

Postural hypotension in fallers

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Abstract- Postural hypotension is a common presentation in elderly coming in with falls. There are inconsistencies in the measurement and documentation of Lying/Standing B.P. during acute admission in elderly patients presenting with a fall as an inpatient.¹ Common causes are sepsis, dehydration, delirium, loss of autonomic tone in the elderly, medications-ACE inhibitor/ARB, diuretics, alpha blockers, beta blockers, autonomic neuropathy secondary to diabetes.²

Index Terms- P.S. – Postural hypotension, L/S – lying/standing, ACE/ARB – Angiotensin converting enzyme inhibitor/Angiotensin Receptor blockers

I. AIM

Our aim is to improve the current practice of measuring Lying/Standing B.P. and early identification of postural hypotension. and include this in NICE guidelines of measuring L/S BP in patient with falls as a falls risk assessment and falls prevention. In this way, we aim to reduce the risk of further falls.

II. MATERIALS AND METHODS

Baseline study-EAU and Elderly wards

Inclusion criteria- Elderly patients admitted with falls/having falls as inpatient.

In a Single-Center Retrospective Study, we looked into the medical notes (L/S B.P. in plan? Medications reviewed? General advice given? Fludricortisone started? observation chart (to see if L/S BP was done) over a period of a month.

We also noted whether a repeat L/S B.P. was done within 24 hours of the first reading.

How many cases were diagnosed as postural hypotension?
Was it resolved?

PROFORMA

L/S B.P. in plan?

L/S B.P. checked? – If yes-B.P. 1 min and 3 min (after standing) checked?

Symptoms-Dizziness/other symptoms/asymptomatic?

Cognitive dysfunction-Delirium/Dementia/None?

History of falls-Recurrent/not documented?

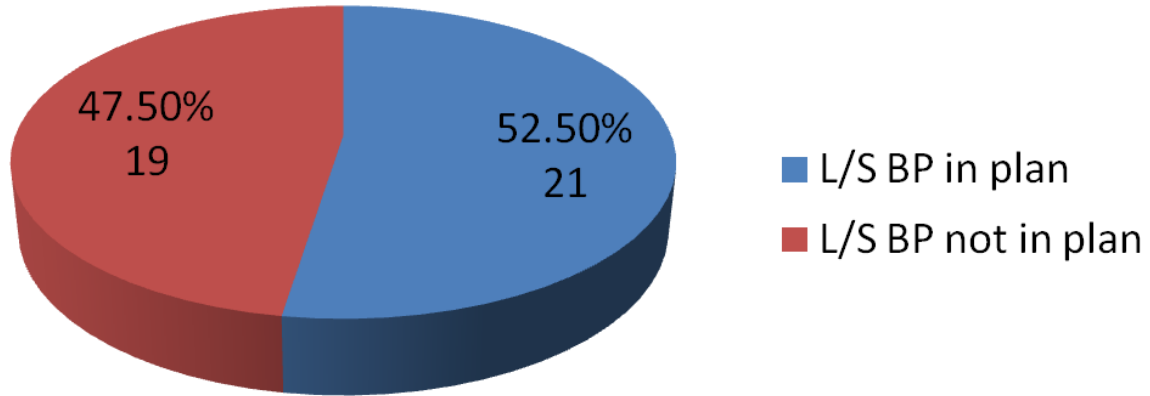
Diagnosis-Postural hypotension/alternative diagnoses

- If postural hypotension-drugs reviewed?
- General advice given?
- L/S B.P. repeated in 24 hours?
- Resolved?
- Fludrocortisone started?

