

Pediatric cardiovascular surgery department

(Seoul National University Hospital)

Session : Pediatric cardiovascular surgery department clinical training

1. Congenital cardiac surgery in Seoul National University Children's Hospital

Division of Pediatric Cardiac Surgery in Seoul National University Children's Hospital has been a national center of excellence in congenital heart surgery, and has led the development of congenital cardiac surgery in Korea. Division of Pediatric Cardiac Surgery in Seoul National University Children's Hospital has also maintained a leadership role of training medical students, residents, and fellows in the fields of pediatric cardiac surgery. Division of Pediatric Cardiac Surgery conducts the diagnosis and surgical treatment for the congenital heart diseases. This division deals with the acyanotic congenital cardiac anomalies, various complex congenital cardiac anomalies, and transplantation of heart in children.

Our pediatric cardiac surgery team, ranked one of the best in Korea, treats children with every kind of congenital heart condition, from the most common to the rarest. Our pediatric cardiac surgery team is made up of four surgeons who are dedicated exclusively to the patients with congenital heart disease and other rare heart conditions. Each specializes in a specific area of congenital heart surgery, including neonatal cardiac surgery and complex congenital heart surgery. The clinical activities in pediatric cardiac surgery has grown parallel with an active pediatric cardiology service to provide comprehensive diagnostic, interventional, and surgical care for all forms of heart disease in children.

We currently performed 2657 major cardiovascular surgeries including 1939 surgeries with cardiopulmonary bypass, and 718 surgeries without cardiopulmonary bypass during the recent 5 years. Number of surgery with cardiopulmonary bypass is somewhat decreasing during the last five years since birth rates are constantly falling, however, total operation and cardiopulmonary bypass number were restored last year. During the last 12 months, 516 major cardiovascular surgeries including 372 surgeries with cardiopulmonary bypass, and 144 surgeries without cardiopulmonary bypass have been performed at our division. Overall mortality rate is 1.16%. Mortality rates of surgeries with cardiopulmonary bypass and surgeries without cardiopulmonary bypass are 0.69% (1/144) and 1.34% (5/372), respectively. The reason for these optimal surgical results is our highly skilled, multidisciplinary team, whose members are extensively trained and experienced, is dedicated exclusively to pediatric congenital heart surgery and treatment. Children after surgery for congenital heart disease recovered in a pediatric intensive care unit. The surgeons, cardiologists and intensive

care specialists are working together in the postoperative management of our patients as needed for comprehensive care. These optimal surgical results are also achieved in this highly dedicated, specialized center with focused specialists attending to the medical necessities of all the patients including very sick children.

Our hospital has the fetal center where fetal diagnosis of congenital heart defects, high-risk deliveries, neonatal critical care, surgical repair, and post-surgical care of patients with complex congenital heart disease are provided under one roof by a dedicated team of specialists. Education has always been an important component of the activities in our division and involves active participation in congenital cardiac surgical management including complex neonatal repairs.

2. Visiting fellowship program

Objectives:

- To acquire the basic knowledge as a pediatric cardiovascular specialist
- To experience pediatric cardiovascular surgery
- To raise the capacity as a good cardiovascular surgeon

Duties

- Participation in the daily regular ward round in general ward to discuss general ward care
- Participation in the daily intensive care round in pediatric intensive care unit to discuss ICU care
- Participation of daily surgery in the operation room to observe and discuss of the surgical methods, techniques, and management of cardiopulmonary bypass
- Participation in the cardiac conference meeting in every Tuesday
- Participation the journal meeting in every Friday morning

Purposes

- Understanding of CPB management
- Understanding of surgical strategy in congenital heart disease
- Understanding of surgical technique in congenital heart disease

Group discussion

- Q&A session on the lectures and study visit
- Getting implications through Korea's experiences

Pediatric cardiovascular surgery monthly training course

	Contents	Purpose
1 week	Understanding of disease and diagnosis in congenital heart disease	General understanding of congenital heart disease
2 weeks	Understanding of diagnosis and treatment in congenital heart disease	Understanding of operation in congenital heart disease
3 weeks	Participation of operation	Understanding of operative techniques and courses
4 weeks	Participation of operation	Understanding of operative techniques and courses

Pediatric cardiovascular surgery weekly training course

	morning	afternoon	evening
Mon	8:00 ICU rounding 8:45 Participation of operation	Participation of operation 6:30 ward rounding	
Tue	8:00 ICU rounding 8:20 Participation of anesthesia management 8:45 Participate operation	Participation operation 4:00 Participate in the cardiac conference meeting 6:00 ward rounding	7:00 Staff lecture
Wed	8:00 ICU rounding 8:20 Participation of anesthesia management 8:45 Participate operation	Participation of operation 6:30 ward rounding	
Thu	8:00 ICU rounding 8:20 Participation of anesthesia management 8:45 Participate operation	Participation of operation 6:30 ward rounding	7:00 Staff lecture

Fri	8:00 ICU rounding 8:20 Participation of anesthesia management 8:45 Participate operation	Participation of operation 6:30 ward rounding	
Sat	9:00 Journal review and conference		

Staff lectures

1. Overview of congenital heart disease
2. Anesthesia for pediatric cardiac anesthesia
3. Surgical strategies of single ventricle palliation
4. Surgical techniques of simple congenital heart disease
5. Basic of echocardiography
6. Monitoring for cardiac patients
7. Surgical therapy of CoA and IAA
8. Postoperative ICU care

3. Faculties

Faculties :	Yong Jin Kim	Professor	kyj@plaza.snu.ac.kr
	Jeong Ryul Lee	Professor	jrl@plaza.snu.ac.kr
	Woong-Han Kim	Professor	woonghan@snu.ac.kr
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