Expected Ages in the patients of Chronic Diseases

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This retrospective study was conducted to find out the expected ages in the patients of hepatic cirrhosis, chronic renal failure and heart failure. This study thus covers most of the patients of out medical wards presenting with chronic illnesses. On comparison of these expected ages it is also found that the expected age in all these three groups is not much different. So, the disease process or the mechanism of the chronic disease in the body may be different, but somehow the final out come is not much different in terms of life span.
Key words: Expected aged, chronic diseases

In my clinical practice I got the feeling that we lacked in local data giving the expected ages of patients of different diseases. Life expectancy depends on different factors which include the duration of the disease process, the medical facilities available, the diet of the patients, the general health condition of the population and many other factors. So, a local data for our own settings must be available. The purpose of studying these three disease processes together; where each involves a different system of the body and has a different mechanism, is to see which system of the body affects the age expectancy most?

Pathology and pathogenesis:
Here I would not like to go into the minute details of pathogenesis of each of these diseases as the focus of this paper is age and not the disease process, but still we will go to the extent to show that each disease has a different mechanism of action. Each of these diseases leads to certain complications which eventually prove fatal. Liver is the largest gland in the body (1) having vascular function of storage and filtration of blood, metabolic functions, secretary and excretory functions (2). Cirrhosis is the end result of hepatocellular injury that leads to both fibrosis and nodular regeneration throughout the liver. Cirrhosis is a serious and generally irreversible disease and is the eighth leading cause of death in the USA (3). Nodularity is the most characteristic feature. Depending on whether the nodules are more or less than 3mm in size, cirrhosis is classified as macronodular, micronodular, or mixed (4). Complications of cirrhosis are: portal hypertension and gastrointestinal hemorrhage, ascites, portosystemic encephalopathy, renal failure and hepatocellular carcinoma (5). In diabetic patients having chronic renal insufficiency, the most common lesions involve the glomeruli and are associated clinically with three glomerular syndromes, including non nephritic proteinuria, nephritic syndrome and chronic renal failure(6). Complications of renal failure are: hyperkalemia, acid base disorders, hypertension, pericarditis, congestive heart failure, anemia, coagulopathy, neurological complications, endocrine disorders, disorders of mineral metabolism (7). These complications often prove lethal eg, hyperkalemia is a serious complication that can lead to cardiac arrest (8). Cardiac failure is failure of the heart to maintain a cardiac output adequate for normal perfusion of all tissues (9). Common causes of predominant systolic failure are coronary artery disease, hypertension, dilated cardiomyopathy (10). All these three have different mechanisms by which they eventually lead to heart failure-mechanisms different from cirrhosis and renal failure.

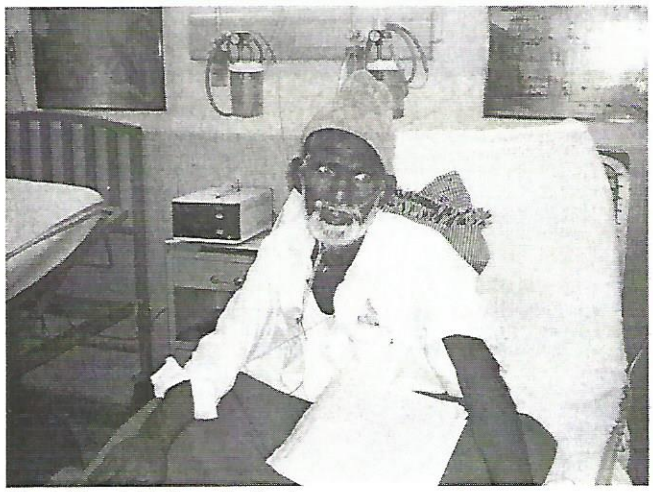


Fig 1 Heart Failure Patient

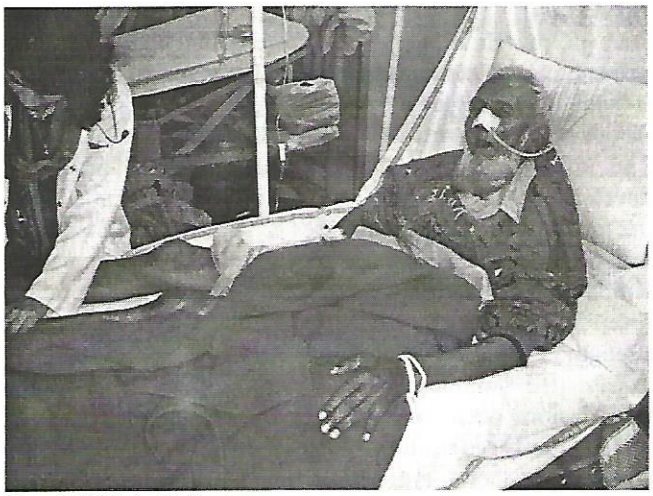


Fig. 2 C.V.A. Patient

Fig. 3 C.R.F. patient

Methods:

The data of this retrospective study was collected from East Medical Ward of Mayo Hospital, Lahore

Inclusion & Exclusion Criterion

In general, all the patients in this study have ages from 12 to 84. Cases are found above 84 years of age but they are in a very small number and so do not have any major effect on the study. Lower limit is 12 years as the data is collected from adult ward.

