



**PREVALENCE OF SMOKING, DIABETES MELLITUS AND HYPERTENSION IN
ACUTE CORONARY SYNDROME**

Dr. ZUHAIR HASSAN NASIR ALRUBAYI AND Dr. ABED IBRAHEM MAHMOOD

1: Diploma (Internal Medicine), Sheikh Zayed Emergency Hospital coronary care unit (C.C.U)

2: Diploma (Internal Medicine). Sheikh Zayed Emergency Hospital coronary care unit (C.C.U)

***Corresponding Author: E Mail: zaidattar@kmc.uobaghdad.edu.iq**

Received 19th Jan. 2019; Revised 10th Feb. 2019; Accepted 19th March 2019; Available online 1st Sept. 2019

<https://doi.org/10.31032/IJBPAS/2019/8.9.4816>

ABSTRACT

Background: Ischemic Heart Disease is the most important and first cause of death all over the world.

There are: Non-avoidable risk factors which are age, sex, and family history and avoidable or modifiable risk factors mainly hypertension, diabetes mellitus, smoking.

Aim: To know the prevalence of the most important 3 risk factors in ACS and to compare the incidence whether one or more risk factors are associated.

Patients and methods:

300 patients with A.C.S (myocardial infarction and unstable angina) were admitted to the C.C.U of Sheikh Zayed Hospital within 3 months duration July, August, October of 2014. all patients in the study were resuscitated on admission in the emergency department and those need fibrinolytic therapy (tissue plasminogen activator) (actylase or metalyse received at that time).

The study showing that the affected cases of acute coronary syndrome:

Results & conclusion

Hypertension 67%, DM 52%, current smoking 38%.

Keywords: Diabetes, Hypertension, Smoking, Coronary

INTRODUCTION

Ischemic Heart Disease is the most important and first cause of death all over the world.

There are:

1. Non-avoidable risk factors which are age, sex, and family history
2. The avoidable or modifiable risk factors, the biggest study all over the world (1, 2) done in 52 countries of 262 study yield the 9 most important modifiable risk factors are:
 1. Hypertension.
 2. Diabetes mellitus.
 3. Smoking.
 4. Dyslipidemia.
 5. Central obesity.
 6. Diet (low vegetable and fruit, high saturated fat)
 7. Inactivity.
 8. Alcohol.
 9. Psychosocial status.

In our study we conducted with 3 most important of these factors hypertension, diabetes mellitus, and smoking in our coronary care unit (C.C.U) of Sheikh Zayed Hospital within 3 months duration, our C.C.U 10 beds and 4 recovery beds. Admission only acute coronary syndrome (ACS) (MI and unstable angina).

Aim:

To know the prevalence of the most important 3 risk factors in ACS and to compare the incidence whether one or more risk factors are associated.

PATIENTS AND METHODS

300 patients with A.C.S (myocardial infarction and unstable angina) were admitted to the C.C.U of Sheikh Zayed Hospital within 3 months duration July, August, October of 2014. All patients in the study were resuscitated on admission in the emergency department and those need fibrinolytic therapy (tissue plasminogen activator) (actylase or metalyse received at that time). Most of the patients stayed 5 days in the C.C.U unless there are some complication either related to the condition or to the drugs received.

Diagnosis of the cases depend on:

1. History
2. ECG
3. Enzymes

Careful history taken, blood pressure and blood sugar estimated 3times per day. All diabetic patients received soluble insulin, and for cardiac enzymes we consider troponin for 2 days. Few patients those who doesn't responded to fibrinolytic therapy, persist S.T elevation or there were some contra indications to fibrinolytic therapy referred to

percutaneous coronary intervention (P.C.I). Some patients have 3 risk factors, 2 or one or none of these 3 risk factors.

RESULTS

300 cases of A.C.S 173 MI and 127 unstable angina (UA) (Table 1) (Figure 1).

Hypertension 201 cases =67%

D.M 158 cases =52.6 %

Smoking 114 cases =38%

Male to female ratio was 1.46:1

The mean age: 58.81 year

Age range: 16_90 year

Median age: 60 year

Those of 201 hypertensive patient, 18 patient they didn't know they have hypertension

Those of 158 diabetic patient 14 were discovered at admission to C.C.U.

Regarding the gender of patients 178 were male or 59.3% and 122 were female or 40.7%.

Distribution of patients at different age group, the main bulk of patient at the age group sixties (Table 2).

Patients with 3 risk factors were 30 pt. and form 10% from the total number of patients, Patients with two risk factors were 136 pt. and form 45.3% from the total number of patients, Patients with one risk factors were 112 pt. and form 37.3%, and patients with none of them were 22 pt. and form 7.3% (Table 3, Figure 2-4).

