

Letter to the Editor

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About Health and Disease

At the International Conference on Primary Health Care held in Alma-Ata, capital of Kazakhstan (then part of the Soviet Socialist Republics of Russia), in the period from 6 to 12 September 1978, attended by representatives of 136 countries and more 64 specialized agencies, was drafted the famous Declaration of Alma-Ata:

I. The Conference stresses that Health is state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity – it is a fundamental human right and the attainment of the highest possible level of health is the most important social aim worldwide, whose realization requires the action of many other social and economic sectors in addition to the health sector.

II. The existing gross inequality in the health status of the people particularly between developed and developing countries as well as within countries is politically, socially and economically unacceptable and is, therefore, of common concern to all countries.

These are the first two items of the statement among the ten supplementing it. The goals to be achieved were scheduled for all peoples of the world from the next decade until the year 2000.

Through this document, the responsible for the basic health of the population of their countries began a process of evolution and transformation in their ideas on public health. This caused new conferences in order to prepare the matter more in accordance with the possibilities of each country which highlight the “Ottawa Charter” (Canada), “Adelaide Declaration” (Australia), “Sundsvall Statement” (Sweden) and “Charter of Bogota” (Colombia), among others.

The world prestigious British medical journal “The Lancet” published in volume 380, number 9859, December 15th, 2012, a series of articles on diseases of the decade between 1990 and 2010. The studies were published reportedly of GBD 2010 - Global Burden of Disease Study, Estudo da Carga Global de Doença 2010.

The GBD 2010 is composed of centers of excellence in the world, such as Harvard University, Institute for Health Metrics and Evaluation, University of Washington, Johns Hopkins University (USA), University of Queensland (Australia), Imperial College London (England), University of Tokyo (Japan) and the World Health Organization. The World Bank sponsored the program, which was supported by the Bill & Melinda Gates Foundation.

We conclude with just three of the various information of the study:

1. There was a decrease in mortality of children under five years of age.
2. Deaths from traffic accidents rose by almost 50%.
3. The life expectancy for people increased, exceeding 70 years in most countries, but this population was more prone to cardiovascular (myocardial infarction, hypertension), neoplastic (cancer), cerebrovascular (stroke), ophthalmologic, orthopedic trauma, renal and diabetes diseases, among others.

Under the proposals reported, the primary health care performed by trained governments produced satisfactory outcomes, but the disease is not having the same attention, due to the ineffectiveness of governments to the longevity of the human being is worthy and happy.

We will return to the issue.

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Technical Modification for Total Cavopulmonary Connection in a 9-year-old girl: a 20-Year Postoperative Approach

Introduction

The side-to-side anastomosis between the superior vena cava and the pulmonary artery with the exclusion of the right atrium for total cavopulmonary connection was described by us in 1993 as a technical modification in patients with tricuspid atresia or single ventricle associated with transposition of the great arteries [1]. In both cases, the pulmonary artery is positioned very close to the vena cava, allowing a single and large anastomosis. This technical modification that replaces the double cavopulmonary anastomosis was performed on a 9-year-old girl and is currently 29 years.

The aim of this report is to present the excellent clinical and laboratory evolution of this patient [2].

Case report

A 9-year-old patient, functional class IV according to the New York Heart Association (NYHA) was admitted to the Hospital Evangélico de Londrina with perioral and extremity cyanosis at rest. The hematocrit was 60% and blood hemoglobin level of 18.9 g/100 ml.

The patient had tricuspid atresia associated with transposition of the great arteries and had undergone pulmonary artery banding at 21 days of age. The left ventricle was well developed, the pulmonary artery was dilated and was positioned behind the aorta, near the medial aspect of the superior vena cava.

The surgical indication was a complete cavopulmonary connection.

Cardiopulmonary bypass was established, moderately hypothermic, with bicaval cannulation, of which the superior vena cava was near the innominate vein.

After aortic clamping and myocardial protection (crystalloid), the right atrium was opened and an intra-atrial tunnel was performed using bovine pericardium preserved in glutaraldehyde, connecting the inferior vena cava to the superior vena cava, using the atrial wall. A hole of about 3 mm was left in the intra-atrial portion of the tube in case of eventual decompression. The remainder of the interatrial septum was resected, resulting in virtually a single atrium and the pulmonary artery was ligated with the prior cerclage, separating it thus from the left ventricle.

The proximity of the pulmonary artery (dextroposed) to the superior vena cava suggested us the possibility of performing a wide and single anastomosis between them, instead of double anastomosis [3,4]. Two longitudinal incisions were performed, one in the main pulmonary artery and another in the medial aspect of the superior vena cava from the innominate vein, up to 1 cm from its entry into the right atrium. An anastomosis between these two openings was performed with a continuous suture using 5-0 polypropylene threads (Figure 1).

The postoperative course was uneventful and the patient was discharged on the tenth postoperative day in good hemodynamic conditions and without cyanosis. The coronary angiography showed excellent contrast flow of the vena cava to the pulmonary artery and its branches.

