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An invited review following *the Soujinkai Fujiu Memorial Award*: Emanation of Several Clinical Practice Guidelines Based on Basic and Clinical Research including Surveillance Projects in the Field of Pediatric Infectious Diseases and Enlightenment on Judicious Use of Antimicrobial Drugs

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Abstract Under the guidance and support of my mentors, colleagues and my family, I emanated several clinical practice guidelines based on basic and clinical research including surveillance projects in the field of pediatric infectious diseases and enlightened on judicious use of antimicrobial drugs in Japan.

Key words: guidelines, pediatric infectious diseases, surveillance, proper antibiotic usage

I would like to express my sincere gratitude to the chairman, Yohei Fukumoto, the selection committee members, and all members of *the Soujinkai* for being selected for the prestigious 49th Soujinkai Academic Promotion Award, *the Soujinkai Fujiu Memorial Award*. After graduating from Yamaguchi University School of Medicine in 1980, I was trained at the Department of Pediatrics, National Okayama Hospital, and our research team proved that *Yersinia pseudotuberculosis* infection, which present various symptoms such as fever, rash, conjunctival hyperemia, strawberry tongue, membrane-like desquamation of fingers, erythema nodosum, and renal failure is a cause of Izumi fever, which had been unknown for more than 50 years. Then I was very interested in clinical infectious disease science. After that, under the guidance of Professor Philip J. Rettig, Division of Pediatric Infectious Diseases, University Oklahoma Health Science Center, Oklahoma, USA, and Professor Teruko Nakazawa, Department of Microbiology, Yamaguchi University School of Medicine, I was able to cultivate a background in basic research in medical microbiology. In the United States, I conducted basic research and epidemiological research on the new species, *Chlamydia pneumoniae* infections, and at Yamaguchi University School of Medicine, I researched molecular biological typing methods that can be applied to prevent various nosocomial infections, such as *Burkholderia cepacia*. After that, while engaging in pediatric medicine at Department of Pediatrics, Saiseikai shimonoseki General Hospital and Kawasaki Medical School Hospital, I have been continuing basic, clinical, and epidemiological research on pathogenic microorganisms in the area of pediatric infectious diseases, especially respiratory tract infections. I have kept to conduct the nationwide surveillance for the purpose of drug susceptibility investigation and typing of major pathogenic microorganisms of respiratory tract infections such as *Mycoplasma pneumoniae,*

Chlamydia pneumoniae, Streptococcus pneumoniae, and *Haemophilus influenzae* and so on. Utilizing the results of this surveillance, I have been an major active member of the committee for making the pediatric respiratory tract infection clinical practice guideline jointly issued by the Japanese Society for Pediatric Infectious Diseases and the Japanese Society of Pediatric Pulmonology.[1-4] This Pediatric Respiratory Infectious Diseases Practice Guideline 2004 was the first guideline for pneumonia in children in the world. After that, the guidelines were revised to 2007, 2011, and 2017 due to changes in drug susceptibility of pathogenic microorganisms and approval of several new antibacterial drugs.[1-4] In the 2011 and 2017 editions, I worked as a supervisory representative on the emanation of guidelines.[1,2] Through the emanation of the guidelines, I have continued to raise awareness regarding the proper use of antimicrobial drugs. Recently, macrolide-resistant *M. pneumoniae*, which was first reported in Hokkaido in 2000, has increased steadily in various places since then, and the resistance rate has reached over 80% throughout Japan during the 2011-2012 pandemic. And in the medical setting throughout Japan, there was highly considerable confusion in the treatment of *M. pneumoniae* infections. Due to the high resistance rate around this time, there was considerable confusion in the treatment of *M. pneumoniae* infections. During the 2011-2012 pandemic, the Guideline Committee issued "Supplement (February 19, 2013) of Pediatric Respiratory Infectious Diseases Practice Guideline 2011, Concept of Diagnosis and Treatment of *Mycoplasma pneumoniae* Pneumonia in Children" and actively promoted awareness of proper use of antibacterial agents.[1,2] As a result, the macrolide resistance rate has gradually declined since 2012, and dropped to about 10-20% throughout Japan in 2018-2019. In China and South Korea, which do not have similar guidelines, the macrolide resistance rate of *M. pneumoniae* remains at a high level, such as 80% - 100%. I have been an major active member of the committee for making clinical practice guidelines at the Japanese Society of Pediatric Pulmonology, Japanese Society of Chemotherapy, and the Japanese Association for Infectious Diseases.[5-9]

I would like to thank my mentors for their guidance in my research activities over the years, my senior teachers and all my colleagues for their support in various situations. I'm also thankful to my family.

Conflict of Interest

The authors declare no conflict of interest.

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