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A SURVEY OF HEART DISEASE IN IRAN

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This study covers a period of ten years during which an attempt has been made to discover the relation of heart disease in comparison with the population. The statistics available, however are not accurate except those obtained from hospitals that represent only a sample of the population.

The sources used for this survey are the following:

1. Department of Cardiology, Pahlavi Hospital, University of Teheran
2. Children's Department, Pahlavi Hospital. University of Teheran
3. Registrar General's records for deaths in Teheran
4. Autopsy data of 257 cases from Pahlavi Hospital, Teheran

1. Sources and Methods concerning the Department of Cardiology

The Department of Cardiology of Pahlavi Hospital drows its patients from other departments when they are referred and also directly from its own out-patient clinic.

Over the years between 1957-67, 6,000 patients were admitted and studied in the Department of Cardiology and the following table gives the relative percentage of various heart diseases to the total number:

Table 1

Proportion of various heart diseases in relation to the total number of heart patients

	%
1. Chronic Cor Pulmonale	8
2. Hypertensive Heart Disease	3½

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3. Ischemis Heart Disease	8.6
4. Myocardial Infarction	7½
5. Cardiomyopathy	0.7
6. Tuberculosis of the Heart and Pericardium	2½
7. Occlusive Disease of the Heart and peripheral blood vessels (Non-degeneratiue type)	0.7
8. Congenital Heart Disease	9¼
9. Rheumatic Heart Disease	59

The acute cases of rheumatic heart disease are seldom seen in the Department of Cardiology and reference will be made to this disease in the Children's Department survey later. The same is true regarding the cerebral accidents that are referred to the Neurology Department.

The relation of chronic forms of rheumatic heart disease is demonstrated in the following table.

Table. 2

	%
1. Mitral Stenosis	21
2. Mitral incompetence	13
3. Aortic Stenosis	1½
4. Aortic incompetence	2
5. Mitral Disease	13
6. Aortic Disease	1½
7. Mitral and Aortic Involvement	7

The 9¼% congenital disease represents 570 patients out of the total number of 6,000 cases of heart disease. The following table demonstrates the proportion of the congenital diseases. All cases have been proved by cardiac catheterisem

Table 3

Congenital Heart Disease demonstrated by Cardiac Catheterisation

1. Atrial Septal Defect	(a) Primum	(i)	Female	10
		(ii)	Male	16
	(b) Secondum	(i)	Female	46
		(ii)	Male	64

2 Pulmonary Artery Stenosis	(a) Valvular	(i)	Fmale	38
		(ii)	Male	80
	(b) Infundi_bular	(i)	Female	20
		(ii)	Male	(none)
3. Tetralogy of Fallot		(i)	Female	34
		(ii)	Male	48
Triology of Fallot		(i)	Female	8
		(ii)	Male	32
Ventricular Septal Defect		(i)	Female	18
		(ii)	Male	64
Patent Ductus Arteriosus		(i)	Female	34
		(ii)	Male	16
Aortic Stenosis		(i)	Female	4
		(ii)	Male	(uone)
Auriculo-Ventricular Communication		(i)	Female	4
		(ii)	Male	4
Coarctation of Aorta		(i)	Female	(none)
		(ii)	Male	4
Tricuspid Valve Atresia		(i)	Female	4
		(ii)	Male	(none)
Pulmonary Aortic Window		(i)	Female	8
		(ii)	Male	(none)
Atrial Sepatal Defect associated with Ventricular Septal Defect		(i)	Female	(uone)
		(ii)	Male	4
Primary Pulmonary Hypertension		(i)	Female	8
		(ii)	Male	8
Pulmonary Hypertension with Reversed Shunt		(i)	Female	8
		(ii)	Male	8

The second source of information was the Children's Department of Pahlavi Hospital.

A total number of 2,0:0 heart disease cases had been referred to this department from the out-patient department and other departments of the Pahlavi Hospital and other University hospitals in Teheran between 1962-1967

Out of the above number 1,700 consisted of rheumatic endocarditis and 360 cases were made up by congenital heart disease.

The following table demonstrates the relation of different types of rheumatic heart disease among 1.700 cases of the Children's Department. For the congenital cases, the percentage is given to the total number admitted, that was 2,060 patients.

Type of Disease	Females		Males	
	Total number	Percentage	Toat number	Percentage
Mitral Stenosis	340	20	306	18
Mitral Incompetence	187	11	170	10
Mitral Disease (Stenosis and Incompetence)	187	11	170	10
Aortic and Mitral Valve Involvement	153	9	187	10
Congenital Heart Disease	140	6.9	187	10.7

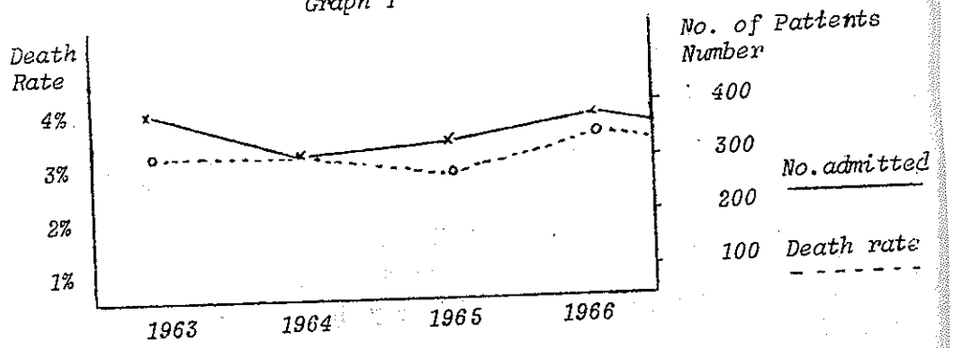
Death rate over the five yaers among the rheumatic Heart Disase cases was a total of 50, or 2.9%.

