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DETERMINE THE PREVALENCE AND FACTORS ASSOCIATED WITH RENAL ARTERY STENOSIS IN PATIENTS WITH CORONARY ARTERY ANGIOGRAPHY IN ALI IBN ABI TALIB (PBU) HOSPITAL OF ZAHEDAN IN 2013

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ABSTRACT

Introduction & aim: Atherosclerotic renal artery stenosis is the most common renal artery disease in the development or exacerbation of hypertension and renal atrophy. 60-97% total atherosclerotic consists of renal artery stenosis, the aim of this study was to determine the prevalence renal artery stenosis in coronary artery disease in Ali IbnAbiTalib (pbu) Hospital of Zahedan in 2013.

Materials & Methods: In this descriptive study, 300 patients were evaluated with coronary artery disease in Ali IbnAbiTalib (pbu) Hospital of Zahedan in 2013 the method of sampling and available angiography, was used to assess the form and The data were analyzed in SPSS18 Chi-square test and t-Student was used.

Results: The prevalence of renal artery stenosis in 10% of patients studied (30 patients). 17.3% of patients with unilateral renal artery 3.6% had bilateral involvement. The number of affected coronary arteries, respectively 15/7%, 20% and 29/7% of the patients involved, the coronary arteries were two and three. There was a statistically significant correlation between the severity of renal artery stenosis with age, Diabetes, smoking history, and Number of affected coronary arteries, (p <0.05). Since the prevalence of renal artery stenosis, Angiographic evaluation of renal artery during coronary angiography recommended especially in Patients with history of hypertension, myocardial ischemia.

Keywords: Renal artery stenosis, coronary artery disease, coronary angiography

INTRODUCTION

Renal artery stenosis Renal Artery Stenosis (RAS) may be severe or mild coronary stenosis in one or both kidneys is stuck in ischemic nephropathy leading to kidney failure (12, 13). Angiography in renal artery lesions deemed significant when the Stenosis greater than 75%, or more than 50% is associated with dilatation of the stenosis (31). True incidence of stenosis Renal artery in the general population is unknown (11, 12, 13, 14, and 15). Because there is no simple and reliable test for screening a large amount of the population, but some studies suggest more frequent clinical estimation (6, 7, and 8).

Hypercholesterolemia, diabetes, smoking, obesity, hypertension, and Sitting sedentary lifestyle and risk factors these lesions have been identified (3). Recently screening RAS located in patients with coronary artery disease during catheterization Specialists. This is mainly due to the occurrence of renal dysfunction and renal failure originated to develop coronary heart disease. So far, guidelines and protocols for detection of indications for angiography renal artery has been provide during cardiac catheterization and usually RAS prevalence of heart disease is estimated in less than the correct amount (30). In some studies, the incidence of coronary artery stenosis have been reported in both time and Renal between 5 to 20% (43, 44) and other studies have shown that arteriography during angiography 18 to 24% of patients with mild coronary artery lesions have renal artery stenosis (18).

Due to the increasing number of cases of coronary angiography and the vessel revascularization interventions in recent years, Identifying patients at risk for renal artery stenosis can be effective in treatment decisions (31). On the other hand, considering the rate of progression of renal lesions Asymptomatic until the late stages of the process if the disease is diagnosed early and treated, while inflammation is reduced further, Speed reduction can have an important role in atherosclerosis.

Given the above, and since the incidence of angiographic stenosis, various studies have been done on atherosclerotic renal artery Characteristics of the study population, comorbidities and the disease is variable (16) and given the fact that a similar study in this field has not been done to determine the prevalence of renal artery stenosis in Coronary Artery Disease at Ali ibnAbiTalib (pbu) Hospital of Zahedan was conducted in 2013.

