Observations on Rheumatic Heart Disease in Pakistan*

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SUMMARY:

An analysis of 303 cases of Rheumatic Heart Disease is presented. Data regarding age, sex, social status, past history of rheumatic fever and course of disease were obtained. Mitral stenosis was found to be the commonest lesion with male preponderance below the age to 20. Mixed mitral lesions were more crippling than pure mitral stenosis and incompetence. Pure aortic valve lesions were least common. Stunted growth during adolescence was quite common. There was an overall female preponderance in the series.

INTRODUCTION:

Rheumatic heart disease in Pakistan is still a formidable problem. The prognosis of the lesions is variable. Some patients suffer valvular damage in a very short period accountable in months following rheumatic fever and are completely crippled with cardiomegaly. Others present with a prolonged history at middle age or at times in old age when valvular lesion is a chance finding. Some patients with mitral stenosis present with severe symptoms and a short history at a tender age. The percentage of adolescents and children is considerable and sufficient to make a study of the natural history of the disease in Pakistan. This study was started in Bahawalpur, Punjab in 1973 and subsequently carried out in Faisalabad and Lahore.

MATERIALS AND METHODS:

All indoor patients admitted with Rheumatic Valvular lesions were fully documented. A proforma was completed collecting data regarding the age and sex, social status, past history of sore throat and arthritis, presenting symptoms, physical findings, ECG and chest X-ray. Patients were encouraged to attend follow up visits and later on postal communication was maintained to find out the course of the disease. A rheumatic etiology was established in the presence of joint pains, sore throat, prolonged febrile illness, presence of multiple valve lesions, mitral stenosis or active carditis. A total of 303 patients were documented.

RESULTS:

1. Age and Sex Incidence:

In the whole series, there were 170 females and 133 males giving 56% females and 44% males with a ratio of 4:3 in favour of females. The breakup of valvular lesions with sex distribution is shown in fig. 1 and fig. 2 shows the age distribution. Patients under the age of 20 constituted 34% of the series and in this group 28 males (54%) and 24 females (44%) suffered from mitral stenosis. Thus in this series there is a male preponderance in patients under the age of

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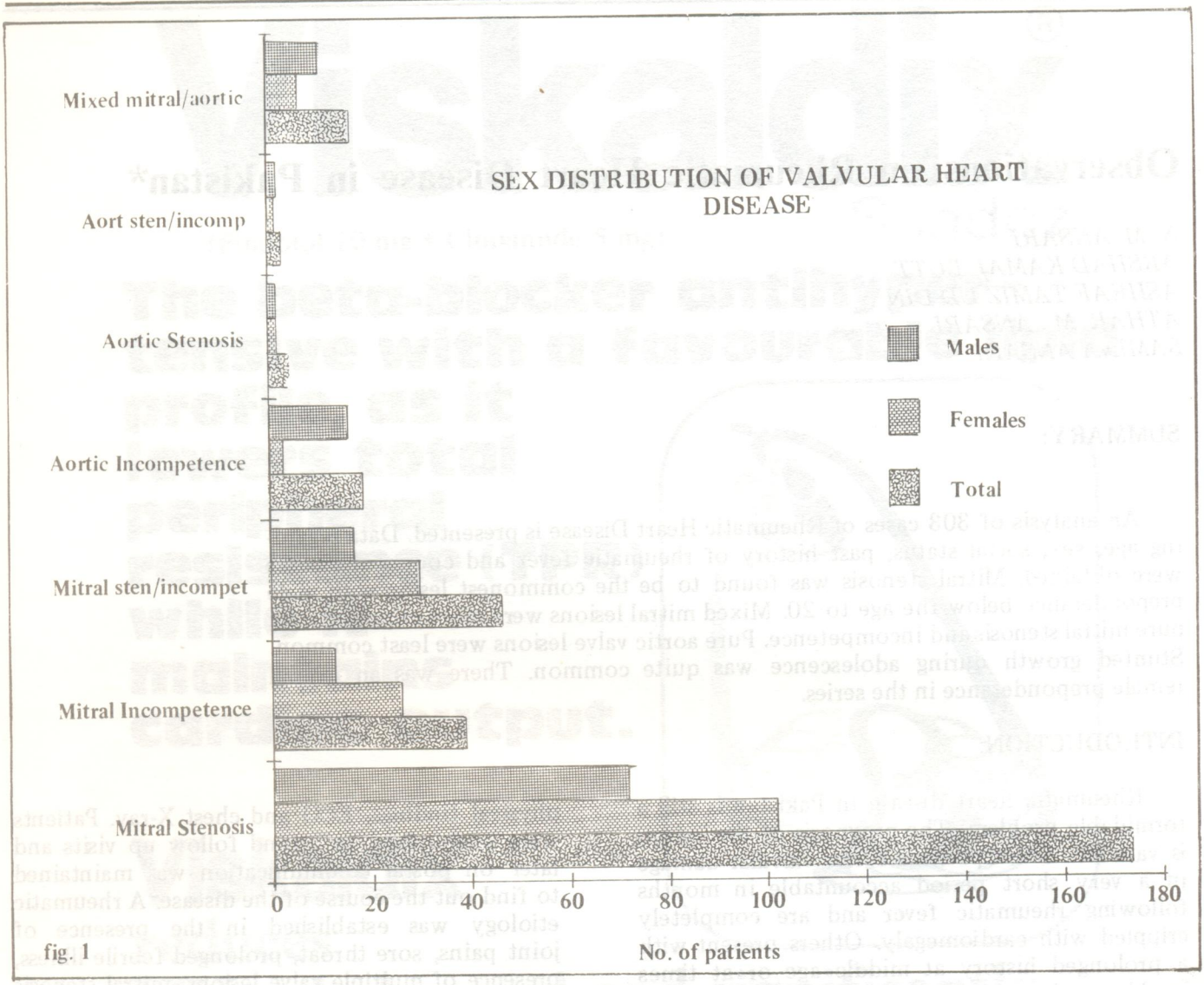