The patient has been followed outpatiently, and is 20 years after surgery with 1,70 m tall, in excellent overall condition, functional class I, no cyanosis, no jugular venous distension, hepatomegaly or edema of lower limbs. She works eight hours a day as a clerk, making her home-work commute by bicycle.

A year ago she had a full term pregnancy without signs or symptoms of heart failure, however, although appropriate clinical and laboratory monitoring, the child died, caused by pulmonary hypertension.

The patient underwent laboratory tests which revealed: hematocrit 45%, hemoglobin 14.9 g/100 ml and 5.37 mil-

lion RBC/100 ml. Arterial blood gases showed partial oxygen pressure of 53 mmHg and oxygen saturation of 89.7% in room air.

Transthoracic two-dimensional color Doppler echocardiography performed at 20 years postoperatively showed laminar flow in the inferior vena cava (0.2 m/s) in the superior vena cava (0.5 m/s) and the site of anastomosis (0.58 m/s). The pulmonary trunk measures 26 mm and the ascending aorta, 20 mm, there is normal systolic function of the left ventricle and no mitral regurgitation.

CT angiography demonstrated extensive anastomosis (30.5 x 30.8 mm) between the superior vena cava and the dextroposed pulmonary artery trunk (Figures 2 and 3).

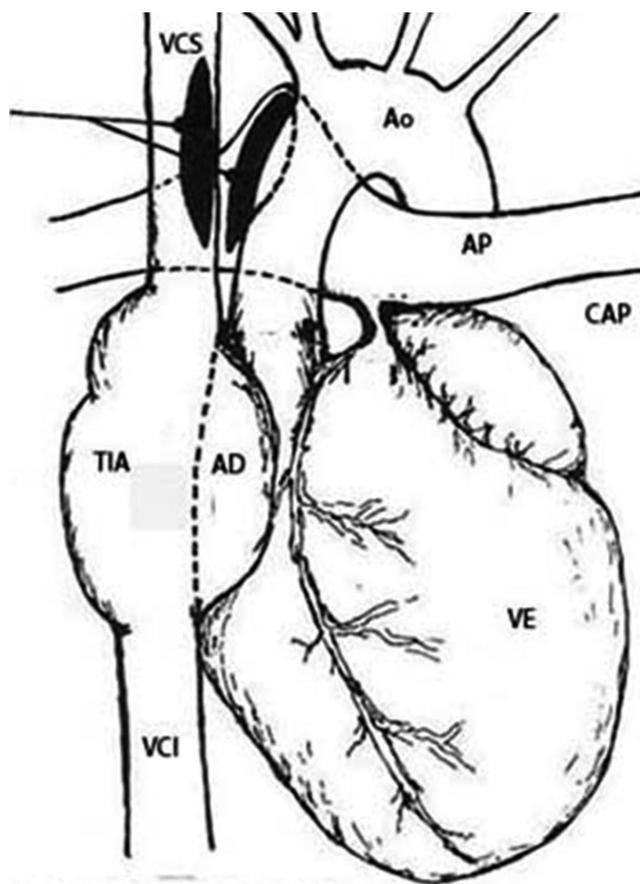


Fig. 1 - Tricuspid atresia and transposition of the great arteries: A side-to-side anastomosis between the medial superior vena cava and the pulmonary artery, previously submitted to cerclage at 21 days of age is performed. An intra-atrial tunnel connects the inferior vena cava to the superior vena cava using bovine pericardium preserved in glutaraldehyde, while using the right atrial wall. VCS = superior vena cava, VCI = inferior vena cava, TIA - intra-atrial tunnel, AD = right atrium, Ao = aorta, CAP = pulmonary artery cerclage, VE = left ventricle

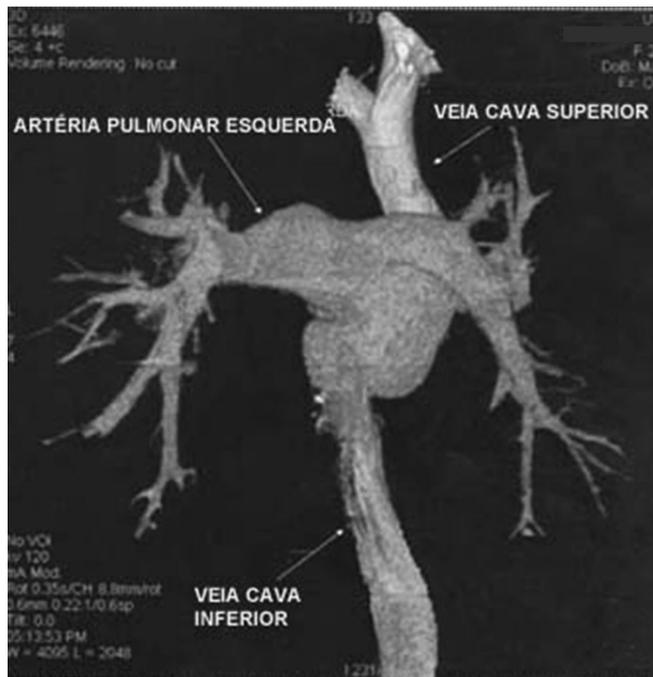


Fig. 2 - CT angiography (posterior view) showing total cavopulmonary connection with wide side-to-side anastomosis between the superior vena cava (vena cava superior) and dextroposed pulmonary artery