MATERIALS & METHODS

In this descriptive study, 300 patients with coronary artery disease who were referred to Hospital Ali IbnAbiTalib (pbu) Hospital of Zahedan in 2013 that Underwent coronary angiography with informed consent and Convenience sampling method were studied. The subjects in the age range 85-29 years 57/04 and 10/54 patients had a mean age standard deviation. 197 of whom were female (7/65) and 103 males (3/34%) respectively. Inclusion criteria included patients with coronary artery disease, the angiography and systolic blood pressure greater than 160 mm Hg and exclusion criteria for patients' dissatisfaction to participate in the study. Compliance with the code Akhlaqy1-7 and 17 approved National Ethics Committee and the View demographic information form and the details of the procedure were recorded. After angiography of the coronary arteries, All patients also underwent angiography of the arteries and Stenosis was calculated by cardiologist (Method of narrowing of the coronary arteries and other arteries of the kidney and Visual estimation of measurement methods and procedures applicable to the device); Renal artery stenosis on angiography artery lumen stenosis Are stenosis less than 50% as mild stenosis and stenosis of more than 50% Is defined as stenosis or significant. The data collected using 18 SPSS software and Test t-student, Chi -square were analyzed.

RESULTS

Of 300 patients, 30 (10%) of the total Patients had renal artery stenosis greater than 50%. 17.3% of patients with unilateral renal artery 3.6% had bilateral involvement. The number of coronary In the order of 15.7%, 20% and 29.7% Patients with involvement of one, two and three vessels (Table 1). 190 (63/3%) of the patients studied history of diabetes, 82 (27.3%), hyperlipidemia, and 72 patients (24%) Smoking history were considered. The mean body mass index Patients (3/52 ± 25/79), (Minimum 18 and maximum body mass index 32).

There was a statistically significant correlation between the severity of renal artery stenosis with age, diabetes and smoking history (p <0.05). But the severity of renal artery stenosis with hyperlipidemia, sex, there was no statistically significant association between body mass index (Tables 2 and 3). Also, the intensity and all vessels involved and the number of affected coronary arteries There was a significant correlation (p <0.05) (Tables 3 and 4).

Table 1: Distribution of renal artery stenosis, all vessels involved and the number of coronary Involved in the studied patients

Percent	Frequency		Variables
10	30	Yes	Renal artery stenosis
90	270	No	
76/3	229	Negligible	Kidney vessels involved
17/3	52	Unilateral	
6/3	19	Mutual	
34/7	104	Negligible	Coronary artery involvement
15/7	47	1vessel	
20	60	2vessels	
29/7	89	3vessels	

Table 2: Distribution of mean BMI by age and severity of renal artery stenosis statistical test T-test

0/610	(25/75± 3/50)	(26/10 ± 3/70)	BMI

*P<0/05

Pvalue	No renal artery stenosis	With renal artery stenosis	
0/049*	(56/64±10/59)	(60/63 ± 9/47)	Age

Table 3: Distribution of renal artery stenosis in terms of risk factors using Chi –square

Pvalue	No renal artery stenosis		With renal artery stenosis			Variables
	Percent	Frequency	Percent	Frequency		
0/046*	87/4	166	12/6	24	Yes	Diabetes
	94/5	104	5/5	6	No	
0/031*	83/3	60	16/7	12	Yes	Smoking status
	92/1	210	7/9	18	No	
0.000*	99	103	1	1	Negligible	Number of affected coronary arteries
	93/6	44	6/4	3	1 vessel	
	85	51	15	9	2 vessels	
	80/9	72	19/1	17	3 vessels	
0/274	91/4	180	8/6	17	Female	Gender
	87/4	90	12/6	13	Male	
0/931	90/2	74	9/8	8	Yes	Hyperlipidemia
	89/9	196	10/1	22	No	

*P<0/05

Table 4: Relationship between the numbers of vessels involved in Kidney the involved coronary vessels using Chi –square

Test result	Mutual		Unilateral		Negligible		Number of vessels involved in Kidney / Number of affected coronary arteries
	Percent	Frequency	Percent	Frequency	Percent	Frequency	
P=0/001 F=11/69	1	1	4/8	5	94/2	98	**Negligible**
	2/1	1	23/4	11	74/5	35	**1 vessel**
	5	3	28/3	17	66/7	40	**2 vessels**
	15/7	14	21/3	19	62/9	56	**3 vessels**

