

Congenital Heart Disease Diagnosed in Guadeloupe¹

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An epidemiologic survey of congenital heart disease was performed in Guadeloupe, French West Indies, during the 3-year period 1988–1990. This survey, the first on congenital heart disease from the Caribbean, found an overall rate of 6.08 congenital heart disease cases per 1 000 live births, a high rate of hypoplastic left heart disease, and a rate of coarctation of the aorta similar to rates reported in developed countries.

Few reports are available from tropical countries about patterns of congenital heart diseases. A study directed at elucidating those patterns was performed on the archipelago of Guadeloupe, French West Indies, from 1 January 1988 through 31 December 1990.

Guadeloupe has roughly 380 000 inhabitants, 85% of African-American descent, and approximately 7 500 births per year. In 1989, infant mortality and perinatal mortality respectively were 9.0 and 16.4 per 1 000.

During the 3-year study period, all infants suspected of heart disease were referred to the only skilled pediatric cardiologist at the University Hospital of Pointe-à-Pitre. These infants were re-

ferred from the pediatric and neonatal departments of the university hospital (which covers approximately 70% of all births on the archipelago) and from the pediatric and neonatal departments of the Hospital of Basse-Terre (which covers the remaining 30%). It should be noted that these various departments serve as referral centers for three public maternity hospitals as well as for private practitioners and private clinics.

Diagnoses were based on clinical evaluation and Doppler echocardiography, using the classification specified in the *International Classification of Diseases (ICD-9-CM)* (1). All infants needing catheterization or chest surgery were transferred to the Pediatric Cardiology Department of Hospital Necker in Paris, France, where the diagnoses were confirmed. Patent ductus arteriosus of prematurity was considered a congenital heart disease if it remained persistent after the neonatal period.

RESULTS AND COMMENTS

In all, congenital heart diseases were diagnosed in 139 of the 22 855 infants born during the study period, yielding an observed incidence of 6.08 cases per 1 000 live births. The male:female ratio

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was 1:1 (70 males of 11 583 males delivered and 69 females of 11 272 females delivered). Seventeen (12%) of those diagnosed with congenital heart disease had chromosomal abnormalities, of whom 11 (8% of the total cases) had Down's syndrome. Seventy (50%) of the disease cases were diagnosed before 30 days of life, and 128 (92%) were diagnosed in the first year of life. Forty-nine (35%) of those diagnosed with congenital heart disease were referred to the Pediatric Cardiology Department in Paris, where all had catheterizations and 32 had chest surgery.

Regarding the observed rate of congenital heart disease, our results are similar to those reported elsewhere (2, 3). The observed prevalence of coarctation of the aorta (3.1 cases per 10 000 live births)

was similar to that reported in developed countries and does not confirm reports from Africa, where it has been suggested that this disease is rare (2). The present study also documents a relatively high rate (3.5 cases per 10 000 live births) of hypoplastic left heart disease, which is reported in the literature as having a prevalence ranging from 0.5 to 2.7 cases per 10 000 live births (3). In terms of its prevalence among our cases, this disease represented the fourth cause of congenital heart disease, accounting for 5.7% of the total (Table 1). Of the eight infants with hypoplastic left heart disease, five were females, two of whom had trisomia 18 and one of whom had trisomia 13. The authors have no explanation for these specific findings.

Table 1. Types of congenital heart disease in liveborn infants.

Lesion, ICD-9-CM classification	N	Distribution (%)	Deaths
Ventricular septal defect, 745.4	45	32.4	2
Atrial septal defect, secundum, 745.5	17	12.2	
Patent ductus arteriosus, 747.0	9	6.5	1
Hypoplastic left heart syndrome, 746.7	8	5.7	8
Coarctation of aorta, 747.1	7	5.0	1
Unspecified defect of septal closure, 745.9	6	4.3	
Tetralogy of Fallot, 745.2	6	4.3	1
Atrioventricular canal, 745.69	5	3.6	
Anomalies of pulmonary valve, 746.0	5	3.6	
Atresia of pulmonary artery, 747.3	5	3.6	3
Ebstein's anomaly, 746.2	4	2.9	1
Transposition of great vessels, 745.1	4	2.9	2
Tricuspid atresia, 746.1	3	2.1	
Stenosis of pulmonary artery, 747.3	3	2.1	
Unspecified anomaly of heart, ^a 746.9	2	1.4	
Common ventricle, 745.3	2	1.4	1
Specified anomaly, 746.85 and 746.87	2	1.4	
Congenital stenosis of aortic valve, 746.3	2	1.4	
Anomalies of great veins, 747.4	1	0.7	
Aneurysm of sinus of Valsalva, 747.29	1	0.7	
Congenital mitral insufficiency, 746.6	1	0.7	
Supravalvular stenosis, pulmonary artery, 747.3	1	0.7	
Total	139	100	20

^aVentricular hyperplasia, transient tricuspid insufficiency.

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Report on Urban Air Pollution

A report produced jointly by the World Health Organization and the United Nations Environment Program focuses on the extent and effects of air pollution in some of the world's largest cities. The report, entitled *Urban Air Pollution in Megacities of the World*, presents the results of a 15-year scientific study of pollution levels in 20 cities that either already have populations of at least 10 million or are expected to reach that size by the year 2000. Six of these cities—Buenos Aires, Los Angeles, Mexico City, New York City, Rio de Janeiro, and São Paulo—are in the Region of the Americas. Detailed accounts of air pollution in each of the 20 megacities are contained in the study, along with recommendations on how each city can curb its specific air pollution problems within the constraints imposed by geography and economics.

The findings confirm that air pollution in many of the world's megacities and other urban areas is currently a major environmental and health hazard. The health impacts of air pollution range from headaches and eye irritation to respiratory problems and elevated blood lead levels. Because many cities in developing countries are growing rapidly but are mandating few, if any, pollution control measures, the hazards will increase and the quality of life of urban residents will continue to fall. On the other hand, air pollution levels have gone down in the industrialized countries thanks to control measures introduced during the past 20 years.

The data came from the UNEP Global Environment Monitoring System (GEMS), which has been collecting air quality data from over 80 cities in more than 40 countries since 1974. The report was prepared by the WHO Division of Environmental Health, the GEMS Monitoring and Assessment Research Center in London, and the UNEP/GEMS Program Activity Center in Nairobi. It was published on behalf of WHO and UNEP by Blackwell Publishers (U.S.A.).

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