
海外招請講演

[IL(E)12] 海外招請講演12

座長:射場 敏明(順天堂大学医学部附属 順天堂医院救急・災害医学)

Sat. Mar 2, 2019 9:40 AM - 10:30 AM 第2会場 (国立京都国際会館2F Room A)

共催:日本製薬株式会社

[IL(E)12]Sepsis: New insights into pathophysiology and a sneak preview to future therapy

Thomas van der Poll (Amsterdam University Medical Centers, University of Amsterdam, Netherlands)

【同時通訳付き】

Curriculum vitae (September 2018)

Name Tom van der Poll

Date of birth March 20, 1961

Nationality Dutch

Sex Male

Current and recent positions

12/2016 Chair, Department of Medicine, Academic Medical Center, University of Amsterdam, the Netherlands.

01/2011 – 12/2016 Head, Division of Infectious Diseases, Academic Medical Center, University of Amsterdam, the Netherlands.

01/2007 – 12/2016 Head, Center for Experimental and Molecular Medicine, Academic Medical Center, University of Amsterdam, the Netherlands.

03/2003 Professor of Medicine, University of Amsterdam, the Netherlands.

Education and experience

Board Certified Infectious Diseases May 15, 2000

Board Certified Internal Medicine December 15, 1991

Resident Internal Medicine 1986 – 1991, Academic Medical Center, Amsterdam, the Netherlands

PhD title October 10, 1991 [University of Amsterdam]

Thesis: "Tumor necrosis factor: biological responses in humans"

Medical degree November 1986

Medical School, University of Amsterdam 1978 – 1986

Registration (BIG) number: 19023304301

Other activities

- Council member and past Chair of the International Sepsis Forum
- Supervisor (“Promoter”) of 64 successfully completed PhD projects
- Principal Investigator of >50 research grants
- Member of advisory boards and steering committees of several pharmaceutical companies
- Member of Data Safety Monitoring Boards and Clinical Evaluation Committees of several trials on sepsis, pneumonia and rheumatoid arthritis

Web of Science report:

911 publications; 39,371 citations; 4,223 times in 2017

Hirsch index 98

Selected publications (most recent 10 years)

1. Scicluna B.P., van Vught L.A., Zwinderman A.H., Wiewel M.A., Davenport E.E., Burnham K.L., Nürnberg P., Schultz M.J., Horn J., Cremer O.L., Bonten M.J., Hinds C.J., Wong H.R., Knight J.C., van der Poll T. Classification of sepsis patients as blood genomic endotypes: a prospective cohort study. *Lancet Respiratory Medicine* 2017; 5: 816-826.
2. Van der Poll T., van de Veerdonk F.L., Scicluna B.S., Netea M.G. The immunopathology of sepsis and potential therapeutic targets. *Nature Reviews Immunology* 2017; 17(7):407-420.
3. Van Vught L.A., Wiewel M.A., Hoogendijk A.J., Frencken J.F., Scicluna B.P., Klein Klouwenberg P.M., Zwinderman A.H., Lutter R., Horn J., Schultz M.J., Bonten M.M., Cremer O.L., van der Poll T. The host response in sepsis patients developing Intensive Care Unit-acquired secondary infections. *Am. J. Respir. Crit. Care Med.* 2017; 196: 458-470.
4. Van Vught L.A., Klein Klouwenberg P.M.C., Spitoni C., Scicluna B.P., Wiewel M.A., Horn J., Schultz M.J., Nürnberg P., Bonten M.J.M, Cremer O.L., van der Poll T; on behalf of the MARS consortium. Incidence, risk factors and attributable mortality of secondary infections in the intensive care unit after admission for sepsis. *JAMA* 2016; 315: 1469-79.
5. van Vught L.A., Scicluna B.P., Wiewel M.A., Hoogendijk A.J., Klein Klouwenberg P.M., Franitza M., Toliat M.R., Nürnberg P., Cremer O.L., Horn J., Schultz M.J., Bonten M.M., van der Poll T. Comparative analysis of the host response to community-acquired and hospital-acquired pneumonia in critically ill patients. *Am. J. Respir. Crit. Care Med.* 2016; 194:1366-1374.
6. Claushuis T.A., van Vught L.A., Scicluna B.P., Wiewel M.A., Klein Klouwenberg P.M., Hoogendijk A.J., Ong D.S., Cremer O.L., Horn J., Franitza M., Toliat M.R., Nürnberg P., Zwinderman A.H., Bonten M.J., Schultz M.J., van der Poll T.; MARS Consortium. Thrombocytopenia is associated with a dysregulated host response in critically ill sepsis patients. *Blood* 2016; 127: 3062-72.
7. Cheng S.C., Scicluna B.P., Arts R.J.W., Gresnigt M.S., Lachmandas E., Giamarellos-Bourboulis E.J., Kox M., Manjeri G.R., Wagenaars J., Cremer O.L., Leentjens J., van der Meer A.J., van de Veerdonk F., Bonten M.J., Schultz M.J., Willems P., Pickkers P., Joosten L.A.B., van der Poll T.*, Netea M.G.* (*shared senior authorship). Broad defects in energy metabolism of leukocytes underlie immunoparalysis in sepsis. *Nature Immunology* 2016; 17: 406-13.
8. Scicluna B.P., Klein Klouwenberg P.M., van Vught L.A., Wiewel M.A., Ong D.S., Zwinderman A.H., Franitza M., Toliat M.R., Nürnberg P., Hoogendijk A.J., Horn J., Cremer O.L., Schultz M.J., Bonten M.J., van der Poll T. A Molecular biomarker to diagnose community-acquired pneumonia on Intensive Care Unit admission. *Am. J. Respir. Crit. Care Med.* 2015; 192:826-835.
9. Huson M.A.M., Grobusch M.P., van der Poll T. The impact of HIV infection on the host response to bacterial sepsis. *Lancet Infect. Dis.* 2015; 15(1):95-108.
10. De Stoppelaar S.F., van 't Veer C., Claushuis T.A., Albersen B.J., Roelofs J.J., van der Poll T. .

