Cardiac Surgery in Africa - How far? In Senegal

Prof Mouhamadou Ndiaye

Department of thoracic and cardiovascular surgery Fann Hospital Dakar Senegal

INFRASTRUCTURE AND MANPOWER DEVELOPMENT OF CARDIOVASCULAR AND THORACIC SURGERY ACCRA 13
INTRODUCTION

1993

Ministry of Health

Priorities are malaria diarrhea, infectious disease

not OPEN Heart Surgery

2013

Pioneering maverick

University based TEAM

New CVT HOSPITAL AT FANN

Closed & open heart

Congenital valvular

Coronary very soon!

QOL improved

Many difficulties
Tribute
Infrastructure

1.1. 2 operating Room for Hearts

   1 TEE
   1 IABCP
   1 C-ARM + 1 injector
   1 stérilisation + cafetéria

1.2. ICU  8 Beds + complete monitorin

1.3 Hospital ward  18 Beds with medical fluids and 5 telemetry mobile X Ray
CARDIOLOGY

• ACURATE DIAGNOSIS
  – Trans thoracic echocardiography
  – TEE
  – Brand new cathlab 2013

• Perspective
  – Balloon mitral commissuro
  – Coronary Bypass
The Team
TRAINING The Team

- During medical missions hands on
- France
  - Clermont ferrand De Ribes Rorla
  - Paris deloche Carpentier
- USA
  - Arizona Heart institute Dietricht
Manpower

Surgeons : 4
    2 Professors
    2 Senior Assistants  Professors

Anesthesia and ICU : 2
    1 Professeur
    1 Hospital anesthesiologist

Cardiologists : 4
    1 Professeur
    4 Hospital Cardiologists
Local training : missions
Anesthesiia Technicians : 2
CPB Technician : 2
Nurses: ward an operating room
SUPPORT PERSONNEL : housekeeping and safety
HEALTH CARE ACTIVITIES

• 3 AREAS IN SURGERY
• THORACIC
• VASCULAR

• CARDIAC OPEN AND CLOSED HEART
STATISTICS

Consultations

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Surgical activities

• Evolution of open heart surgery from 2004-2012

• 648 patient in cardiac surgery
  – Closed heart 75%
  – Open Heart 25%
Congenital Heart Diseases

• 3 studies
• Fallot tetralogy
• Pulm artery banding
• Surgery of CHD
## Congénitaux

*Afr Annals Thor cardio vasc surg*, 2006, 1,2: 9-12
*Mali Medical*, 2009, 24, 2

<table>
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<tr>
<th>NCCHD</th>
<th>Nomb</th>
<th>%</th>
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<tbody>
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<td>VSD</td>
<td>134</td>
<td>37,9</td>
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<tr>
<td>AVC</td>
<td>37</td>
<td>10,48</td>
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<tr>
<td>ASD</td>
<td>17</td>
<td>4,8</td>
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<tr>
<td>PDA</td>
<td>18</td>
<td>5,09</td>
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<tr>
<td>Pulmonary stenosis</td>
<td>20</td>
<td>5,66</td>
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<tr>
<td>Coarctation</td>
<td>2</td>
<td>0,56</td>
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<tr>
<td>Autres</td>
<td>16</td>
<td>4,5</td>
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<thead>
<tr>
<th>CCHD</th>
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<tr>
<td>Fallot</td>
<td>64</td>
<td>18,1</td>
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<tr>
<td>Transpo GVessels</td>
<td>3</td>
<td>0,84</td>
</tr>
<tr>
<td>complexes</td>
<td>44</td>
<td>12,46</td>
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Surgery of congenital diseases

Fallot Tetralogy

• 17 palliation Blalock
• 17 complete repair
• Delayed diagnosis 3.3 years (1 mo – 16 years)
• These med Dakar 2010
VALVE DISEASES

• Feasability of a valvular homograft bank
  
  Dakar medical, 2001, 46 : 20- 24

• Surgery for rheumatic valvular Heart disease
  
  
  – Closed mitral commissurotomy
  
  – Valve Repair 45   (Mitral 44     Aorta 1)
  
  – Valve replacement   single 54    Double 15
VALVE DISEASE

• 100 mitral valve repair

Medecine tropicale, 2009, 69:278-280

– Mean age 12 Y
– Good late results Fup 5 years (1-8 Y)
– Ventricular remodeling
Valve disease

– 163 Valve replacement  119 studied

*These med Dakar 2012*

• QOL SF36 improved
• From 52% to 72%
• Afib reduced;
• LV diameter reduced
• Pulm hypertension improved
• 9% pregnancy; (8 women)
OTHER pathologies

• Heart tumors
  – Fibroelastoma and myxomas are rare
    – 5cases of Myxomas Ann Afr Chir Thor Cardivasc 2007,2:108

• Pericardial disease
  – Drainage for purulent collection
    – Constrictive pericarditis J. Afr. Thorax et vaisseaux 2011, 1,3:139
Financing

• Government
  – 40 CPB circuit per year
  – 20 valves
  – ICU drugs and supplies
  – Single USE gowns and sheets for 100 operations
  – Stipends for training

• Patients
  – Insurance very few
  – Family solidarity ++++
INTERNATIONAL PARTNERS

Medical NGOs

MEDHELP (USA);
CHAINE DE l’Espoir (France),
Surgeons of Hope (USA)
Terre des Hommes LAUSANNE (Suisse);

TRAINING IN SENEGAL missions of visitors

EQUIPMENTS AND SUPPLIES
TEACHING ACTIVITIES

• BASIC MEDICAL SCHOOL
• Daily visits consults
• Mortality meeting
• CVTS TRAINING
  – DES CTCV SINCE 4 YEARS
    • 10 students enrolled
    • Wet lab building
  – CME for the hole STAFF
FINANCIAL CHALLENGES

– Poor patients
– No social security
– Very few funding from government

– NATIONAL SUPPORT PROGRAMM
  • Partnership WITH COMPANIES
  • For Cost reduction

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<th>Level of income of parents</th>
<th>Frequency</th>
<th>Percentage</th>
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<tr>
<td>LOW</td>
<td>22</td>
<td>64.7%</td>
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<tr>
<td>Medium</td>
<td>5</td>
<td>14.7%</td>
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<tr>
<td>unknown</td>
<td>7</td>
<td>20.6%</td>
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<tr>
<td>Total</td>
<td>34</td>
<td>100.0%</td>
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Challenges 2

• Ethical risk of segregation based on wealth!!
• African Sub regional collaboration for
  – training
  – Exchange
  – Local industry of supplies
  – ASKY aeronautic company!!!!
CONCLUSION

NOT FAR ENOUGH

• Universal access for all patients
• Pediatric open Heart Surgery
• Funding by the government
• More training more center
• Reduce the Burden of RHD and CHD
Thank you for your attention