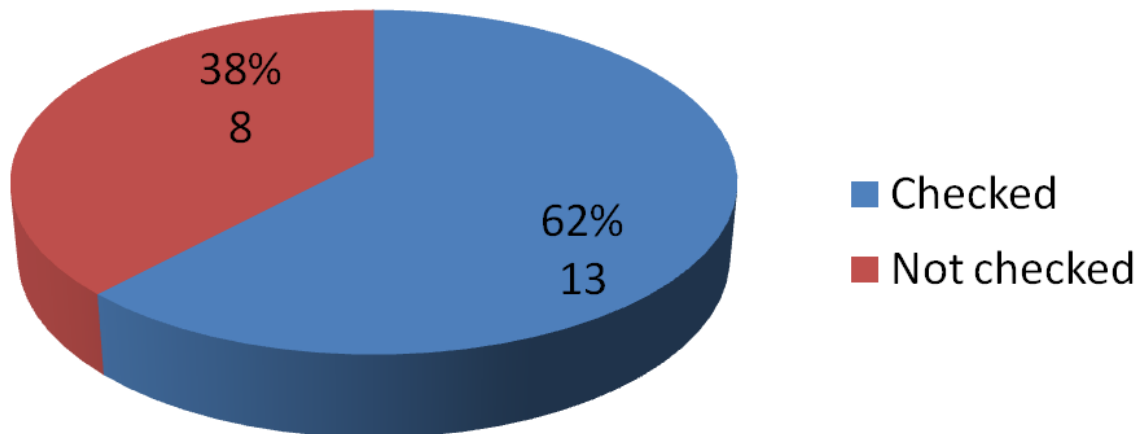
III. RESULTS

Sample size-40

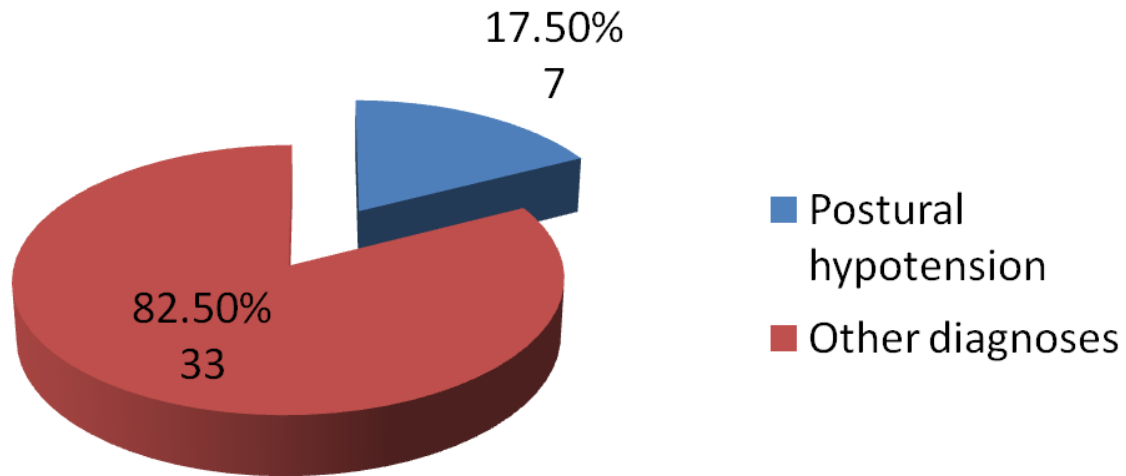
Is L/S BP in the plan ?



