Editorial

Pediatric Cardiology in Thailand

ALTHOUGH many Americans have visited Southwest Asian countries in recent years, probably few have had the privilege of spending any appreciable time working in the civilian hospitals. The following comments are based on two periods of such work, each of 2 months’ duration, in Bangkok, Thailand, in 1965 and 1966.

There is an active modern cardiological program in Bangkok, led by well-trained cardiologists, some being members of the Royal College of Physicians of London or Edinburgh, and two being certified by the American subspecialty board in pediatric cardiology. Diagnostic cardiac catheterization procedures are being expertly performed. Angiocardiographic studies are limited because of an inadequate amount of equipment. There are too few installations for a city of more than 2 million people serving a nation of almost 30 million. During my stay, I saw 10 to 20 cases of heart disease in children daily and only the limitation in the number of hours in the day limited the number of patients one could see.

Siriraj General Hospital has an inpatient population of approximately 1,500 patients. There are three well-trained cardiovascular surgeons, and during 1965, 198 cardiac operations were performed. Fifty-five of these operations were performed on children less than 15 years of age, and, interestingly, 13 involved the mitral valve. The results are shown in table 1. It scarcely needs comment that these results compare favorably with those in institutions in the United States and that very good work is being done in areas of the world about which many of us have little understanding.

Comparisons

There are major differences in the prevalence of certain cardiac diseases in Thailand as compared with the experience in the United States.

1. Simple coarctation of the aorta is virtually nonexistent among the Thai people; a review of autopsies for the past several years did not show a single case. During the same period, only one patient with this condition (and patent ductus arteriosus) was operated on at Siriraj Hospital.

2. Congenital valvular aortic stenosis is also virtually nonexistent, although occasional cases of localized and diffuse subvalvular obstruction have been encountered. No cases of supravalvular aortic obstruction have been recognized.

3. Diffuse aortic disease (midaortic syndrome, Takayasu's disease) is common. It occurs in children as young as 3 to 4 years of age and often presents with hypertension from renal artery involvement, or with cardiomegaly and congestive failure. Approximately one or two cases per week are being studied in the laboratory.

4. Severe rheumatic heart disease of a de-
gree rarely seen in the United States is very common; several cases have been encountered of very tight mitral stenosis in children less than 12 years old. Severe pancarditis with marked mitral and tricuspid insufficiency and intractable congestive failure was seen in several children.

5. Beriberi heart disease in infants beyond the age of 3 months is a frequent problem. Vitamin B₁ levels in mothers' milk have been found to be very low.

Apart from these obvious differences, the entire spectrum of congenital heart disease as seen in the United States was also seen in Bangkok, and it involved both Thai and Chinese segments of the population.

**Research**

Research is limited by lack of funds for equipment and lack of personnel trained in specific research areas. Investigation into possible dietary and other factors concerned in the widespread occurrence of diffuse arteritis is under way, as is an investigation of shock in relation to a viral exanthem common in Thailand. The opportunities for investigation of diffuse arteritis, beriberi heart disease, and rheumatic heart disease are considerable. Possible racial differences resulting in the great rarity of simple aortic coarctation and aortic stenosis should be confirmed.

**Problems in Pediatric Cardiology**

The problems in pediatric cardiology are as follows: (1) too many patients for the number of trained personnel, (2) too little research equipment, and (3) too few research-oriented physicians for the great amount of work needing to be done. The difficulty is exemplified by one well-trained physician whose roles include the care of a large volume of inpatients and outpatients with congenital and rheumatic heart disease, the performance of catheterization procedures, and, in addition, responsibility for a 70-bed general pediatric ward. The amount of time available for reading or research is, to say the least, rather meager.

**The Future**

In Thailand there are many problems to

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**Table 1**

*Cardiac Surgery in Children at Siriraj Hospital in 1965*

<table>
<thead>
<tr>
<th>Type of operation</th>
<th>Number</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ligation or division of patent ductus arteriosus</td>
<td>13</td>
<td>1</td>
</tr>
<tr>
<td>Mitral valvotomy</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>Blalock-Taussig shunt</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Mitral valve exploration</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Disease of aorta (diffuse aortitis)</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Pericardectomy</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Biopsy of myocardium</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td><strong>33</strong></td>
<td><strong>2</strong></td>
</tr>
<tr>
<td>Closure of ventricular septal defect</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Closure of ventricular septal defect and patent ductus arteriosus</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Closure of atrial septal defect, primum</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Closure of atrial septal defect, secundum</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Total correction for tetralogy of Fallot</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>Mitral annuloplasty</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Mitral valve replacement</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td><strong>22</strong></td>
<td><strong>3</strong></td>
</tr>
<tr>
<td>Total</td>
<td><strong>55</strong></td>
<td><strong>5</strong></td>
</tr>
</tbody>
</table>

*Through the courtesy and with the permission of Dr. Chadsri Prachuabmoh and Dr. Kasarn Chartikavanij.*
be solved in order to provide the best possible medical care for the greatest number. However, the situation regarding trained personnel should improve dramatically in the next few years because between 500 and 600 Thai physicians are now undergoing postgraduate training in various Western countries such as the Scandinavian countries, Europe, Britain, Australia, and the United States. These physicians will have a tremendous impact on Thai medicine over the next several years.

The deficiency of funds for research will undoubtedly be corrected as the economy of the country expands, the immediate health needs are met, and the benefits from an active research program are better appreciated.

I would urge anyone who has the opportunity to visit and work in Southeast Asian countries to do so. You will have the opportunity of contributing to the welfare of some of the most delightful people on this earth, and I predict that your rewards will far outweigh your contributions.

Patrick A. Ongley

50 Years Ago
Founding of the New York Heart Association

... The whole movement is a result of the growing feeling among physicians, and all who are interested in medical social service, that heart disease, which ranks next to tuberculosis in point of numbers and is, therefore, a medical problem of magnitude, is now likely to become a civic problem, also, through the operation of the Workmen's Compensation Act. Pioneer work in the aftercare of cardiac cases, upon their discharge from the hospital, has been done by the Bellevue Cardiac Class and by the Trade School for Cardiac Convalescents. Indeed the latter organization gave the impetus to this present effort to organize a Society which shall correlate the work of all the societies, institutions or individuals engaged in the study and treatment of heart disease... From the minutes of the organizational meeting of the Association for the Prevention and Relief of Heart Disease, November 16, 1915.

... a program for the Association's first year's work was adopted at the January 26th meeting, as follows:

1. To gather pertinent data from many sources, and to arrange it for general use and practical application to the purposes set forth.
2. The office of the Association to serve as central cardiac information bureau.
3. To help in co-ordinating the various efforts in this field—as made by Health Department, school examiners, cardiac classes, dispensaries, special investigators, Trade School for Cardiacs, etc.
4. To organize cardiac convalescence, to provide larger opportunities in existing institutions, through assurance of better selection of patients, better treatment, etc., (especially for youth).
5. To help to establish more cardiac classes in appropriate districts, and to extend and correlate their efforts.
6. To study and develop occupations for cardiacs in standard trades and situations, as well as in special lines as already begun. To take constructive interest in Workmen's Compensation and like problems affecting cardiacs.
7. To work constantly for the prevention of heart disease through the power of accumulated information effectively presented, and the increasing application of recognized means (such as adequate facilities for throat and dental treatment, particularly in youths, etc.).
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