Thromb Haemost 2006; 96(01): 100-101
DOI: 10.1160/TH05-12-0827

Letters to the Editor

Schattauer GmbH

Analysis of thrombotic factors in severe acute respiratory syndrome (SARS) patients

Ya Ping Wu *, Ran Wei *, Zhong Hua Liu *, Biao Chen, Ton Lisman, Dao Ling Ren, Ji Ju Han, Zuo Li Xia, Fu Sheng Zhang, Wen Bo Xu, Klaus T. Preissner, Philip G. de Groot

› Author Affiliations

Financial support: This study was supported in part by The Dutch Thrombosis Foundation (grant 20023), Natural Science Foundation of Shandong (grant Y2003C01) and National Natural Science Foundation of China (NSFC grant 30300395).

Further Information

Abstract | Full Text (/products/ejournals/html/10.1160/TH05-12-0827) | References

(https://www.thieme-connect.de/media/10.1055-s-00035024/200601/lookinside/10-1160-th05-12-0827-1.jpg)

* These authors contributed equally.

Analysis of thrombotic factors in severe acute respiratory syndrome (SA

Ya Ping Wu*[1,2], Ran Wei*[1], Zhong Hua Liu*[3], Biao Chen[4], Ton Lisman[2], Dao Ling Ren[1]
Fu Sheng Zhang[5], Wen Bo Xu[3], Klaus T. Preissner[6], Philip G. de Groot[2]

[1]Department of Medicine, Taishan Medical University, Tai-an, China; [2]Department of Haematology, Univ
Utrecht, The Netherlands; [3] National Institute for Viral Disease Control and Prevention, Chinese Cente
Beijing, China; [4]Department of Medicine, Xuanwu Hospital of Capital University of Medical Sciences, B
Taian Medical Center, Tai-an, China; [6]Institute for Biochemistry, Medical Faculty, Justus Liebig University

Dear Sir,

Severe acute respiratory syndrome (SARS) disease has been shown to be associated with changes in coagulation related to both pulmonary and extra-pulmonary manifestations (1). We previously discussed inflammation-dependent coagulation responses in SARS-patients in Hong Kong (2). In particular, 44.8% of these patients presented with thrombocytopenia, 45.0% had elevated levels of D-dimers, and 42.8 % had a prolonged activated partial-thromboplastin time. This combination of pathological parameters suggests the presence of a form of disseminated intravascular coagulation (DIC) or unusually disseminated small vessel thrombosis in the lungs with consumption of platelets and clotting factors (2). Post-mortem examinations indicated the presence of vascular fibrin thrombi, pulmonary alveoli capillary microthromboses or thromboembolic bronchial arterioles (3).

In this study, we examined the profile of the inflammation-dependent coagulation response and measured the levels of circulating markers of coagulation, including tissue factor (TF), von Willebrand factor (vWF), plasminogen activator inhibitor-1 (PAI-1) and vitronectin (VN), which serves as a PAI-1 cofactor for rapid inhibition of activated protein C (4).

All sixteen consecutive patients with SARS (seven male; nine female; mean age 40.5 years), who were newly hospitalized and diagnosed with the modified WHO definition of SARS (5) in the medical intensive care unit of the Xuanwu Hospital of the Capital University of Medical Sciences, China between April and June 2003, were enrolled in the study. The samples were collected immediately after diagnosis of the disease. One SARS-infected patient died. The clinical findings and laboratory data were documented.

Nineteen patients with other etiologies of community-acquired pneumonia (*Streptococcus pneumonia*) (15 male; four female; mean age 50.5 yea
initial radiographic manifes
graph and abnormal CT sc
involvement or lower-zone
associated with at least on
secretions, a body tempera
(> 10,000 leukocytes/μl) o
These patients had no histo

Presence or absence o
confirmed by testing for a
Nasopharyngeal-aspirate, o
pling and processing of mic
ed to confirm the diagnosis
tation and the severity of th
of the other etiologies of co
ported (6). Demographic fa
residence, coexisting illne
ation, altered mental statu
pressure, temperature puls
findings were recorded. He
oped acute respiratory distr
to 5.3 % in patients with i
ogies.

Twenty healthy voluntee
age 43.7 years) recruited fr
members were included in
have major chronic medic
medication known to influ
nificant abnormalities were
participants were not anaer
functions. They did not hav
tients. The absence of SARS
ed by test of anti-SARS-co

Plasma levels of the pr
were determined using co
immunosorbent assay (ELI
(USA), DAKO (UK), Sunb
tria). Non-parametric ANO
Dunn's Multiple Comparis
statistically significant di
operating characteristic cur
test characteristics for distin
tients with the infectious p
mal cut-off points were id
power by the misclassificati
under the curve (AUC) of
sensitivity and specificity

Correspondence to:
Dr. Ya Ping Wu
Taishan Medical College and Haematology (G03.551)
University Medical Center Utrecht,
Heidelberglaan 100, 3584 CX Utrecht, The Netherlands
Tel.:+ 3130 2506498; Fax: +3130 2511893; E-mail: y.wu@azu.nl

*These authors contributed equally.

Financial support:
This study was supported in part by The Dutch Thrombosis Foundation (grant 20023), Natural Science Foundation of Shandong (grant Y2003C01) and National Natural Science Foundation of China (NSFC grant 30300395).

Received December 28, 2005
Accepted after resubmission May 17, 2006
Prepublished online June 14, 2006 doi:10.1160/TH05–12–0827

Thromb Haemost 2006; 96: 100–1