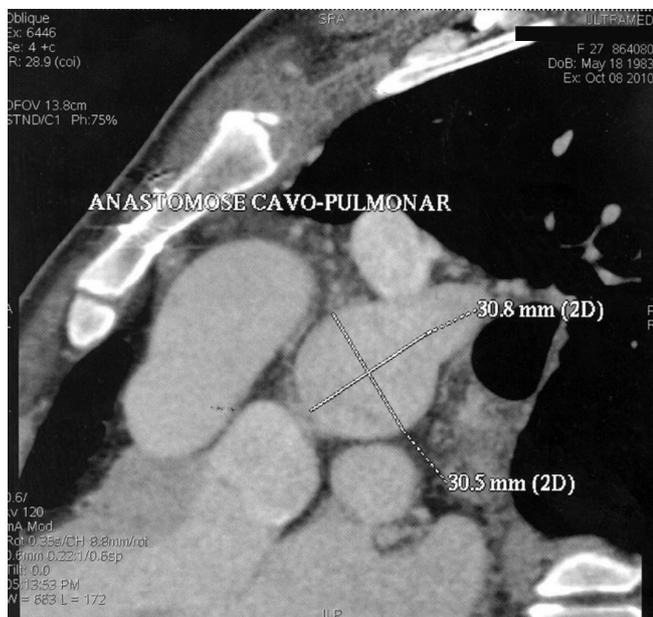


Fig. 3 - CT angiography demonstrating wide anastomosis between the superior vena cava and the pulmonary artery trunk (sectional), measuring 30.5 x 30.8 mm without signs of thrombosis

Examination of dynamic electrocardiography (Holter 24 hours) recorded sinus rhythm, average heart rate of 72 bpm, PR interval within normal limits, QRS complex varying to

the upper limit of normal, and conducted and rare isolated supraventricular ectopic activity (5 beats).

Discussion

The pathological changes that have led to the realization of the side-to-side anastomosis between the medial aspect of the vena cava and pulmonary artery were dextroposition of the latter and its large diameter. This is almost always present in patients with tricuspid atresia or single ventricle, due to increased pulmonary blood flow, or sharp after conducting a pulmonary artery banding or even under presence of an associated pulmonary stenosis. Therefore, in these cases there is a great approximation of structures, making it extremely easy to perform this anastomosis. Easier procedure is obtained if the superior vena cava is dissected widely, including the innominate artery, the pulmonary artery and the pulmonary branches.

The area of the anastomosis obtained with this technique far exceeds the sum of the areas when employing the double cavopulmonary anastomosis proposed by Lins et al. [2] in 1982, and disclosed by DeLeval et al. [3] in 1988.

The blood flow from the vena cava to the pulmonary artery promotes excellent distribution to their branches, this observed under Doppler echocardiography and well visualized by CT angiography in the case reported here. Moreover, the pulmonary artery banding at 21 days of life protected the pulmonary vascular network in order to present late low arterial pressures.

The result has been the normal physical development of the patient at 20 years postoperatively and her excellent clinical status (NYHA functional class I), despite the discreet unsaturation in their blood pressure (89.7%). A pregnancy at term, without any sign of heart failure, also confirmed the good clinical condition described above.

In conclusion, the excellent long-term results observed in our patient led us to affirm this technical modification be a good option for the surgical treatment of patients with tricuspid atresia.

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Dr. Paulo Pêgo Fernandes is the new Titular Professor of Thoracic Surgery at the Faculty of Medicine, USP

On June 4, 2013, Dr. Paulo M. Pêgo Fernandes was approved to the post of Titular Professor of Thoracic Surgery at Faculty of Medicine, USP (FMUSP), previously occupied by Prof. Fabio B. Jatene. The contest consisted of analysis of memorial, oral evidence of scholarship and public oral test. Proof of scholarship revolved around about

Lung Transplant, being held at the FMUSP Theatre, which was crowded. Prof. Paulo Pêgo Fernandes had great performance, being much applauded at the end of his presentation.

The public oral test was held at the FMUSP Congregation's room, which was also crowded. Several questions were raised by examiners, composed of Profs. José Eduardo Krieger, Samir Rasslan, Henrique Murad, Roberto Saad Junior and Jose Osmar Medina Pestana and the oral test went on the highest level.



From left to right: Professores Henrique Murad, Samir Rasslan, Roberto Saad Junior, Paulo M. Pêgo Fernandes, José Osmar Medina Pestana, José Eduardo Krieger