DISCUSSION & CONCLUSION

Renal artery stenosis were randomly Found in 40% of patients with kidney disease and Stenosis can reduce progression of kidney function Expected within 5 years (42, 41). According to studies the prevalence of

atherosclerotic Renal artery stenosis increases with age Especially in patients with diabetes, Occlusive disease, coronary artery disease and Or high blood pressure greatly increases As the incidence of severe atherosclerotic lesions (Lumen diameter stenosis> 50%) to 25% in Persons 50 years or more has been estimated (16). In some studies of coronary artery disease As prognostic factors for renal artery stenosis The main reason is that it can be presented Due to the important role of risk factors for atherosclerosis The renal artery stenosis and coronary artery disease, the 32,39,2,3), 21, 22). The prevalence of renal artery stenosis greater than 50% diameter in patients with Systolic blood pressure greater than 160 mm Hg in those who had coronary artery disease, That a considerable percentage is 10%, respectively. The results of this study with results Sung ha Park and colleagues (2004) in Seoul (South Korea) (8/10 patients) is consistent (35). However, in other studies, a higher incidence Renal artery stenosis is reported Including front and Abdullahi The prevalence of renal artery stenosis partners In non-diabetic patients with coronary artery disease 28.9%, E., et al () in Mashhad 31% Salehi and his colleagues (2011) In Tehran, 26.2% have been reported (31, 30, 34). Because of the low prevalence of renal artery

stenosis in the present study was to investigate the above could be related to demographic and the sample volume is lower.

In the present study, in patients with coronary artery approximately 1/19 of three percent Renal artery stenosis was significant While in patients with involvement of 4.6% of patients with significant coronary artery stenosis, renal artery and The frequency and severity of coronary artery disease with involvement of all involved There was a statistically significant association, That means that the larger coronary involvement was Renal artery stenosis was more likely. These findings are consistent with other similar studies with different frequency (31 37-38-33-30). Included in the study By TadeuszPrzewlocki and colleagues Poland was in 2008, the prevalence of renal artery stenosis Increases with increasing number of affected coronary arteries (4/38% in a coronary artery, coronary artery disease Tuesday 1/42% and coronary artery disease (48/5% ((33). In this study, the incidence of involvement colleagues Noogh time Renal artery and the coronary vessel involvement (34%), With the involvement of the vessel 14/57% and 54/17% for the three vessels No significant differences (30).

In the study of renal artery stenosis with diabetes there was a significant association with the study of inequality and Studies have also read many other colleagues. Also in this study between smoking and renal artery stenosis there was a statistically significant association (33). While prior research Abdullahi et al. In this study, single-minded and colleagues (2011) Smoking did not predict the Not compatible with the present study (48). Which may be due to the high consumption of cigarettes less life style is appropriate in this area.

In the present study are consistent with the results of the study results Abdullahi front and Unit supervisors and colleagues (2011) between gender and There was no significant association between the prevalence of renal artery stenosis. In this regard, several studies have reported conflicting results and in some studies, female gender (20-23V25-36V Noogh et al.) And In contrast to other studies, male (44, 35 and 46) Prognostic factor for renal artery stenosis is reported. The conflicting results may be explained by the sample size should be between the sexes to be a compelling reason for this is discussed.

Also in this study renal artery stenosis with hyperlipidemia there was no statistically significant association in accordance with the results Unit supervisors and colleagues (2011). While the study Sung ha Park and colleagues (2004) and Justice and cooperation between renal artery stenosis patients with hyperlipidemia there was a statistically significant association (35, 47). Lack of consistent findings may also Lack of awareness of the existence and in vitro evaluation of hyperlipidemia patients.

CONCLUSION

The results of this study and Progressive nature of renal artery stenosis Various studies have proved, Renal angiography after coronary angiography is recommended in these patients and May obscure the detection of renal artery stenosis and the treatment helps lower the better.

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