136 patients had 2 risk factors either had H.T + D.M which are 88 pt. (29.3%), and H.T + Smoking 29 pt. (9.6%), and D.M + Smoking 19 pt. (6.3%) (Table 4, Figure 5).

112 patients had only one risk factor, either 54 pt. had only hypertension (18%), 22 pt. had only D.M (7.3%), 36 pt. had only Smoking (12%) (Table 5).

No. of patient died at C.C.U of those 300 were 6 male 2% and 3 female 1%.

Bleeding complication due to fibrinolytic and anticoagulant therapy, we got one patient developed hemoptysis 3 patient developed hematuria, one patient at catheter puncture site, all received actiylase + heparin + aspirin +clopidogrel. (Figure 6).

Table 1: Number of pt. had H.T, D.M or Smoking

	MI	UA
	173	127
H.T	201	67%
D.M	158	52.6%
smoking	114	38%

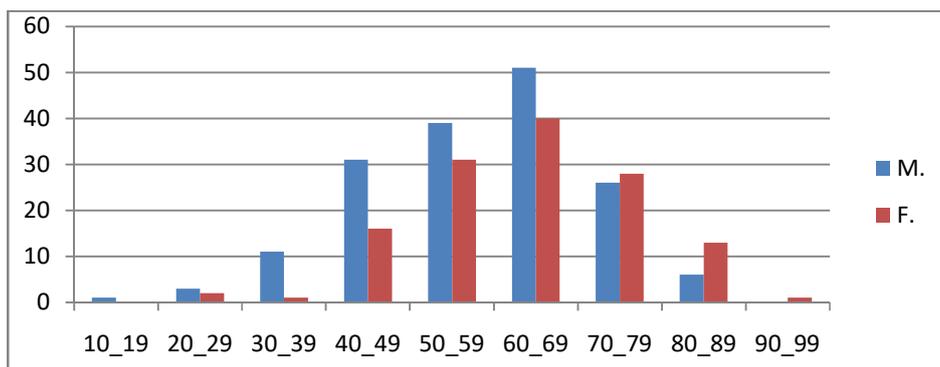


Fig. (1): Distribution of patients at different age group

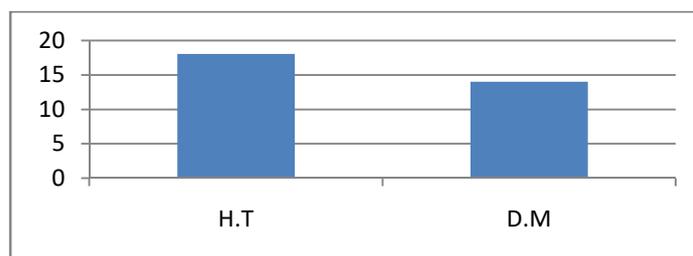


Fig. (2): Risk factors discovered at admission

Table (2): pt. with 1, 2, 3 or no risk factors (R.F)

	Patient No.	%
3 R.F	30	10%
2R.F	136	45.3%
1R.F	112	37.3%
No R.F	22	7.3%
total	300	100%