fig. 1

20. 86% of the patients had mitral valve lesions out of which 58% constituted mitral stenosis, 13% had mitral incompetence while 15% suffered from mixed mitral lesions. Average age of presentation of mitral stenosis was 31 years. Of the patients having aortic lesions, aortic incompetence was the commonest lesion (6%), aortic stenosis was found in 1.3% while mixed aortic lesion was found in 1% of the patients. However the age incidence in aortic valve lesion was equal with an average age of about 22 years. Patients with mixed mitral lesion had a male prepondera nce and all of them were severely incapacitatec. Incidence of atrial fibrillation increased with age highest incidence was seen in the age group 41-50 years.

2. History of Rheumatic Fever:

Past history of rheumatic fever was obtained in little over 54% of patients. Only 18 patients had active rheumatic fever and carditis.

3. Social Class:

About 80% of the patients belonged to poor socioeconomic groups and were living in slums and congested localities. Division of patients into various socioeconomic classes is shown in fig. 3.

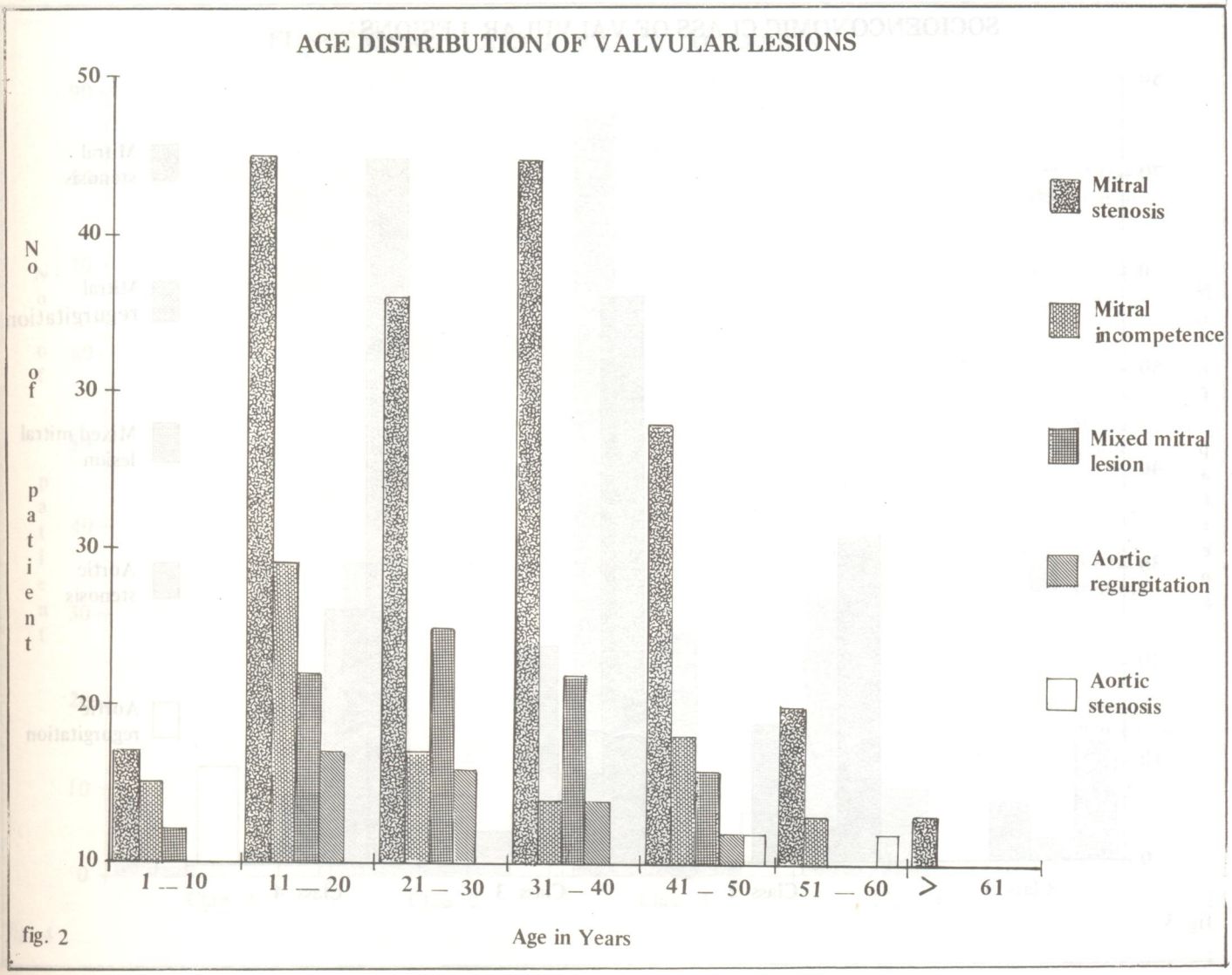

fig. 2

4. Functional Class & Severity of Lesion:

About 70% of the patients belonged to functional class III or IV. Out of these, the worst affected were those with mixed mitral lesions. 68% of patients suffering from mitral stenosis had valves tight enough to require immediate surgery. 41% patients with mitral stenosis had congestive failure while 14% had functional tricuspid regurgitation. Fig. 4 shows the breakup into functional classes.

5. Stunted Growth & Poor Physique:

In severe valvular lesions about one third of patients had stunted growth and poor physique or were malnourished. This was more common with mixed mitral lesion. Fig. 5 shows the analysis of clinical symptomatology of the entire series.

DISCUSSION:

The natural history of rheumatic disease in developing countries appears to be different from that of Europe and North America. In Western countries rheumatic heart disease has almost disappeared with improvement in socioeconomic conditions and control of streptococcal infections. In Britain and Scandinavian countries the average age of presentation with valvular heart disease is 33—37 years (Wood, 1954) and the incidence of symptomatic valvular disease does not exceed 5% (Olsen, 1954).

