

Cardiovascular Anesthesia in Thailand

Ungkab Prakanrattana*

Today, cardiac surgery is a proven and effective treatment for the congenital as well as the acquired cardiac diseases. The early success in surgical treatment gave rise to a new therapeutic era in heart disease management and fastened the development and collaboration of the subspecialties of cardiology and cardiac surgery. Through this cooperative effort, tremendous progress in medical diagnosis and surgical treatment was achieved. In turn these advances encouraged the development of anesthesiologists with cardiovascular interests who understood both pathophysiology of heart diseases and the surgical procedure. Ligation of patent ductus arteriosus, the first cardiac operation in Thailand was performed in 1953 at Chulalongkorn Hospital. The intracardiac repair surgery started with first successful closure of an atrial septal defect under surface cooling hypothermia at Siriraj Hospital in 1959. After that the open heart procedures were carried out with cardiopulmonary bypass or extracorporeal circulation under general endotracheal anesthesia. Successful anesthesia was performed with thiopental, pethidine, d-tubocurarine and halothane in the past. Today the balanced anesthesia is the only technique of choice in cardiovascular anesthesia in Thailand. Induction agents include thiopental, midazolam, etomidate or propofol and small to moderate dose of fentanyl. Anesthesia is maintained with narcotics (fentanyl, morphine), nondepolarizing muscle relaxant (atracurium, pancuronium, vecuronium),

inhalation agents (halothane or isoflurane), as well as sedation with midazolam or diazepam. Monitoring include both noninvasive and invasive especially arterial pressure, electrocardiogram, SpO₂ capnograph, central venous pressure, pulmonary artery pressure, esophageal stethoscope, urine output, nasopharyngeal and rectal temperature, as well as arterial blood gases and electrolytes. Anesthesia team consist of one anesthesiologist staff, one to two anesthesia residents and/or nurse anesthetists. There are 14 open heart surgery units in Thailand.

During 1970 to 1993 all cardiac surgery units concentrated their efforts mostly on congenital, acquired valvular heart diseases, aorto-coronary artery bypass graft, occasionally extracorporeal circulation had been utilized in surgery for thoracic descending aorta, ascending aorta as well as aortic arch aneurysm. There are about 2,600 patients, undergoing cardiac anesthesia per year, which of 2,000 cases of open heart and the other 1000 of closed heart, pericardial and aortic surgery. The congenital heart diseases include ASD, VSD, PDA, tetralogy of Fallot, pulmonary atresia/stenosis, transposition of great of aorta aortic stenosis, anomalies of systemic and pulmonary venous return and hypoplastic left heart syndrome.

In 1988, the first heart transplant was performed in Thailand. Nowaday there are 59 patients of heart transplants, 5 patients of heart-lung transplant and other 2 of lung transplants. Also the balanced technique is performed to anesthetized patients accompanied with isoproterenol and

*Anesthesiology Department, Faculty of medicine, Siriraj Hospital, Mahidol University, Bangkok, Thailand.

dopamine as inotropic agents.

There are only 25 cardiac anesthesiologists, approximately 50 full time cardiac surgeons and perhaps 120 qualified cardiologists throughout the country. The population of Thailand now is approximately 55 millions with 1.3 percent annual

growth rate, which obviously indicate the disproportion in the ratio between the size of population and man power expected to deliver cardiac services to these people. Therefore, a more effective program in developing cardiac personal including anesthesiologist should be considered.

(Circ Cont 15 : 363~364, 1994)