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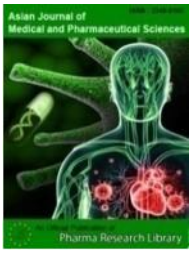

Research Article

A Study on Evaluation of Risk Profile and Treatment Pattern of Congestive Heart Failure Patients in a Tertiary Care Hospital

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Abstract

Heart failure is a complex clinical syndrome that results from a functional or structural heart disorder impairing ventricular filling or ejection of blood to the systemic circulation. It is by definition a failure to meet the systemic demands of circulation. Heart failure remains a highly prevalent disorder worldwide with a high morbidity and mortality rate. The prospective observational study was carried out for a period of 6 months. The study was conducted in cardiology in a tertiary care hospital. A written and informed consent was obtained from the recruited patients. A Total of 135 patients were enrolled in the study. The Leg edema patients were more 40 (29.62 %) as compared to other clinical symptoms. NYHA Class IV patients were more 59 (43.70%) as compared to other NYHA class patients. 7-8 years duration heart failure patients were more 75 (55.55%) as compared to other heart failure durations. Asthma comrbid patients were more 48 (35.55) as compared to other comorbidities. Abnormal ECG patients were more 103 (76.29%) as compared to normal ECG patients. Antiplatelets prescribed patients were more 42 (31.11%) as compared to other prescribed drugs. The incidence of heart failure is slightly higher in males. A combination therapy proves to be more effective than a single drug. A combination of up to 5 drugs are in practice, the most common being Four-drug and Three-drug therapy. The Prescription of generic drugs reduces the patients' burden making it more affordable and also the chance of survival for long time depends on absence or presence of co-morbidities.

Keywords: Heart failure, ventricular filling, circulation, co-morbidities, Leg edema, Antiplatelets.

Article Info

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Contents

1. Introduction

Heart failure (HF) is a clinical syndrome caused by structural and functional defects in myocardium resulting in impairment of ventricular filling or the ejection of blood[1-5]. The most common cause for HF is reduced left ventricular myocardial function; however, dysfunction of the pericardium, myocardium, endocardium, heart valves or great vessels alone or in combination is also associated with HF. Some of the major pathogenic mechanisms leading to HF are increased hemodynamic overload, ischemia-related dysfunction, ventricular remodeling, excessive neuro-humoral stimulation, abnormal myocyte calcium cycling, excessive or inadequate proliferation of the extracellular matrix, accelerated apoptosis and genetic mutations. The goal of therapy for chronic CHF is to improve symptom management and quality of life, decrease hospitalizations, and decrease overall mortality associated with this disease. The goal of pharmacologic therapy is to give all indicated agents rather than single agents because the aggregate effect of these therapies is better than monotherapy from any of the agents. The primary combination therapy for HFrEF includes diuretics, a renin-angiotensin system inhibitor (such as an angiotensin receptor neprilysin inhibitor, angiotensin-converting enzyme inhibitor, or angiotensin II receptor blockers and a beta-blocker. The combination of hydralazine and nitrate is an alternative to an angiotensin system blocker for primary therapy if ACE inhibitor, ARNI, and ARB therapies are contraindicated[6-10]. The nitrate and hydralazine combination is also indicated to reduce mortality and morbidity in African American patients with symptomatic HFrEF, currently receiving optimal medical therapy. The combination therapy of ARB-ARNI significantly reduced cardiovascular death and HF hospitalizations when compared to ACE inhibitors alone.

2. Methodology

Study Design: It was Prospective observational study.

Study Period: The Present study was conducted for a period of six months.

Study site: The Present study was conducted in department of cardiology department in a tertiary care hospital.

Sample size: It was 135 Patients.

Inclusion criteria

- Patients with age of more than 18 years.
- Patients with heart failure symptoms.
- Patients of either sex, diagnosed with heart failure.
- Patients who are willing to give consent.
- Patients under heart failure treatment.

Exclusion criteria

- Patients below 18 years.
- Patients who were not willing to join in the study.
- Special population including pregnant women and lactating women.
- Psychiatric abnormalities.

3. Results and Discussion

Table 1: Age

In our study 25-30 years age patients were 36(26.66%),31-39 years age patients were 27(20%),40-45 years age patients were 60(44.44%),46-56 years age patients were 12(8.88 %).

S.No	Age	Total N=135	Percentage (%)
1.	25-30	36	26.66
2.	31-39	27	20
3.	40-45	60	44.44
4.	46-56	12	8.88
	Total	**135**	

Table 2: Gender

In our study Males patients were55(40.74%), Female patients were80(59.25%).

S.No	Gender	Total N=135	Percentage (%)
1	Males	55	40.74
2	Female	80	59.25
	Total	**135**	

Table 3: Diet

Vegetarian patients were 66 (48.88%), Non Vegetarian patients were 69 (51.11%).

S.No	Diet	Total N=135	Percentage (%)
1.	Vegetarian	66	48.88
2.	Non Vegetarian	69	51.11
	Total	**135**	

Table 4: Education

Primary education patients were 23(17.03%),Secondary education patients were 19(14.07%),Graduation education patients were 93(68.88%).

S.No	Education	Total N=135	Percentage (%)
1.	Primary	23	17.03
2.	Secondary	19	14.07
3.	Graduation	93	68.88
	Total	**135**	

Table 5: Clinical symptoms

Clinical symptoms includes Shortness of Breath patients were 31(22.96%), Orthopnoea patients were 25(18.51%), Nocturnal Dysnoea patients were 39(28.88%), Leg edema patients were 40 (29.62 %).