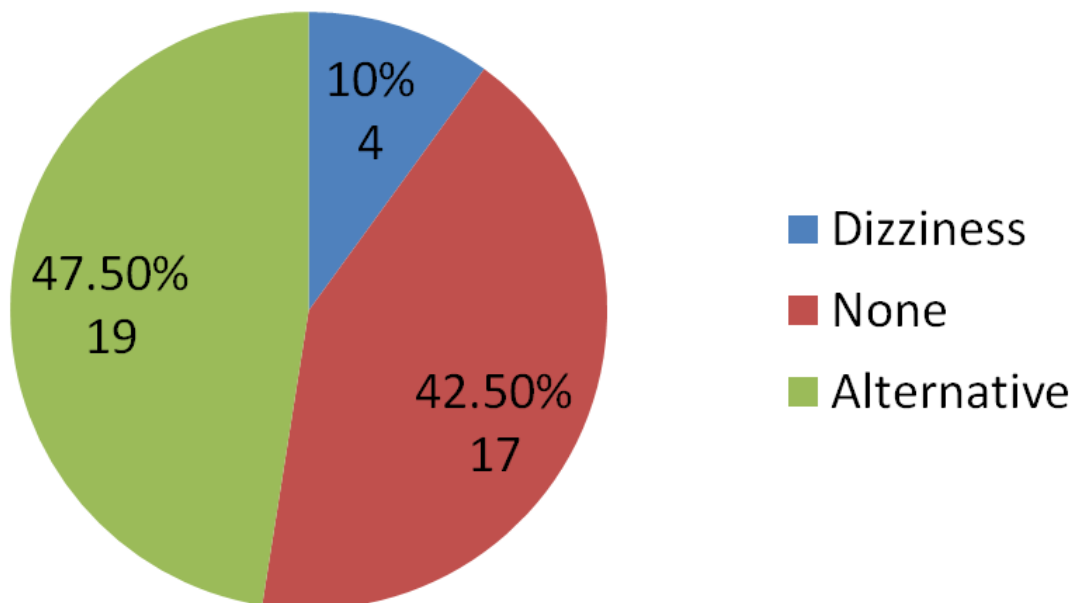
L/S BP Checked

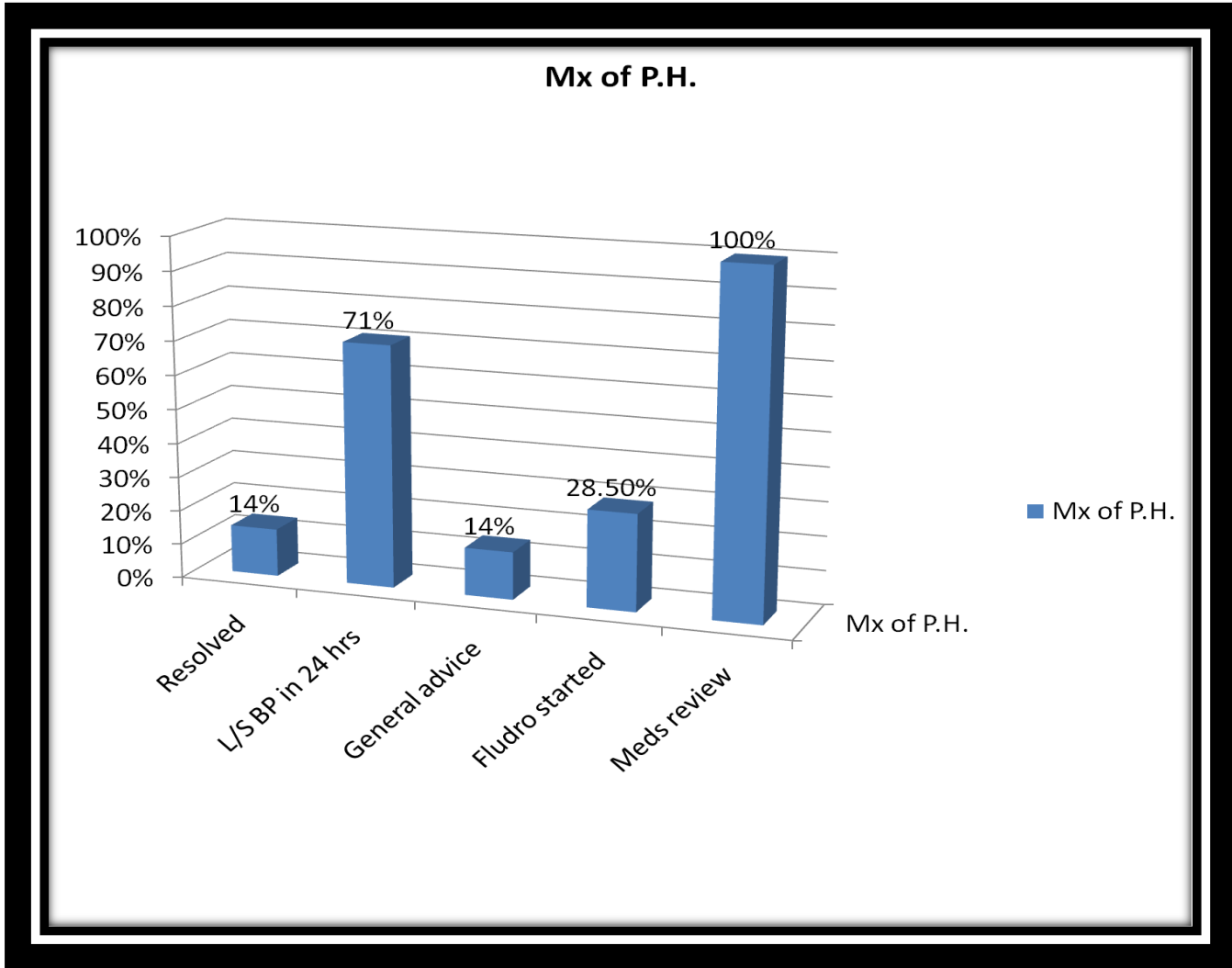


Diagnosis in patients with falls (Inpatient)



