Korean Doctors Helping Children with Congenital Heart Diseases from Foreign Countries

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Korean Pediatric Heart Society
Treatment of Congenital Heart Disease
Why is it so special?
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Treatment of Congenital Heart Disease (CHD)

Why is it so special?

- Highly trained medical, surgical, nursing personnel
- Team approach (many subspecialties)
- Intense labor
- Expensive equipments in a tertiary care facility
- Adequate basic infrastructure of the society
- Political stability of the local government (motivated)

- Children become **INOPERABLE** early in life & are dying even with “simple” cardiac malformations.
- Most CHD patients can lead a **NORMAL life** after proper treatment.
Mission, Vision, Goal in Asia

1. Humanitarian mission
2. Education, training
3. Research collaboration
Humanitarian Mission

Korea
Past story
How we are helping other Asian countries
Minnesota project: 1950-1960
226 Korean MD’s trained at Univ. of Minnesota after the war
Mrs. Hodges save over 3,300 Korean children with CHD in 1970
1300 gram Neonate with Transposition of the Great Arteries after Total Correction
Children after Fontan Operation for Single Ventricle
Oversees Project of Korea

Step 1. Bring pt to Korea for surgery ➔ expensive
Step 2. Perform surgery at local hospitals
Step 3. Bring trainees
   (as a “team” whenever possible)
Step 4 (FINAL GOAL). Help to set up CHD surgery center at local hospital by a local team
Number of Surgery for CHD on Foreign Patients (total >1,491)
- in and outside of Korea -

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Year Range</th>
<th>Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sejong hosp</td>
<td>1989-2009</td>
<td>21</td>
</tr>
<tr>
<td>Samsung Med Ctr</td>
<td>1995-2009</td>
<td>16</td>
</tr>
<tr>
<td>Gachon Med School</td>
<td>1996-2009</td>
<td>14</td>
</tr>
<tr>
<td>Yonsei Univ</td>
<td>1997-2009</td>
<td>16</td>
</tr>
<tr>
<td>Asan Med Center</td>
<td>1997-2009</td>
<td>16</td>
</tr>
<tr>
<td>Kyung-Sang Univ Hosp</td>
<td>1999-2007</td>
<td>9</td>
</tr>
<tr>
<td>National Med Center</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cha hospital</td>
<td>2000-2009</td>
<td>16</td>
</tr>
<tr>
<td>Kae Myung Univ Hosp</td>
<td>2002-2007</td>
<td>6</td>
</tr>
<tr>
<td>Seoul National Univ Hosp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paik Hospital</td>
<td>*and more hospitals</td>
<td></td>
</tr>
</tbody>
</table>

*and more hospitals*
CHD Dx: known in 221 pt (16.4%) 

Mostly “simple” lesions. 
Most Complex lesions are excluded.
Countries where Korea is involved in caring CHD pt

North Korea
‘Asan In Asia (AIA)’ Project

- Asan Medical Center brought 300 trainees from Asian countries
- Concentrate Cambodia & Vietnam
- Similar programs in other hospitals in Korea
Asan Medical Center team in Cambodia 2005-2010
Cambodian patients at Asan Medical Center
Heart-to-Heart Program (Vietnam)  
(Samsung Medical Center – Hanoi Children’s Hospital)  
1st CHD op in Hanoi 2003

250 CHD surgery/year by a local team
Yonsei Univ team in Tashkent Pediatric Medical Institute. Uzbekistan (with Save the Children Korea) 2002-2007
Yonsei Univ. team (with Save the Children Korea) with Dr. & nurse from Mongolia since 2005
“Seoul Project”
→ Contract btw Seoul National Univ Hospital and Laos Medical School for 9 years from 2010
Pusan National Univ. Hospital & Save the Children Korea in Laos (Heart Institute) in 2007
Financial support

1. Private hospitals & universities
2. Korea Heart Foundation
3. Save the Children Korea
4. Religious institutions
5. Rotary Club
6. Korean government
7. Individual doctors
8. Miscellaneous
### ASIA

<table>
<thead>
<tr>
<th></th>
<th>China</th>
<th>India</th>
<th>Other Asian countries</th>
<th>Asia (total)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Population</strong></td>
<td>1.4 billion</td>
<td>1.1 billion</td>
<td>1.5 billion</td>
<td>4 billion</td>
</tr>
<tr>
<td></td>
<td><em>world population 6.8 billion</em></td>
<td></td>
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<td></td>
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<tr>
<td><strong>Live birth</strong></td>
<td>16 million</td>
<td>28 million</td>
<td></td>
<td>100 million/yr</td>
</tr>
<tr>
<td><strong>NB with CHD</strong></td>
<td>150,000/yr</td>
<td>160,000/yr</td>
<td></td>
<td>250, ~ 500, 000/yr</td>
</tr>
<tr>
<td><strong>CHD pt waiting for Tx</strong></td>
<td>~ 4 million</td>
<td>~ 2-3 million ?</td>
<td>~ 4 million ?</td>
<td>~ 10 million?</td>
</tr>
</tbody>
</table>

- *Not including rheumatic heart disease!*
<table>
<thead>
<tr>
<th>Problems in Asia (1)</th>
<th>Main issues</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>“Developed region”</strong></td>
<td></td>
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<tr>
<td>• Surgery for low birth weight neonates</td>
<td></td>
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<tr>
<td>• Hybrid approach for “complex” CHD</td>
<td></td>
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<tr>
<td>• New devices, new drugs</td>
<td></td>
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<tr>
<td>• Quality of life after Fontan op.</td>
<td></td>
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<tr>
<td>• Heart transplantation</td>
<td></td>
</tr>
<tr>
<td>(*Rheumatic fever–vanished)</td>
<td></td>
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<tr>
<td><strong>“Underdeveloped region”</strong></td>
<td></td>
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<tr>
<td>• Too many untreated “simple” CHD patients (many adults) are awaiting treatment.</td>
<td></td>
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<tr>
<td>• Many new CHD pt are born at this moment.</td>
<td></td>
</tr>
<tr>
<td>• Many of them are becoming inoperable.</td>
<td></td>
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<tr>
<td>• Too many rheumatic pt are becoming sick adult.</td>
<td></td>
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</tbody>
</table>
Problems in Asia (2)

• Limited resource (personnel, finance, facilities)

• Priority in allocation of resource among
  ▪ Other health related issues
    (water, sanitation, malnutrition, war-victims)
  ▪ Other disease (AIDS, malaria, other infection)
  ▪ Types of CHD (“simple” vs “complex”)

• Inadequate basic infrastructure of the society
• Political instability
• New drugs(for PH), new devices– too expensive
Now is the time to act!

(1) “Central office”
- To avoid overlapping
- To maximize efficacy of aids
- For sustainable aids

(2) Provide Education & Training
Funding for humanitarian mission & education/training

• NGO
  Charity organization
  Religious organization
  Hospitals/Universities
  Corporate donation
  Individual donation

• Government

• Global International organization
SUMMARY

1. Humanitarian mission—”running out of time"
2. Education, training
3. Research collaboration

1. Millions of patients waiting for Tx.
2. Too many Eisenmenger pt due to “simple” CHD
3. Too many rheumatic heart disease
CONCLUSION — What to do now?

1. Control tower?
2. Multidisciplinary team approach
3. Collaboration/Cooperation:
   Sharing resource and information
4. Sustainable effort
5. Basic infrastructure of the society
6. Other health related issues
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Thank you