- Thrombocytopenia impairs host defense in gram-negative pneumonia-derived sepsis in mice. *Blood* 2014; 124: 3781-3790
11. Angus D.C., van der Poll T. Severe sepsis and septic shock. *N. Engl. J. Med.* 2013; 369: 840-851.
 12. Van der Poll T., Opal S.M. The pathogenesis, treatment and prevention of pneumococcal pneumonia. *Lancet* 2009; 374: 1543-1556.
 13. Van 't Veer C., van der Poll T. Keeping blood clots at bay in sepsis. *Nature Med.* 2008; 14: 606-608.
 14. Van der Poll T., Opal S.M. Host-pathogen interactions in sepsis. *Lancet Infect. Dis.* 2008; 8: 32-43.
 15. Wiersinga W.J., Wieland C.W., Dessing M.C., Chantratita N., Cheng A.C., Limmathurotsakul D., Chierakul W., Leendertse M., Florquin S., de Vos A.F., White N., Dondorp A.M., Day N.P., Peacock S.J., van der Poll T. Toll-like receptor 2 impairs host defense in gram-negative sepsis caused by *Burkholderia pseudomallei* (melioidosis). *PLoS Medicine* 2007; 4: e248.

Bibliography

Tom van der Poll is Professor of Medicine and Chair of the Department of Medicine in the Amsterdam University Medical Centers, location Academic Medical Center, University of Amsterdam, the Netherlands. Van der Poll is board certified in Internal Medicine and Infectious Diseases. His training included a postdoctoral research fellowship in Cornell University Medical College in New York (1993-1995). Van der Poll's research focuses on pneumonia and sepsis, particularly on pathogenesis, the host response and biomarkers. He published >800 articles on this topic. Van der Poll has served as a member of Data Safety and Clinical Monitoring Boards of several pivotal phase III sepsis and pneumonia trials evaluating immunomodulatory agents.

The sepsis-associated host response is characterized by concurrent excessive inflammatory, catabolic, metabolic and immune suppressive features, and a failure to return to homeostasis, which oftentimes results in a condition referred to as chronic critical illness. The understanding of key mechanisms involved in the pathogenesis of sepsis has increased tremendously, yet this still needs to be translated into novel targeted therapeutic strategies. Pivotal for the clinical development of new sepsis therapies is selection of patients based on biomarkers and/or functional defects that provide specific insight in the expression or activity of the therapeutic target. Future research should focus the discovery and validation of biomarkers that reflect predominant pathophysiological mechanisms at different body sites and can guide selection of patients for targeted therapies and the monitoring thereof.