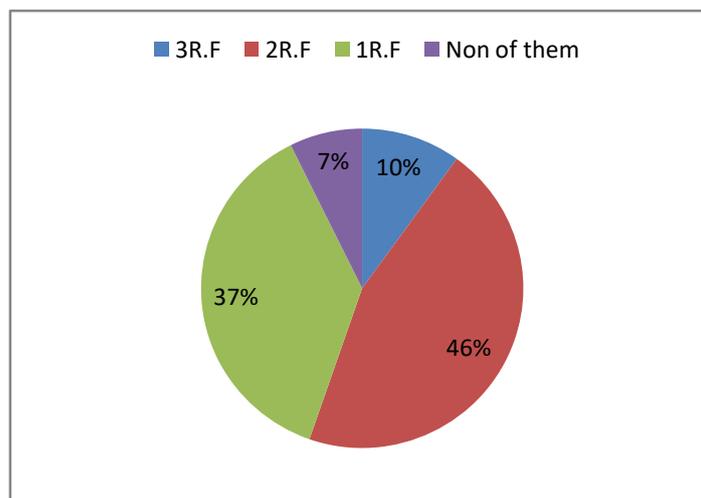


Fig. (3): Pt. with 1, 2, 3or no risk factors

Table (3): Patients with two risk factors

	H.T +D.M	H.T +Smoking	D.M+Smoking
Number of patients	88	29	19
%	29.3%	9.6%	6.3%

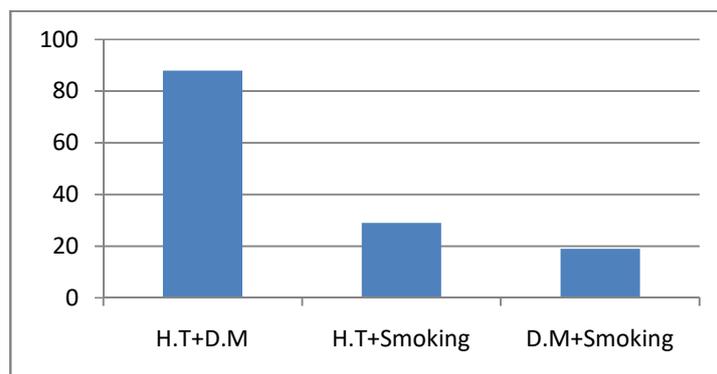


Fig.(4): Patients with two risk factors

Table (4): Patients with only one risk factors

	H.T	D.M	Smoking
number	54	22	36
%	18%	7.3%	12%

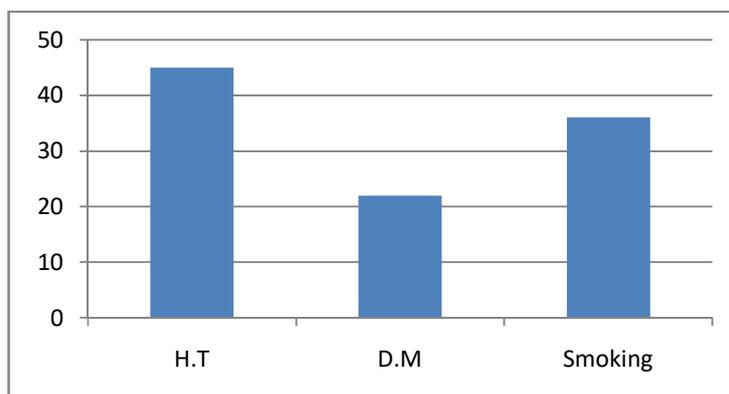


Fig.(5): Patients with only one risk factors

Table (5): Mortality rate

	Male	Female
Number	6	3
Percentage	2%	1%

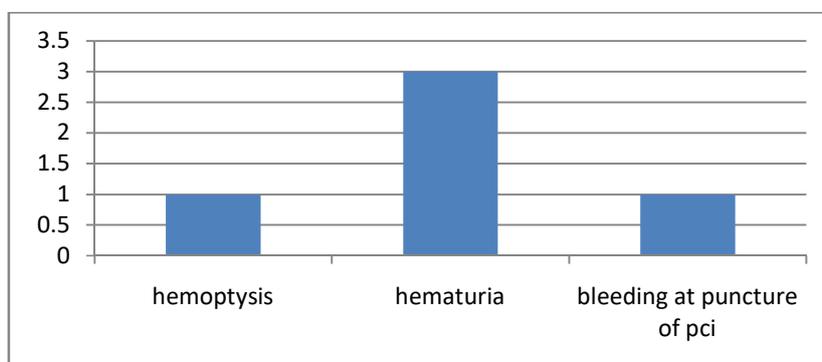


Fig. (6): Bleeding complications

DISCUSSION

The study showing that the affected cases of acute coronary syndrome:

Hypertension 67%, DM 52%, current smoking 38%.

Hypertension may considered high in comparison with Khan study which show that: Hypertension 40% , DM 36% , smoking 32% (3). While in Anders Vedin et al., study the hypertension was 36% of cases(4).

In our study male/female ratio 1.46:1, In Khan study was 1.2:1. The mean age 58.81 y, in Khan study 58.86 y. The median age 60 years. The youngest patient was 16 years old male (heavy smoker)(60 cig/day). The oldest patient was female of 90 years hypertensive only.

The study showing that young adult (age <45) 80% were smokers, while with Anderia Oliveia 88% were smokers(5). And these smokers 80% were heavy smokers (>20 cig/day), and this goes with Carlo LA Vechia et al., (6).

In our study age group affected was more in sixties, fifties then seventies respectively and this goes with many studies (7). Were female cases increased after fifties more than male and most probably this is due to estrogen deprivation (natural estrogen has protective action against C.A.D) (8). The study showing that 18 cases of hypertension 6%, and 14

cases of D.M 4.6% discovered at hospital admission. The study showing that most cases had two risk factors 45%, one risk factors 37.3%, three risk factors 10%.

The most common two risk factors combination: -

1. HTN + DM 29.3%.
2. HTN + smoking 9.6%.
3. DM +smoking 6.3%.

The most common combination is HTN+DM and this is the same as in Singh. RB. Et al.(9)and in many other studies.

CONCLUSION

The commonest risk factors of ACS in C.C.U Sheikh Zayed is hypertension followed by D.M then smoking which required treatment as for primary and secondary prevention.

RECOMMENDATIONS

1. Planning for discovering hidden cases of hypertension and D.M.
2. Optimization of treatment for hypertension and D.M.
3. Education program of patient who are unaware of their risk factors.
4. Cessation smoking program.

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