

Assessment of Antihypertensive Drug Use among Hypertensive Patients Presented with Acute Coronary Syndrome

Poster # 20

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Background

- Hypertension has been identified as one of the risk factor for development of coronary artery disease (CAD) [1]
- Diabetes is also an independent risk factor associated with increased mortality during hospitalization, short- and long-term follow-up among acute coronary syndrome (ACS) patients [2,3]
- Aggressive blood pressure (BP) control is essential for secondary prevention in hypertensive, particularly diabetic-hypertensive, patients with established cardiovascular disease (CVD)

Objectives

- To provide an overview of antihypertensive drug prescribing after angiography for hypertensive patients with ACS in 'real world' clinical practice
- To compare current prescription scenario of antihypertensive medications among diabetic and non-diabetic hypertensive patients presented with ACS, with special emphasis on polytherapy
- Compare utilization of antihypertensive therapies, especially ACEI/ARB and beta-blockers, for diabetic and non-diabetic patients with CAD

Methodology

- Study Design:**
Single centric, cross-sectional observational study

Study Site and Study Duration:

The Heart Care Clinic, Ahmedabad (INDIA); August 2007 to July 2008 (Data collection was carried out from August 2007 to January 2008)

Patient Population:

Inclusion Criteria

- Patients of both genders, ≥ 18 yrs
- ACS: chest pain/ischemic symptoms occurring at rest or with minimal exertion and lasting >10 min within 12 hrs of presentation and ECG changes compatible with ischemia with or without elevated CK-MB or c Troponin I or T

Exclusion Criteria

- Acute STEMI <72 hrs of presentation; pregnant or lactating women; current peptic ulceration; ACS precipitated or accompanied by morbid conditions

Results

Table 1. Comparison of demographics:

	Hypertensive patients without DM (n=131)	Hypertensive patients with DM (n=77)
Gender, male	100 (76.34)	58 (75.32)
Age, years	59.79 \pm 11.06	60.13 \pm 8.22
BMI (kg/m ²)	25.56 \pm 4.51	26.44 \pm 4.73
Blood Pressure		
Systolic (mm Hg)	137.35 \pm 19.64	137.99 \pm 21.36
Diastolic (mm Hg)	83.02 \pm 9.89	82.34 \pm 9.79
History & risk factors		
K/c/o CAD	65 (49.62)	32 (41.56)
Family h/o CAD	14 (10.69)	6 (7.79)
Smoking	21 (16.03)	7 (9.09%)
Treatment		
Medical management	52 (39.69)	35 (45.45)
PTCA	70 (53.44)	34 (44.16)
CABG	9 (6.87)	8 (10.39)

ACS, acute coronary syndrome; BMI, body mass index; DM, diabetes mellitus; CAD, coronary artery disease. Data are number (%) or mean \pm standard deviation

Figure 1. Diabetic and non-diabetic hypertensive patients on monotherapy vs. polytherapy.

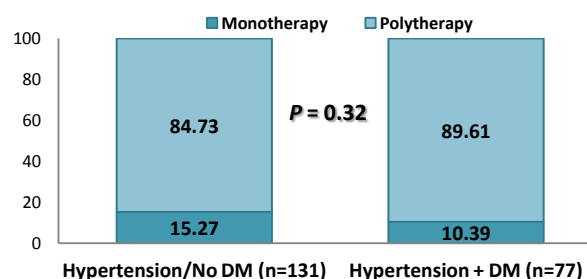


Figure 2. Use of two-, three- or more than or equal to four antihypertensive drugs among diabetic and non-diabetic hypertensive patients put on polytherapy

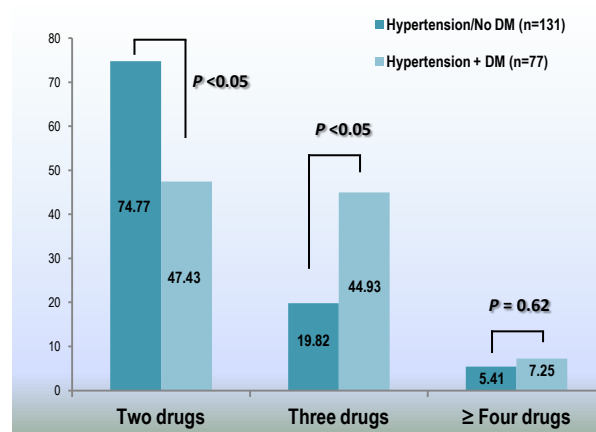
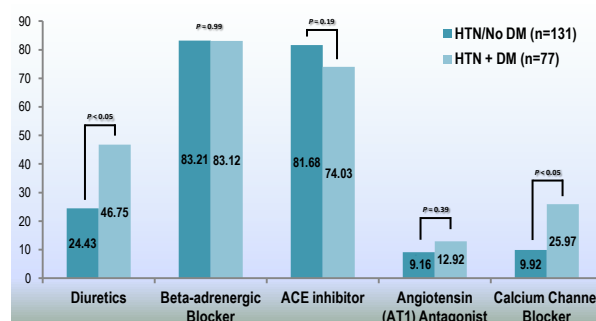


Figure 3. Use of different antihypertensive agents among diabetic and non-diabetic hypertensive patients



- Of 369 ACS patients, 208 (56.34%) were found to be hypertensive
- Prevalence of diabetes among hypertensive patients was 37.02%
- Demographics of both the groups, diabetic and non-diabetic hypertensive patients, were identical (see Table 1)
- Most of the patients were prescribed polytherapy i.e. multiple antihypertensive agents, irrespective of presence of diabetes
 - monotherapy 10.39% and 15.27%; and polytherapy 89.61% and 84.73%, from diabetic and non diabetic patients, respectively, $p=0.3197$ (Figure 1)

- Among patients on polytherapy, proportion of patients on two antihypertensive was significantly higher among non-diabetic patients (74.77% vs. 47.43%, $p=0.0002$)
- In diabetic-hypertensive patients more patients were on three antihypertensive agents (44.93% vs. 19.82%, $p=0.0003$)
- Except for diuretics and CCBs, there was no difference in proportion of patients receiving various antihypertensive agents from different class in diabetic and non-diabetic patient populations ($p>0.05$) (Figure 3)
- Significantly higher proportion of patients were on diuretics and CCBs from diabetic-hypertensive patients (for diuretics: 46.75% vs. 24.43%, $p=0.0009$; for CCBs: 9.92% vs. 25.97%, $p=0.0022$)

Conclusion

- Typically diabetes is more prevalent in hypertensive ACS patients from India
- Though, combination therapy is preferred over monotherapy to treat hypertension in both diabetic as well as non-diabetic hypertensive patients with CAD, typically more frequent use of combination of three antihypertensive drugs among diabetic-hypertensive patients reflects efforts for aggressive BP control in this sub-group of patients to meet stricter targets for BP
- Current prescribing for antihypertensive drug classes is fairly consistent with current recommendations [4], adhering evidence-based practice

References

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