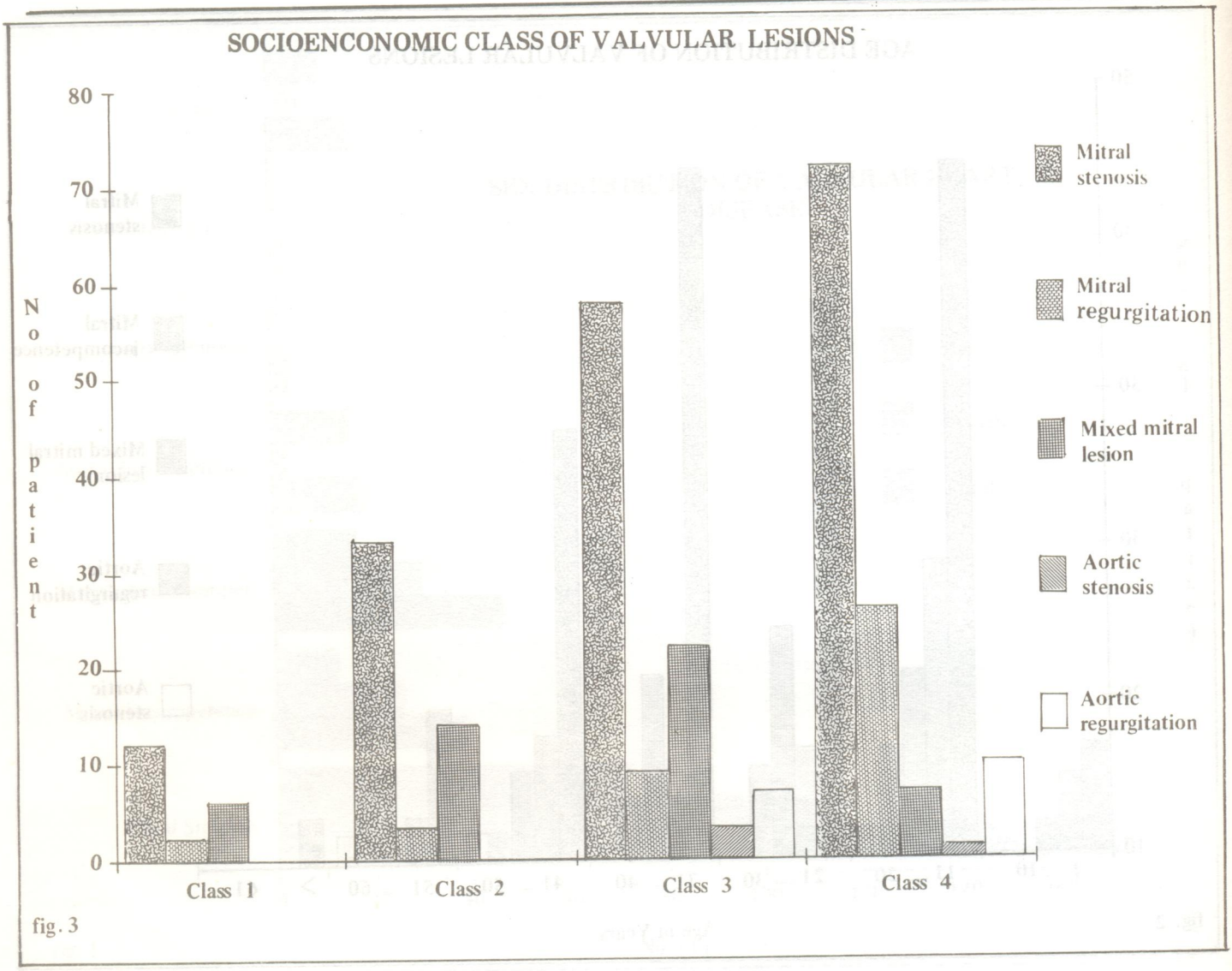

fig. 3

The disease pattern in our study looks similar to those reported by Albahrani from Iraq (Albahrani et al, 1964), Roy from India (Roy et al, 1963) and Halim and associates from Sudan (Halim & Jacques, 1961). In our study there is a male preponderance of pure mitral stenosis below the age of 20 years and this finding has also been reported by Roy. In our study 30% of the patients having severe mitral stenosis were under the age of 20 while 16% were below the age of 15. Young male children with rheumatic heart disease are frequently undernourished with growth retardation and a tendency to pulmonary hypertension. It appears that perhaps with the passage of time they die early. Hence in the later stages there is female preponderance.

The latent period of mitral stenosis reported by Paul Wood was 19 years. However this do not seem to be true for the young patients in this country. It appears that this period is much shorter and perhaps the inflammatory process is severe to become symptomatic within 8 or 10 years. The number of patients presenting with acute rheumatic fever is much smaller than those with sypmtomatic valvular lesions and only 50—55% of valvular heart disease gave past history of rheumatic fever. It is possible that rheumatic fever in younger age group in this country is not severe enough to bring the patient to the hospital.