S.No	Clinical symptoms	Total N=135	Percentage (%)
1.	Shortness of Breath	31	22.96
2.	Orthopnoea	25	18.51
3.	Nocturnal Dysnoea	39	28.88
4.	Leg edema	40	29.62
	Total	**135**	

Table 6: Risk factors

Risk factors of heart failure includes Acute coronary syndrome patients were 50(37.03%), Thyroid problems patients were 10(7.40%), Valvular heart disease patients were 25(18.51%), Dilated Cardiomyopathy patients were 18(13.33%), Hypertension patients were 19(14.07%), Smoking and alcohol patients were 13(9.62%).

S.No	Risk factors	Total N=135	Percentage (%)
1	Acute coronary syndrome	50	37.03
2	Thyroid problems	10	7.40
3	Valvular heart disease	25	18.51
4	Dilated Cardiomyopathy	18	13.33
5	Hypertension	19	14.07
6	Smoking and alcohol	13	9.62
	Total	**135**	

Table 7: NYHA class

The Clinical symptoms of heart failure includes Class I patients were 20(14.81%), Class II patients were 19(14.07%), Class III patients were 37(27.40%), Class IV patients were 59 (43.70%).

S.No	Clinical symptoms	Total N=135	Percentage (%)
1	Class I	20	14.81
2	Class II	19	14.07
3	Class III	37	27.40
4	Class IV	59	43.70
	Total	**135**	

Table 8: Duration of Heart failure

The duration of hypertension includes 1-4 years patients were 41(30.37%), 5-6 years patients were 19(14.07%), 7-8 years patients were 75 (55.55%).

S.No	Duration	Total N=135	Percentage (%)
1	1-4 years	41	30.37
2	5-6 years	19	14.07
3	7-8 years	75	55.55
	Total	**135**	

Table 9: Co morbidities

The Comorbidities includes Renal failure patients were 14(10.37),Diabetes mellitus patients were 21(15.55), Hypertension patients were 19(14.07), Stroke patients were 33(24.44), Asthma patients were 48 (35.55).

S.No	Comorbidities	Total N=135	Percentage (%)
1	Renal failure	14	10.37

2	Diabetes mellitus	21	15.55
3	Hypertension	19	14.07
4	Stroke	33	24.44
5	Asthma	48	35.55
	Total	**135**	

Table 10: LVEF (%)

The LVEF (%) includes 25-32 % LVEF patients were 45(33.33%),33-45% LVEF patients were 39(28.88%),46-51% LVEF patients were 51 (37.77%).

S.No	LVEF (%)	Total N=135	Percentage (%)
1	25-32	45	33.33
2	33-45	39	28.88
3	46-51	51	37.77
	Total	**135**	

Table 11: ECG

The normal ECG patients were 32(23.70%) and abnormal ECG patients were 103 (76.29%).

S.No	ECG	Total N=135	Percentage (%)
1	Normal	32	23.70
2	Abnormal	103	76.29
	Total	**135**	

Table 12: Prescribing pattern of heart failure drugs

The ACE inhibitors prescribed patients were 13(9.62%), Beta blockers prescribed patients were 21(15.55%), Antiplatelet Agents prescribed patients were 22(16.29%), Diuretics prescribed patients were 12(8.88 %),Digoxin prescribed patients were 10(7.40 %), Statins prescribed patients were15(11.11%), Antiplatelets prescribed patients were 42 (31.11%).

S.No	Prescribing pattern of NSAID'S	Total N=135	Percentage (%)
1	ACE inhibitors	13	9.62
2	Beta blockers	21	15.55
3	Antiplatelet Agents	22	16.29
4	Diuretics	12	8.88
5	Digoxin	10	7.40
6	Statins	15	11.11
7	Antiplatelets	42	31.11
	Total	**135**	

Discussion

- In our study 40-45 years age patients were more 60(44.44%) as compared to other ages.
- Female patients were more 80(59.25%) as compared to males.
- Non Vegetarian patients were more 69 (51.11%) as compared to Vegetarian patients.
- Leg edema patients were more 40 (29.62 %) as compared to other clinical symptoms.
- Acute coronary syndrome patients were more 50(37.03%) as compared to other clinical risk factors[11-16].
- NYHA Class IV patients were more 59 (43.70%) as compared to other NYHA class patients.
- 7-8 years duration heart failure patients were more 75 (55.55%) as compared to other heart failure durations.
- Asthma comrbid patients were more 48 (35.55) as compared to other comorbidities.
- 46-51% LVEF patients were more 51 (37.77%) as compared to other LVEF values.
- Abnormal ECG patients were more 103 (76.29%) as compared to normal ECG patients.
- Antiplatelets prescribed patients were more 42 (31.11%) as compared to other prescribed drugs.

4. Conclusion

Heart Failure is caused due to various underlying diseases among which, Ischemic Heart Disease and dilated cardiomyopathy are most common followed by Hypertension and Diabetes, a few caused by Rheumatic Heart Disease[18-20]. In our study 40-45 years age patients were more 60(44.44%) as compared to other ages. NYHA Class IV patients were more 59 (43.70%) as compared to

other NYHA class patients. Antiplatelets prescribed patients were more 42 (31.11%) as compared to other prescribed drugs.

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