<sup>1\*</sup> , Woori Jo<sup>1</sup> , Jin Hyoung Kim<sup>1</sup> , Soohyun Bae<sup>1</sup> , Byung Ju Kang<sup>1</sup> , Taehoon Lee<sup>1</sup> , Kwang Won Seo<sup>1</sup> , Yangjin Jegal<sup>1</sup> , Jong Joon Ahn<sup>1</sup> , Yang Ho Kim<sup>2</sup> , Seung Won Ra<sup>1</sup>  
(<sup>1</sup>Department of Internal Medicine, Ulsan University Hospital, Ulsan, Republic of Korea , <sup>2</sup>Department of Occupational and Environmental Medicine, Ulsan University Hospital, Ulsan, Republic of Korea)
134. Four Or More Urokinase Instillations May Be Required For Better Clinical Outcomes In Patients With Complicated Pleural Effusion  
Jieun Kang<sup>1\*</sup> , Jang Ho Lee<sup>1</sup> , Kyung-Hyun Do<sup>1</sup> , Kyung-Wook Jo<sup>1</sup> , Jae Seung Lee<sup>1</sup> , Jin-Woo Song<sup>1</sup> , Sei Won Lee<sup>1</sup> , Chang-Min Choi<sup>1</sup> , Jin-Won Huh<sup>1</sup> , Sang-Bum Hong<sup>1</sup> , Yeon-Mok Oh<sup>1</sup> , Tae Sun Shim<sup>1</sup> , Chae-Man Lim<sup>1</sup> , Woo-Sung Kim<sup>1</sup> , Younsuck Koh<sup>1</sup>  
(<sup>1</sup>Department of Pulmonary and Critical Care Medicine, Asan Medical Center, Seoul,

Republic of Korea , <sup>2</sup>Department of Radiology and Research Institute of Radiology, Asan Medical Center, Seoul, Republic of Korea)

135. Secondary Spontaneous Pneumothorax secondary to Tuberculosis with Klebsiella and Pseudomonas co-infection: A Case Report  
Martin Kristoffer E. Ogbac\* , Pilar Madelyn P. Rozul  
(Section Of Pulmonary Medicine, Perpetual Help Medical Center, Las Piñas, Philippines)
136. Relationship of triglyceride glucose index to obstructive sleep apnea in a Korean population  
Hyeon Hui Kang\* , In Kyoung Kim , Sang Haak Lee  
(Department Of Internal Medicine, Eunpyeong St. Mary's Hospital, Seoul, Republic of Korea)
137. Diagnostic value of bronchoalveolar lavage and bronchial washing in sputum-scarce or smear-negative cases with suspected pulmonary tuberculosis: A prospective interventional study  
Yeon Wook Kim\* , Byoung Soo Kwon , Sung Yoon Lim , Yeon Joo Lee , Young-Jae Cho , Ho Il Yoon , Jae Ho Lee , Choon-Taek Lee , Jong Sun Park  
(Internal Medicine, Seoul National University Bundang Hospital, Seongnam, Republic of Korea)
138. Invasive diagnosis of pulmonary nodules detected by low-dose chest CT screening: Focusing on never-smokers  
Yeon Wook Kim<sup>1\*</sup> , Hye-Rin Kang<sup>2</sup> , Byoung Soo Kwon<sup>1</sup> , Sung Yoon Lim<sup>1</sup> , Yeon Joo Lee<sup>1</sup> , Jong Sun Park<sup>1</sup> , Young-Jae Cho<sup>1</sup> , Ho Il Yoon<sup>1</sup> , Jae Ho Lee<sup>1</sup> , Choon-Taek Lee<sup>1</sup>  
(<sup>1</sup>Internal Medicine, Seoul National University Bundang Hospital, Seongnam, Republic of Korea , <sup>2</sup>Internal Medicine, Seoul National University Hospital, Seoul, Republic of Korea)
139. Baseline characteristics of mild asthma patients in Korea from the SYGMA 1 & 2 studies  
Kwang Ha Yoo<sup>1\*</sup> , Sook Young Lee<sup>2</sup> , Sang Haak Lee<sup>3</sup> , Mi-Kyeong Kim<sup>4</sup> , Kwan Ho Lee<sup>5</sup> , Ah Young Shin<sup>6</sup> , Choon Sik Park<sup>7</sup> , Young Joo Cho<sup>8</sup> , Soo Taek Uh<sup>9</sup> , Youn-Soo Hahn<sup>10</sup> , Jung Won Park<sup>11</sup> , Yoon Seok Chang<sup>12</sup> , Sung Il Woo<sup>10</sup> , Heung Woo Park<sup>13</sup> , Chi Hong Kim<sup>14</sup> , Jin Woo Kim<sup>15</sup> , Suk Joong Yong<sup>16</sup> , Byung Jae Lee<sup>17</sup> , Jiyeong Seong<sup>18</sup> , Hyung Jin Cho<sup>18</sup>  
(<sup>1</sup>Department of Internal Medicine, Konkuk University School of Medicine, Seoul, Republic of Korea , <sup>2</sup>Department of Internal Medicine, Seoul St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea , <sup>3</sup>Department of Internal Medicine, St Paul's Hospital, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea , <sup>4</sup>Department of Internal Medicine, Chungbuk National University College of Medicine, Cheongju, Republic of Korea , <sup>5</sup> Department of Internal Medicine, Yeungnam University Medical Center, Daegu, Republic of Korea , <sup>6</sup> Department of Internal Medicine, Incheon St. Mary's Hospital, The Catholic University of Korea College of Medicine, Incheon, Republic of Korea , <sup>7</sup> Department of Internal Medicine, Soonchunhyang University Bucheon Hospital, Bucheon, Republic of Korea , <sup>8</sup>Department of Internal Medicine, College of Medicine,