Progressive and non-progressive forms of

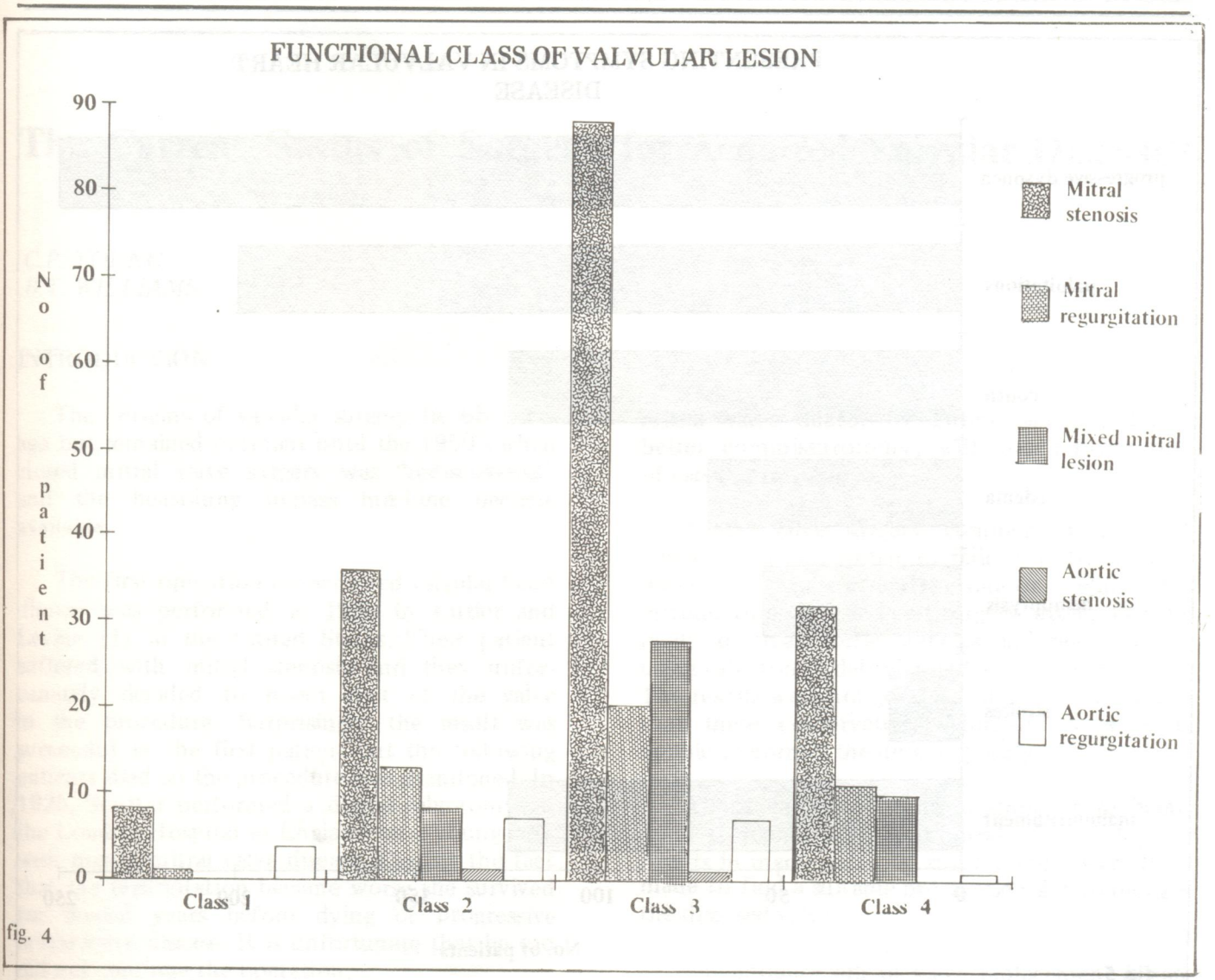

fig. 4

mitral stenosis have been recognised by Olsen (Olesen, 1962). In our study about 7% of patients had asymptomatic mitral stenosis. These could have been of the non-progressive +variety. Total period of disability from the start of rheumatic fever is also variable. Some of the young patients with fulminant carditis and regurgitant lesions tend to develop cardiac failure and cardiomegaly within a short period from the onset of rheumatic fever. Mixed mitral lesions were more incapacitating in our series as compared to pure mitral stenosis; over 80% developed cardiomegaly and congestive failure.

