Conclusion & Summary
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The following conclusion emerge from the present study:

1. The age of our patients of systemic hypertension ranges from 31-68 years with mean of 49.3 ± 9.8.

2. Maximum number of cases fall between 41 and 60 years, being equally divided in 5th and 6th decades.

3. Male – female ratio is 2:1 in hypertensive individuals.

4. LV dysfunction is present in 76.6% of hypertensive patients while, it remains normal in remaining 23.3%. Left Ventricular dysfunction may be either systolic or diastolic or both in such patients.

5. 73.3% cases of systemic hypertension have LV diastolic dysfunction including 63.3% cases of isolated diastolic dysfunction and 10% cases of combined systolic and diastolic dysfunction.

6. Of the cases of combined LV systolic and diastolic dysfunction, 3.3% cases present with CHF whereas 6.6% have no evidence of CHF.

7. CHF complicate hypertension in 10% cases.
8. in patients of CHF complicating hypertension, isolated LV systolic dysfunction, isolated diastolic dysfunction and combined LV diastolic and systolic dysfunction is present in equal number of cases (33% in each group).

9. Echocardiographic parameters in cases of systemic hypertension with diastolic dysfunction are: Reduced EF slope and altered E/A ratio in all the cases (100%).

10. Echocardiographic parameters in cases of systemic hypertension with systolic dysfunction are: Reduced LVEF and increased LVID in all the cases (100%).

11. Echocardiographic evidence of LVH occurred in 53.3% cases of systemic hypertension. While LVH occurred in 68.4% cases of systemic hypertension on presenting with diastolic dysfunction. Isolated systolic dysfunction is also associated with LVH.

All the cases with LVH show LV dysfunction either systolic or diastolic or combined.

Diastolic dysfunction occurs in all the cases (100%) of systemic hypertension with LVH.
Systolic dysfunction also occurs in all cases of systolic hypertension with LVH. Both systolic and diastolic dysfunction can occur without LVH.

12. There is an increase in the incidence of LV diastolic dysfunction with increasing duration of systemic hypertension, but statistically, the increase in duration was not significant. There is no correlation between increase in duration of hypertension and systolic dysfunction.

13. LV diastolic dysfunction is also usually related to the age of patient, as this increases with advancing age irrespective of the duration of hypertension; but systolic dysfunction has no correlation.

14. Incidence of LVH usually increases with advancing age in hypertensive cases being 33.3% in 4th decade; 50% in 5th and 6th decades and 100% in 7th decades.

15. Duration of hypertension is proportional to LVH and is found to be higher with increase in duration. The increase in duration in patients with LVH is statistically significant (p<0.01, t=2.9).
16. There is no definite correlation between severity of hypertension and cardiac dysfunction although, maximum number of cases of systolic dysfunction occurs in patients with stage II hypertension.

17. Severity of hypertension is related to LV wall thickness as the incidence of latter increase with severity of hypertension being, 41.6% in prehypertension, 50% in stage I and 75% in stage II cases.

18. LVH and diastolic dysfunction is slightly more in female hypertensives whereas systolic dysfunction is present in males.

19. Hypertensive patients with satisfactory control of blood pressure have lesser complication like LVH and LV dysfunction, compared to those with poor control.

20. LV diastolic and systolic dysfunction is equally prevalent between symptomatic and asymptomatic groups of hypertensives.

21. LVH could be detected in 3.3% and 6.6% cases by chest radiograph and ECG respectively while echocardiography could detect it in 53.3% cases of hypertension. Thus
22. Assessment of systolic and diastolic dysfunction in cases of CHF complicating systemic hypertension has great clinical importance. In these patients because medications such as digitalis, vasodilators and diuretics, which are commonly employed to treat CHF, suspecting only systolic dysfunction, may in fact have an untoward effect on patients, with coexistent or isolated diastolic dysfunction. While medications with known negative inotropic effects such as calcium channel blockers and β blockers may prove beneficial.

23. Echocardiography provides a reliable, noninvasive and sensitive method for detecting accurately LVH and LV systolic and diastolic dysfunction, which have important diagnostic, therapeutic and prognostic implications in patients of systemic hypertension.