Ewha Womans University, Seoul, Republic of Korea , <sup>9</sup> Department of Internal Medicine, Soonchunhyang University Seoul Hospital, Seoul, Republic of Korea , <sup>10</sup> Department of Pediatrics, Chungbuk National University Hospital, Chungbuk, Republic of Korea , <sup>11</sup> Department of Internal Medicine, Yonsei University College of Medicine, Seoul, Republic of Korea , <sup>12</sup> Department of Internal Medicine, Seoul National University Bundang Hospital, Seongnam, Republic of Korea , <sup>13</sup> Department of Internal Medicine, Seoul National University College of Medicine, Seoul, Republic of Korea , <sup>14</sup> Department of Internal Medicine, St. Vincent's Hospital, College of Medicine, The Catholic University of Korea, Suwon, Republic of Korea , <sup>15</sup> Department of Internal Medicine, Uijeongbu St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea , <sup>16</sup> Department of Internal Medicine, Yonsei University Wonju College of Medicine, Wonju, Republic of Korea , <sup>17</sup> Department of Internal Medicine, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Republic of Korea , <sup>18</sup> Medical Affairs, AstraZeneca Korea, Seoul, Republic of Korea)

140. Molecular epidemiology of Mycobacterium tuberculosis isolates from the contact investigations in Korea, 2015-2018

Jeong-Seob Lee<sup>1\*</sup> , Dong-Hyeok Kim<sup>1</sup> , Jee-Min Ha<sup>1</sup> , Seung-Jik Kwon<sup>1</sup> , So-Dam Lee<sup>1</sup> , Jae-Il Yoo<sup>1</sup> , Kyu Jam Hwang<sup>1</sup>

(<sup>1</sup>Division Of Bacterial Diseases, KCDC, Osong, Republic of Korea , <sup>2</sup>Division of TB epidemic investigation, KCDC, Osong, Republic of Korea)

141. Guidelines for healthcare-associated tuberculosis management

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