

Department of Anesthesiology

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General Summary

The functions of the Department of Anesthesiology are to provide quality patient care, to teach, and to perform research in perioperative medicine, intensive care medicine, and comprehensive pain management. In 2013 we made further advances and great achievements with the support of our faculty, institutional administration, and the Dean of The Jikei University. Below we highlight some of our research achievements in 2013.

Research Activities

Research continues as a growing and important component of the department's activities. The department is committed to enhancing academic productivity and resources by dedicating time to research and granting clinical access to research cases.

The investigators have been successful each year in obtaining peer-reviewed research grants, such as Grants-in-Aid for Scientific Research (*kakenhi*) and contract grants. The department continues to build on the strengths of several outstanding programs: cardiovascular anesthesia, thoracic anesthesia, pediatric anesthesia, regional anesthesia, neuro-anesthesia, obstetric anesthesia, intensive care medicine, and comprehensive pain management. Faculty recruitment is targeted at individuals with demonstrated academic and research activities as well as excellent clinical management and teaching skills. In 2013 Dr. Shimoyama, who was recruited to renew the palliative care program, successfully established a comprehensive palliative care team for cancer patients, a first for The Jikei University, in close collaboration with our existing outpatient pain clinic and acute pain service. Our chronic pain clinic, led by Dr. Kitahara, was recognized by the Ministry of Health, Labour and Welfare as a tertiary pain center in Japan. The members of our pain clinic are expected to play a leading role in establishing various guidelines for pain management in Japan.

Our faculty and residents were both well represented at the Japanese Society of Anesthesiologists' annual meeting in Sapporo and the American Society of Anesthesiologists' annual meeting in San Francisco. In addition, members of the department continue to be invited as visiting professors or guest speakers at national and international meetings. Listed below are the ongoing research projects in which the principal investigators are faculty members of the Department of Anesthesiology.

Doctor Hobo found that gabapentin augments the therapeutic effect of valproic acid on postoperative pain, partly through a mechanism involving the glutamic transporter at the spinal cord level. These experimental findings were further supported by a preliminary clinical trial performed by Dr. Hobo and his colleagues. Doctor Mio's research has focused on the effects of mitochondria on the preservation of major organs. He found that volatile anesthetic agents have protective effects on mitochondria in renal cells. While nicorandil was believed to be protective against contrast-induced kidney injury, Dr. Mio found that nicorandil showed no protective effect against mitochondrial dysfunction in renal cells exposed to a contrast agent. Doctor Kondo continued to work on tumor proliferation induced by morphine. He observed that morphine's proliferative effects on tumor cells are not dose-dependent.

In clinical medicine, several principal investigators from the Department of Anesthesiology deserve mention. Doctor Taniguchi has been interested in temperature regulation during surgery and its effects on postoperative outcomes, such as shivering. Doctor Uchino continues to be active in clinical research in the intensive care unit (ICU) and has been extremely productive in the field of acute kidney injury. Using a large database in the intensive care unit, Dr. Uchino and his colleagues demonstrated that low molecule hydroxyethyl starch currently used in Japan does not have any effect on postoperative bleeding. His group reviewed several predictive factors associated with readmission to the ICU of patients who were admitted to the ICU for an overnight stay with monitoring after surgery. They found that the 2 major risk factors for readmission were administration of a large volume of fluids in the operating room and postoperative ventilation.

The physicians of our pain clinic continue to play a pivotal role in establishing practice guidelines for patients with neuropathic pain. Their particular interest has been post-mastectomy pain.

The appended bibliography of the department shows that a wide range of investigative and scholarly activities were conducted over the past year.

Publications

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