SUMMARY AND CONCLUSIONS:

Rheumatic valvular heart disease is a common and crippling cardiac problem in Pakistan. The number of patients admitted with valvular lesions is much greater than those admitted with acute rheumatic fever. The average age of presentation is lower than that reported in the Western literature. Adolescents and young children tend to develop moderate to severe pulmonary hypertension. Male preponderance is seen in patients with mitral stenosis before age 20. Total disability due to congestive cardiac failure following an attack of rheumatic fever has been seen in some patients within a few months. Symptomatic mitral stenosis develops in a much shorter period. Mixed mitral lesions are more crippling than pure mitral stenosis.

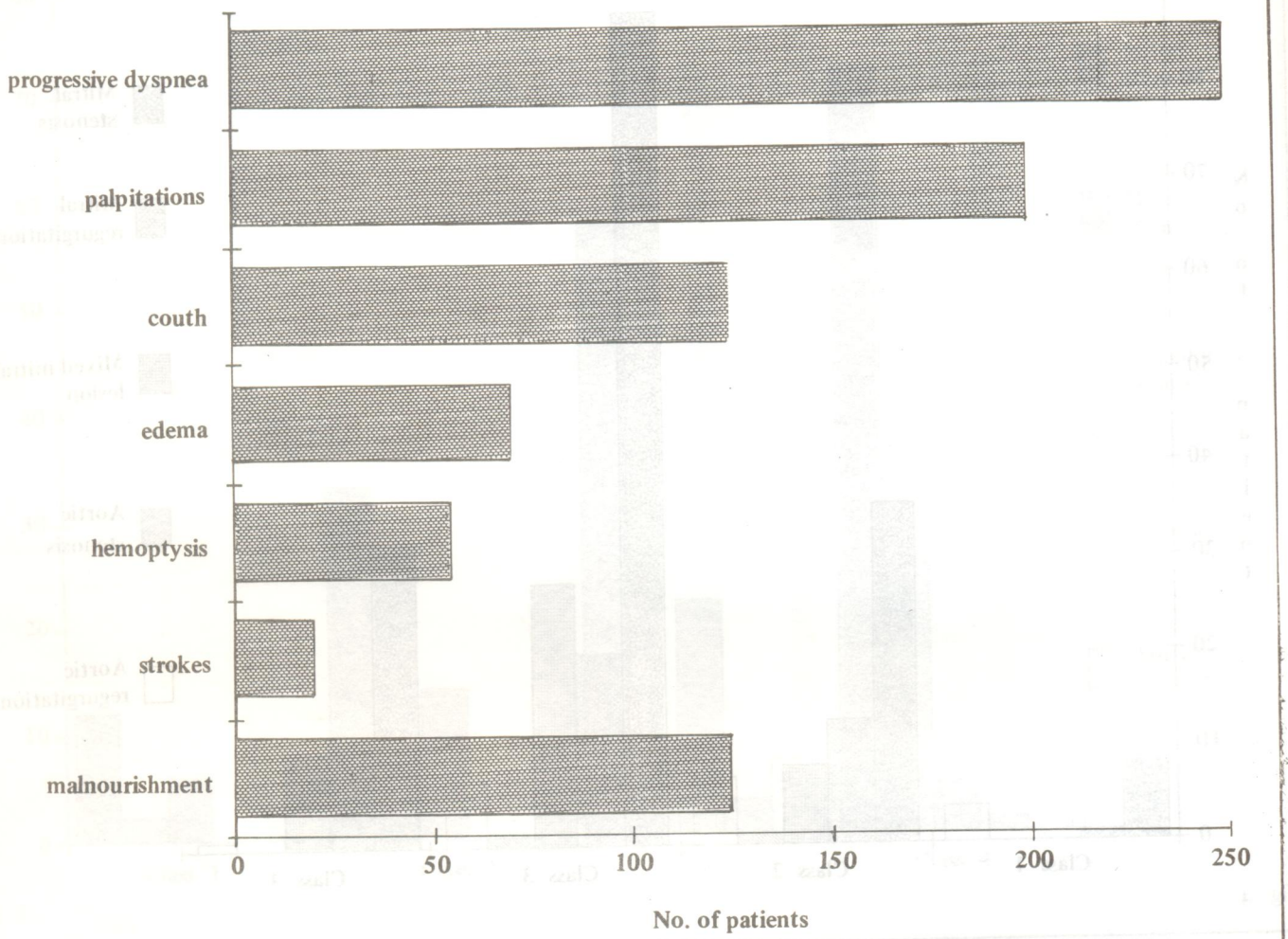

fig. 5

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