

Anesthesiology and Intensive Care Unit

Introduction

Perioperative care for cancer patients with limited vital organ function is a major challenge for anesthesiologists as, in general, anesthesia and surgery may further deteriorate physiological functions. Perioperative impairment of vital organ function has traditionally been defined as surgical stress determined quantitatively by measuring the physiological parameters representing the corresponding organs. Recent evidence suggests that such a stress response to surgery involves not only vital organs but also the neuro-endocrine-immune system and persists for several days after surgery. Thus, the aim of our anesthetic management is to protect patients from surgical stress by blocking the noxious influences of surgical trauma. This is achieved by regarding the anesthetic management as perioperative care.

Routine Activities

Our group consisting of two staff anesthesiologists and three residents is working as anesthetists and intensive care physicians.

In 2005, we performed 2261 anesthetic procedures. The annual number of patients admitted to the intensive care unit (ICU) amounted to 1049. Our activity in ICU management is not only postoperative cardiorespiratory care but also the critical care of patients who have developed organ failure after medical or surgical cancer treatment. The cumulative number of patients with organ failure treated in the ICU reached 40 since the establishment of the National Cancer Center Hospital East.

An outpatient clinic was introduced in 1997 to improve preoperative evaluation of anesthetic risk in surgical patients and to participate in the management of intractable pain. This clinic will further improve patient safety and the quality of pain control.

Daily activity starts with ICU rounds and pre-anesthesia case presentation. ICU rounds are also made every evening after the completion of elective surgical procedures.

A journal club is held twice a week to obtain up-to-date knowledge of recent advances in anesthesia and critical care medicine.

New Developments in 2005

Ongoing clinical studies ;

- 1) Establishment of perioperative management for esophageal surgery patients after chemotherapy.
- 2) Establishment of airway and respiratory management for patients with upper airway obstruction due to tumor.
- 3) Development of perioperative management for free-tissue transfer surgery patients with head and neck tumor.

Future research activities will be directed toward the establishment of new methods of perioperative care in the field of surgical oncology.

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Number of Patients Managed Under General or Spinal/Epidural Anesthesia

Year	Total	no. Emergency cases	
1995	1524	83	(5.4%)
1996	1594	62	(3.9%)
1997	1624	51	(3.1%)
1998	1642	45	(2.6%)
1999	1563	49	(3.1%)
2000	1742	62	(3.6%)
2001	1972	68	(3.4%)
2002	2041	82	(4.0%)
2003	2159	114	(5.3%)
2004	2265	101	(4.5 %)
2005	2261	81	(3.6 %)

Number of Patients Admitted to ICU

Year	No. of Cases	(Casespermonth)
1995	671	(55.9)
1996	704	(58.7)
1997	755	(62.9)
1998	887	(73.9)
1999	959	(79.9)
2000	1027	(85.6)
2001	1127	(93.9)
2002	1042	(86.8)
2003	1065	(88.8)
2004	1033	(86.1)
2005	1049	(87.4)

Prognosis of Organ Failure Treated in ICU

(1992.7. – 2004.12.)

Primary malignancy	No. of pts	Discharge*	Death*
Stomach	38	25	13
Pancreas & Biliary tract	49	18	31
Colorectal	35	21	14
Esophagus	34	15	19
Head & Neck	45	33	12
Liver	19	9	10
Panperitonitis	8	3	5
Lung	42	18	24
Others	11	6	5

Post-chemo-radiotherapy

Head & Neck	21	5	16
GI tract	29	8	21
Lung	30	12	18
Others	56	22	34

*Discharge is defined as discharge from the hospital. Death includes patients who recovered from organ failure but subsequently died from the primary disease during hospitalization.

Prognosis in Relation to the Number of Failed Organs

No. of failed organs	No. of pts	Discharge	Death
1	195	131	64
2	135	52	83
≥3	87	12	75