Critical Care Medicine

1. Staffs and Students (January 2010~December 2010)

Associate Professor	Chieko MITAKA
Assistant Professor	Yasuaki NAKAJIMA (Critical Care Medicine) (2005.7.1～)
	Kenro KAWADA (Intensive Care Unit) (2007.4.1～2010.5.31)
	Toshifumi KUDO (Intensive Care Unit) (2010.6.1~)
	Yoshitoshi KOMAZAKI (Intensive Care Unit) (2009.10.1~2010.3.31)
	Rinako YAMASHITA (Intensive Care Unit) (2010.4.1~2010.12.31)
Hospital Staff	Hirokazu NAGASAKI (Intensive Care Unit) (2008.11.1～2010.4.30)
	Yousuke ISHII (Intensive Care Unit) (2010.5.1~)
	Yutaka MIYAWAKI (Intensive Care Unit) (2009.4.1~)
	Postgraduate students May Khin Hnin Si (2010.4.1~)
	Miniwan Tulafu (2010.4.1~)

2. Purpose of Education

Undergraduate education

Lectures: Fourth-year medical students

1) Cardiopulmonary resuscitation (Otomo)
2) Shock (Aiboshi)
3) Treatment of trauma (Otomo)
4) Trauma (Kaji)
5) Fluid and primary care (Isotani)
6) Acute toxicosis and renal replacement therapy (Syouko)
7) Acute respiratory failure and mechanical ventilation (Mitaka)
8) Sepsis and multiple organ dysfunction syndrome (Mitaka)
9) Disaster management (Otomo)
10) Disaster management simulation (Otomo)
11) Infection and abnormal body temperature (Tosaka)
12) Examination of critical care medicine

Clinical clerkship: Fifth-year and Sixth-year medical students

Critical care medicine is a branch of faculty of medicine which deals with monitoring and care of critically ill patients. Main objective of critical care medicine is to provide students opportunity to study diagnosis and treatment of critically ill patients in the intensive care unit (ICU). Students are taught on clinical practice in the ICU. Students take charge of 1-2 patients with attending physician and intensivist. Students check clinical data every morning and evening and make system-oriented presentation at ICU rounds.

Conference: Students are assigned to read recent articles of critical care medicine and make presentations by power point at the conference.

3. Research Subjects

1) Treatment and prevention of ischemia/reperfusion injury of lung
2) High tidal volume ventilation and remote organ injury
3) A selective inhibitor for inducible NO synthase in endotoxic shock
4) Blockade of NF-κB activation in endotoxic shock
5) Treatment for septic shock by poly (ADP-ribose) synthetase inhibitor
6) Clinical study of atrial natriuretic peptide
7) Effects of atrial natriuretic peptide on acute kidney injury

4. Clinical Services

Critical care medicine provides intensive care and treatment of critically ill patients. The role of intensivists take charge treatment of critically ill patients in the ICU. To treat critically ill patients, intensivists have to catch the changes of the

patients' condition by monitoring and evaluation, and practice appropriate therapy. It is important that intensivists practice minute-to-minute titration therapy in cooperation with attending physician. The purpose of critical care medicine is to treat and improve the serious condition by maintaining the patients' hemodynamics to be stable.

Critical care medicine includes intensive care for various types of shock, acute respiratory distress syndrome/acute lung injury, sepsis, multiple organ dysfunction syndrome, abnormal acid-base balance, abnormal electrolyte, acute kidney injury, central nervous system dysfunction, hospital-acquired infection, mechanical ventilation, pharmacological support, cardiopulmonary support system, blood purification, and nutrition support.

5. Publications

【Original Article】

1. Bilali A, Kurata S, Ikeda S, Georgieva GS, Zhu C, Tomita M, Katoh I, Mitaka C, Eishi Y, Imai T. Lung-lung interaction in isolated perfused unilateral hyperventilated rat lungs. Translational research 155:228-237,2010
2. Nakajima Y, Okada T, Miyawaki Y, Hoshino A, Suzuki T, Haruki S, Kawada K, Nishikage T, Nagai K, Kawano T. The current status of recurrent and residual treatment after an esophagectomy: what method of treatment should be performed and how? Esophagus 2010;7: 87-93.

【Conference】

1. Mitaka C. Polymyxin B-immobilized fiber column hemoperfusion as a useful treatment in septic shock, The first International Community Healthcare and Healthcare Management Summit, May 25, 2010, Shanghai, China
2. Mitaka C. Endotoxin removal by polymyxin B-immobilized fiber column hemoperfusion in septic shock, Tbilisi Second International Symposium, New steps in critical care medicine, Tbilisi, Georgia, November 16, 2010
3. Kudo T. Mycotic Aneurysm: 10-Year Single Center Experience. The 11th Annual Congress of Asian Society for Vascular Surgery. Kyoto, Japan. July 2, 2010.
4. Miyawaki Y. A case of esophageal cancer with nonrecurrent inferior laryngeal nerve treated by transthoracic esophagectomy with three-field lymph node dissection. 3rd.Central European Congress of Surgery. April, 2010
5. Miyawaki Y. A case of triple primary cancer in the esophagus, stomach and skin effectively treated by multimodal therapy. Esophagus. June, 2010

【Research grant】

1. Grants-in Aid for Scientific Research from the Ministry of Education, Science and Culture. Basic research (C) 18591978, Treatment for septic shock by poly (ADP-ribose) synthetase inhibitor.
2. Grants-in Aid for Scientific Research from the Ministry of Education, Science and Culture. Basic research (C) 22592010, Renal protective effects of atrial natriuretic peptide inacute kidney injury.