The purpose of this study is to cover most of the patients of our wards but at the same time try to keep this study simple to make it easily digestible. For this reason the cases hepatic cirrhosis caused only by viral hepatitis (hepatitis B & C) and alcohol intake were included in the study. Cirrhosis due to any other cause was not included. For chronic renal failure only those cases were selected who had diabetes mellitus or hypertension or both. Cases with any other cause of chronic renal failure were not included in the study. Those cases were not included who had diabetes mellitus or hypertension but also had some disease which involves kidney eg, SLE. Group of heart failure patients consists of a large sum of patients. Only those patients of heart failure were included where the cause was one of those listed above.

Age (Years)	Hepatic Cirrhosis	Chronic renal failure	Heart failure	Total
30-39	-	08	02	45
40-44	15	18	12	60
45-49	18	24	18	84
50-54	33	30	21	138
55-59	66	42	30	69
60-64	30	24	15	48
65-69	18	18	12	48
70-74	15	15	21	60
75-79	06	03	18	
80-84	03	-	12	15
Total	204	182	161	547

Data:

Total 547 cases were included in the study. Hepatic cirrhosis 204; Chronic renal failure 182; Heart failure 161. The numbers of patients expiring at different ages have been shown below in tabulated form.

Age group (years)

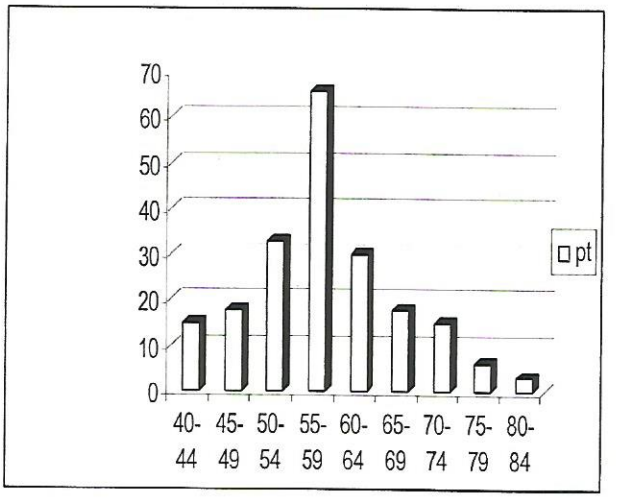
Data analysis:

The data is divided into age groups instead of individual figures in order to minimize the chances of error as the age recording may not be pretty accurate in the ward both because of the patients, as they often don't remember their exact ages and also due to lack of interest of the doctors as they are more concerned with the disease as compared to the age. Data is analyzed for each disease separately as well as collectively to find out the number of patients in each age group. There is a gradual increase in the number of patients till it reaches the highest in the age group 55-59. After that there is a gradual fall in the number of patients in each disease group except the heart failure group where the number once again rises in the age groups 71-74 & 75-79. There was no discrepancy found on the basis of sex. The highest numbers of patients expire at the age 55-59 regardless of the disease process. The difference is most prominent in the cirrhosis group (33% of all cirrhosis patients) and least prominent in heart failure group (19% of all heart failure patients) where renal failure is in between (24% of renal failure patients).

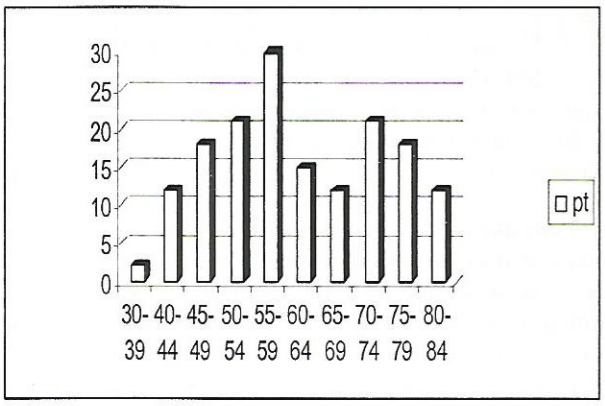
Results:

The analysis of the data shows that the majority of the patients expire at the age 55-59 in all three groups.

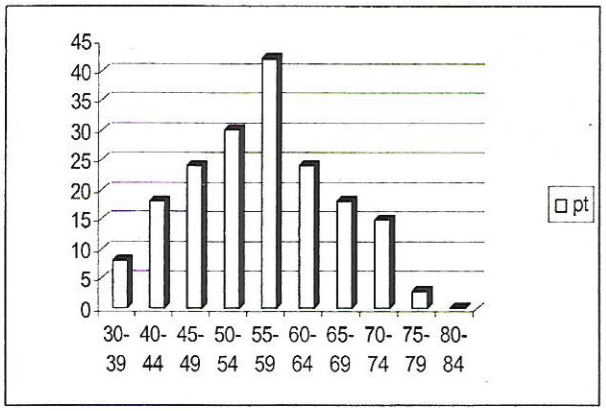
The proportion is highest in the patients of cirrhosis. Heart failure group does not follow the pattern of gradual rise and then fall in the number of patients as found in other two groups. Sex has no effect on the age expectancy of the patients of these chronic diseases.



Hepatic cirrhosis



Renal cirrhosis



Heart failure

Conclusion:

The chronic disease patients, regardless of the disease are at high risk as they cross the age of 55 years. No doubt, that the number falls in the subsequent groups statistically after 55-59 but it is due to the reduced number of surviving patients in these groups. The disease process has some bearing on the expected ages which is depicted in terms of different numbers of patients in different groups but they tend to follow the same pattern-gradual rise in number till 55 and then gradual fall. Age expectancy is more in the patients of heart failure as compared to the other two groups.

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