Symptoms



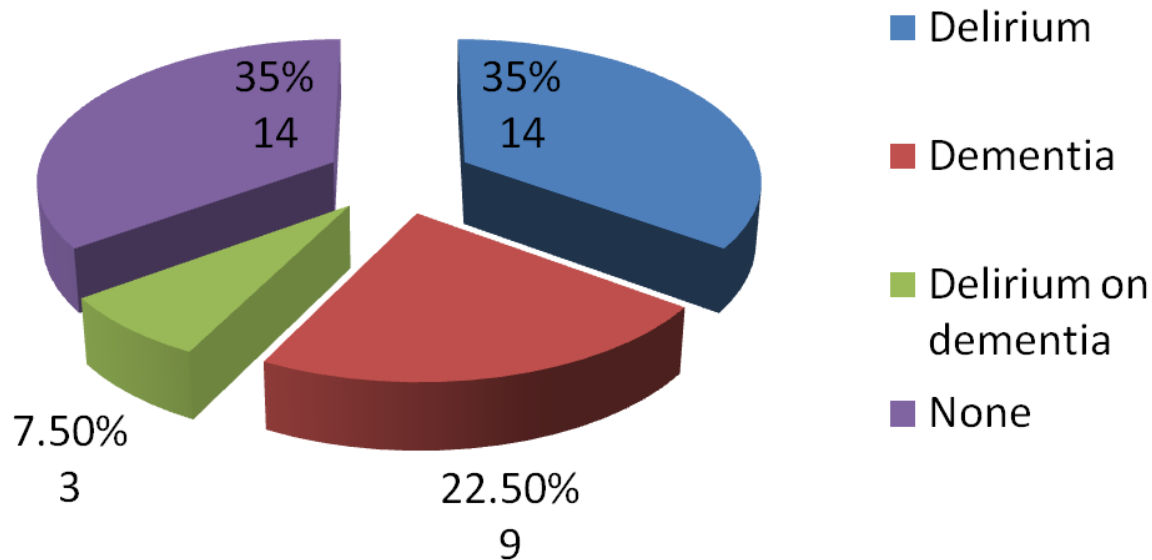


1. Introduce a sticker on the observation chart-Reminder to do L/S B.P.

2. Educate the medical and nursing staff about how improving this rather straightforward and simple practice can help reduce falls in the community and in hospitals

3. In future-Make a Trust Information Leaflet for postural hypotension which will be a leaflet for patients' information regarding postural hypotension

Cognitive impairment



IV. RESULTS

- Postural hypotension made up 17.5% of the diagnosis among inpatient elderly fallers in the study. However, we may have missed the diagnosis in few cases because L/S BP was missed in the plan of nearly half (47.5%) of the patients.
 - 38% of patients who had it in their plan, did not have it checked.
- 42.5% patients with falls were asymptomatic, only 10% fallers presented with dizziness, all of those had postural hypotension. So this may not always present with typical symptoms of dizziness; may be asymptomatic.
- A total of 65% patients had cognitive impairment; either dementia, delirium or delirium on dementia. Cognitive impairment in itself increases the risk of falls greatly, if coupled with postural drop, can be even more risky.
- Total patients diagnosed as postural hypotension in our study- 7 (17.5% cases)

V. OUT OF THESE

- Drug review was taken in 100% of cases in our study in diagnosed Postural hypotension, anti-

- hypertensives (ACEi/ARB/beta blocker/alpha blocker/diuretic) were generally stopped or reduced.
- General advice given in only 1 case
- L/S BP was repeated in 5 cases However, none mentioned the time of 1 & 3 min
- Fludrocortisone started in 2 cases
- Postural hypotension was documented to be resolved only in 1 case

VI. DISCUSSION

Frequent Fall is the main reason for the disability in the older people. Postural hypotension commonly increases the risk of falls, especially in hospitalized older patients. During low blood pressure the patient can complaint of weakness, dizziness and fainting resulting into a risk of fall leading to injury to the patient. Drugs that causes postural hypotension are phenothiazines, monoamine oxidase inhibitors, tricyclic antidepressants and other antipsychotic drugs. Cardiovascular drugs that causes orthostatic hypotension are beta blockers ACE inhibitors, alpha blockers, antiarrhythmics and antiarrhythmics. Narcotics, however have not been found for the increased risk of fall as was considered in the past.⁹ Hypotension in adults is referred to blood pressure of 90/60 mm Hg or lower. Orthostatic hypotension is a form of low blood pressure where systolic pressure falls more than 20 mm Hg,

diastolic pressure falls at least 10 mm Hg within 3 minutes of standing . Postural blood pressure should be taken after 1 minute of standing and 2 minutes after lying supine in position.⁸ However if the hypotension continues for a longer period ,patient may feel lightheaded and may fall.

The risk factors for falling include postural hypotension, decrease muscle strength,gait problems,polypharmacy visual impairment ,depression,female sex,incontinence,diabetes cognitive impairment,age older than 80 years, Parkinson's disease and antiepileptic drugs.³

- [1] Postural hypotension is one of the major risk factor for the gait problem and fall in elderly
- [2] people.⁷ Though it is a non-invasive ,quick and easy process to measure the postural blood
- [3] pressure., it is taken only in less than 40% of cases admitted with syncopal attacks and it affects
- [4] diagnosis and management than the expensive investigations and time consuming procedures
- [5] and tests ⁴
- [6] It is noted that risk of falling increases by four times in first 2 weeks after the patient
- [7] gets discharged from the hospital.⁵ This shows the vulnerability of older adults to get postural
- [8] hypotension leading to frequent falls as an adverse effects of hospitalization. The patients who
- [9] fall during hospitalization period have 29% more chances of fall at home, and then get
- [10] readmitted in the hospital and 5% of the patient succumb to death due to some acute illness or
- [11] injury .⁶

VII. CONCLUSION

There is a need to include L/S BP in every patient coming in with a fall and to improve documentation about diagnosis of Postural hypotension, and whether the problem was resolved at discharge.This would help reduced future risk of falls.

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