

## Surgical Treatment for CHD in Vietnam

Congenital Heart Surgery (CHD) began in Vietnam during 1970s of the last century at Viet Duc Hospital, during the Vietnam War. The first successfully-operated case report was a patient with PDA ligation, followed by pulmonary valvotomy for critical PS. Since 1990, the Carpentier Heart Institute in HoChiMinh city successfully performed open heart surgeries for children with CHD. The majority were simple lesions, including atrial septal defect (ASD), ventricular septal defect (VSD) and Tetralogy of Fallot.

Together with improvement of economic condition, the surgical treatment for CHD has been widespread through many centers throughout the country. Until now, there are up to 18 centers which can perform open heart surgery for children from the North to the South of Vietnam. The number of CHD surgeries has not accurately been recorded, approximately 4500 to 5000 cases/year in a population of 96 million people. At the present, the quality of treatment for simple lesion is comparable between institutions and outcomes are good with the mortality rate less than 5% with ASD, VSD. However, challenges for complex open heart surgery have remained different outcomes between institutions. Neonatal open heart surgery could be performed in a few centers (5 centers in the whole country) and still be a challenge for most of the centers. The biventricular repair during neonatal period could be successfully performed in 2 or 3 centers, but the single ventricular palliation still remains a challenge for all centers.

Recently, Norwood operation could be performed with an acceptable mortality in only one center which dedicated for neonatal open heart surgery. Despite the quality of CHD screening program is better than that was in the past, there are a lot of neonate and infant patients born with critical CHD died before diagnosis. Other remaining issue is a grown up CHD, which will be a heavy burden for the health care system in the near future.

The progress of surgical treatment for CHD in Vietnam is a dramatic improvement in a two and a half decades. However, there are a lot of difficulties and challenges in the near future, which will require a strong support and collaboration from the developed countries to overcome the issues.