International Session | JSICM/KSCCM Joint Symposium

JSICM/KSCCM Joint Symposium Sepsis and organ dysfunction

Chair:Naoyuki Matsud(a Department of Emergency &Critical Care Medicine, Nagoya University Graduate School of Medicine, Japan), Dong Chan Kim(Chonbuk University, Korea)

2015年2月10日(火) 8:40 AM ～ 10:10 AM 第3会場 (ホテル日航東京 1F ジュピター)

[JKS1] Sepsis-associated encephalopathy

○Yasutaka Oda, Ryosuke Tsuruta（Emergency and Critical Care Medicine, Yamaguchi University Graduate School of Medicine, Ube, Japan）

Sepsis-associated encephalopathy (SAE) is considered a diffuse cerebral dysfunction as a consequence of the systemic inflammation response. SAE occurs frequently in severe sepsis, and may be mostly reversible with recovery from sepsis or may result in long-term cognitive impairment. The pathophysiological mechanism for SAE is highly complex, involving endothelial activation and blood-brain barrier breakdown, mitochondrial dysfunction, alteration of neurotransmission, and impairment of cerebral perfusion. The clinical symptoms of SAE range from delirium to deep coma. Although SAE is often diagnosed by exclusion, the CAM-ICU is a useful tool for detection of delirium. Since there is currently no specific therapy for SAE, it should focus on the therapy for infection and supportive treatment.

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[JKS2] Sepsis induced cardiac dysfunction

○Ho Geol Ryu（Department of Anesthesiology, Seoul National University Hospital, Seoul, Korea）

Sepsis-induced cardiac dysfunction commonly occurs in sepsis and correlates with the severity of sepsis. Proposed mechanisms include decreased adrenergic response at the myocardium level, alterations of intracellular calcium trafficking, and attenuated calcium sensitivity of contractile proteins mediated by cytokines. The main treatment includes preload optimization with sufficient amount of fluids such as the early goal directed therapy. The vasopressor of choice is norepinephrine. Dobutamine can be used to increase myocardial contraction. Novel therapies for sepsis-induced cardiac dysfunction include levosimendan and omecamtiv mecarbil. Heart rate reduction with ivabradine looks promising as it may reduce myocardial oxygen expenditure.

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[JKS3] ARDS in Korea

○Sang-Bum Hong（Department of Respiratory and Critical Care Medicine, University of Ulsan, Asan Medical Center, Korea）

Many centers in Korea followed Berlin definition and management of ARDS, because we don't have national guideline at this time. Multicenter study in Korea showed many intensivist in Korea apply low PEEP table of ARDS net, 1/3 low tidal volume, 1/3 intermediate tidal volume, 1/3 high tidal volume and neuromuscular blocker for severe ARDS. Several centers only use nitric oxide inhalation, prone position, and ECMO. ECMO for ARDS is spreading quickly in Korea also, and ECCO2R is introduced, so we have several educational course for ECMO. Usually big centers in Korea has their own treatment protocol, next year we will have national guideline. We don't have national ARDS registry and RCT for ARDS yet.

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[JKS4] Early intervention based on prediction formula is effective method to avoid unnecessary transplantation

○Kazuaki Inoue[1], Shinsyou Yoshiba[2]（1. Department of Internal Medicine, Division of Gastroenterology, ShowaUniversity Fujigaoka Hospital, Yokohama, Japan, 2. Kasai Shoikai Hospital, Tokyo, Japan）

【Purpose】Shortage of organ donor is serious problem in the world. In the present study we evaluated the effect of our prediction formula on patient's survival.【Method】From 2002 to 2014, 159 patients were admitted to our hospital because of acute sever hepatitis with PT less than 60%.【Results】From 2002 to 2009, 30 of 46 patients with FH at admission survived. 32 of 36 patients positive for prediction survived. 39 of 40 patients who negative for prediction survived. From 2010 to 20014, 14 of 21 patients with FH at admission survived. 11 of 12 patients positive for prediction survived. 4 of 4 patients who negative for prediction survived.【Conclusion】This prediction and early intervention system is useful to avoid unnecessary transplantation.

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[JKS5] Sepsis and acute kidney injury

○Kent Doi（Department of Emergency and Critical Care Medicine, The University of Tokyo, Tokyo, Japan）

Acute kidney injury (AKI) is one of the most important organ dysfunction complicated with sepsis because patients with both sepsis and AKI have an especially high mortality rate. Several different pathophysiological mechanisms have been proposed for sepsis-induced AKI: vasodilation-induced glomerular hypoperfusion, systemic and local inflammatory reactions, and tubular dysfunction induced by oxidative stress. On the other hand, AKI appears to amplify septic cascade by increasing humoral mediators. Recent basic investigation demonstrated several mediators including HMGB-1, IL-6, and VEGF were increased by acute decline of renal function and contributed to other organ injury such as lung. This presentation will overview the role of kidney in sepsis and multiple organ failure.

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[JKS6] Disseminated Intravascular Coagulation and Endothelial Dysfunction

○Sungwon Na（Department of Anesthesiology and Pain Medicine, Korea）

Various disorders including infections, malignancies and/or inflammatory conditions can lead to activation of abnormal coagulation. Usually, these conditions do not lead to clinically significant complication, but just cause abnormal values in laboratory tests.1 However, its most extreme form, which is called disseminated intravascular coagulation (DIC) can occur with systemic hyperactivation of coagulation. DIC is a systemic process causing thrombosis and hemorrhage. It presents as an acute and life-threatening condition, or a chronic, subclinical process. Identifying DIC and its underlying cause is essential for proper management. This review will cover the pathogenesis, clinical manifestations, diagnosis, and treatment of DIC.