Death rate over the same period for the congenital cases was 120, all between the ages of one to three years. High death rate among congenital cases was essentially due to pulmonary complications and very little investigation had been carried out owing to the poor condition of the patients.

The youngest case of valvular involvement due te rheumatic heart disease was a girl of 7 with Mitral Valve Disease.

The following graph demonstrates the relation of the number of rheumatic heart patients admitted to the Children's Department to the death rate among this group.

Graph 1



The fallowing table gives the death rate from cordiovascular diases among the population of Teheran for a period of six years

Table 5

Year	Population of Teheran	Total No. of deaths	Total No. of cardiovascular deaths	Cardiovascular deaths for 100,000 population
1955	1,512,082	14,487	1644	109
1956	1,542,323	15,506	1707	111
1957	1,573,169	16,297	1937	123
1958	1,604,631	17,579	1954	115
1959	1,636,823	19,088	2171	132
1660	1,669,559	21,077	2298	140

The following table demonstrates the different cardiovascular diseases omong 257 cases that were examined by post-mortem examination from Department of Cardiology Pahlavi Hospital between 1960-67.

Table 6

Form of Disease	No.	Form of Disease	No.
Essential Hypertension	98	Constrictive Pericarditis	3
Chronic Rheumatic Endocarditis	84	Fallots Tetraology	1
Vascular Thrombosis (Peripheral)	12	Coarctation of Aorta	1
Luetic Aortitis	12	Burgers Disease	1
Sub-acute Bacterial Endocarditis	7	Boots Kiari Syndrome	1
Myocardial Infarction	7	Miscellaneous	15
Idiopathic Myocarditis	5		
Anevrism of Aorta	5		
Acute Bacterial Endocarditis	4	Total	257

Dietary Habits

The dietary habits of the patients studied in this survey are of interest. They come generally from the lower and middle classes with a large proportion of their daily food consisting of carbohydrates. They drink large quantities of tea well-sweetened, as well as rice and bread. Althongh the Registrar General's death register demonstrates a true increase in heart disease deaths per 100,000 of population as shown in Table 6, the incidence of Coronary Heart Disease is relatively low. The low incidence of Coronay Heart Disease is demonstrated both in the Pahlavi Hospital Department of Cardiology survey and postmortem and animal examinations. The dietary habits of the upper classes includes more fats

proteins and although there are no exact statistics, colleagues who concentrate on private practice have reported up to 40% coronary heart disease among their patients.

Discussion and Conclusion

This survey has covered a population with habits which contain large quantities of carbohydratas. The major form of disease appears to be rheumatic endocarclits wilh rather law incidence of coronary heart disease. The number of chronic forms of rheumatic heart disease and congenital heart disease may appear axcessive but the excess we consider to be due to the better equipment and modern facilities for investigation and treatment, especially surgical treatment at the University Department of Cardiology, and treatment takes place in the general hospitals.

From the Registrar General's death records in Teheran, it appears that as a whole the death rate from heart disease is on the increase with the introduction. Regrettably the Registrar General's records do not give accurate information regarding the form of heart that has caused the daeth.

We can however to some extent conclude the number of rheumaic heart disease cases, although large, has not increased over the years as shown by the graph demonstrating the cases admitted and deaths from the disease in the Children's Depatment.

Taking this into consideraion we would like to end by stating that the increase in cardiac deaths is due to ischemic heart disease.

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HISTOLOGICAL CHANGES OF THE KIDNEYS IN IRON DEFICIENCY ANEMIA

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The Association of anemia in chronic renal diseases is known for many years,(1) but as I know there is no study in literature to show the changes of kidney in anemia specially iron deficiency anemia (4,8,5,6).

I had opportunity to study the kidney biopsy of 6 patients with iron deficiency anemia in the Razi university Hospital. The purpose of this article is to describe the findings in these pateints.

MATERIALS AND METHODS

There were 17 patients with iron deficiency anemia among 27 patients with anemia of the different ethiology.

The iron deficiency anemia was diagnosed on the basis of lack of iron in the bone marrow, and microcytic hypochromic appearance of the periferal blood (2). Hemoglobine was below 8 gm%in all patients and the mean MCH was less than 20 micromicrogram, MCV less than 50 microcubic, MCHC between 18-23% the mean serum iron was 40 mg % in 11 patients (five patients had nutritional iron deficiency anemia and 4 patients iron deficiency anemia of chronic blood loss.) Kidney biopsy was performed with Vim Silverman Franklin needle. Totaly 8 biopsies were obtained from 11 patients.

RESULT

The light microscopic appearance was remarkable in 6 patients. Three patients had iron defficiency anemia of chronic blood loss (ulcerative colitis, tastritis and unknown chronic rectorhagia). Three patients had nutritional iron defficiency anemia. There were no changes in the tubules of all and the most visible changes were seen in the glomeruli and Bowman capsules.

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