

EVALUATION OF WOMEN WITH ATYPICAL ANGINA

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ABSTRACT

While many women who experience cardiac chest pain are usually experiencing ischemic chest pain or angina, there are a number of them who experience vague and atypical symptoms which pose a formidable diagnostic challenge for the treating physician in the presence of normal investigations.

Aims and Objectives

Were to study the symptomatology, pattern and location of pain in women with angina especially those with atypical symptoms and to study the associated comorbidities in such women.

Material and Methods

332 Women presenting in the outpatient department with chest pain / atypical pain or symptoms suggestive of angina were studied.

Results

48.2% were below 49 years and 51.8% above this age. Shortness of breath, palpitation and neck pain were important anginal equivalents. Other sites of pain radiation were epigastrium, back, neck, ear and temple and left shoulder. Associated symptoms included uneasiness, vertigo and sweating. 85% had some or the other risk factor. Obesity was the most important and prevalence was significantly higher in the younger women. Besides the conventional risk factors the other associated comorbidities were hypothyroidism, rheumatoid arthritis, SLE, migraine, hysterectomy, thyrotoxicosis, anemia, CVA, renal and respiratory diseases.

Conclusions

The atypical locations of ischemic pain and unusual/vague symptoms need to be recognized early in women. In addition associated comorbidities and age should be taken into consideration during the course of evaluation. The timely diagnosis and assessment of potential risk of IHD in women are crucial steps toward improving outcomes.

KEY WORDS: angina, ischemic heart disease

INTRODUCTION

It is generally not appreciated that the ischemic heart disease (IHD) is quite common in women. A 50 year old woman's mortality risk from heart disease is 10 times greater than that from hip fracture and breast cancer combined. Women tend to trivialise their symptoms causing the diagnosis to be delayed. While many women who experience cardiac chest pain are usually experiencing ischemic chest pain or angina, there are a number of them who experience vague and atypical symptoms which pose a formidable diagnostic challenge for the treating physician. It is difficult to separate patients with ischemic heart disease from patients with anxiety neurosis. ECG and stress testing may be normal. ¹WISE study has demonstrated that 57% of women will not have obstructive CAD when coronary angiography is performed. ²

The women & often their physicians underestimate this risk resulting in substantial delays in diagnosis. Thus it is important to recognize the atypical anginal symptoms and locations other than chest where the pain may be felt. Angina occurs when the heart muscle does not get enough oxygen due to critical narrowing of coronary arteries that supply blood to the heart. Typical (classic) angina chest pain consists of (1) Substernal chest pain or discomfort that is (2) Provoked by exertion or emotional stress and (3) Relieved by rest or nitroglycerine (or both.) When one experiences chest pain that doesn't meet the criteria for angina or does not conform in every way to the expected or classic description it's known as atypical chest pain. Classic symptoms other than pain and discomfort include shortness of breath (SOB), palpitation, nausea and diaphoresis, light-headedness, fatigue, weakness, numbness or tingling in the upper extremities and confusion. Women could experience a burning sensation in the upper abdomen or a stabbing pain. Pain may radiate to atypical locations like jaw, temples, neck, arms, epigastrium, back and shoulders.

In these cases in addition if associated comorbidities and age are taken into consideration the diagnosis becomes easier since IHD is generally associated with conventional or unconventional risk factors. The timely diagnosis of IHD and assessment of potential risk of IHD in women are crucial steps toward improving outcomes.

AIMS AND OBJECTIVES–

1. Were to evaluate the women with angina presenting with obscure /atypical chest pain/ symptoms and to study the symptomatology, pattern and location of pain
2. To study the associated comorbidities in such women.

MATERIAL AND METHODS-

332 Women presenting in the outpatient department (OPD) of two tertiary hospitals with chest pain as well as obscure and atypical symptoms suggestive of angina were studied.

The Inclusion Criteria

1. Were patients with angina which was defined as the presence of substernal chest pain or discomfort (pressure, heaviness, squeezing, burning, or choking sensation) that was provoked by exertion, eating, exposure to cold or emotional stress, lasting for about 1-5 minutes and relieved by rest and/or nitroglycerin.
2. Patients with stabbing pain and pain radiation to atypical locations e.g. temples, neck, arms, epigastrium and back and atypical anginal symptoms who were relieved by nitrates were also included.
3. Patients with palpitations, shortness of breath and sweating.
4. Patients with atypical and vague symptoms

Exclusion criteria-

1. Patients not responding to nitrates
2. Pain where another etiology could be identified.
3. Pain which was aggravated with respiration and pressure.

RESULTS

Broadly the distribution of patients with respect to age is shown in Fig 1. 48.2% were below 49 years and 51.8% above this age.

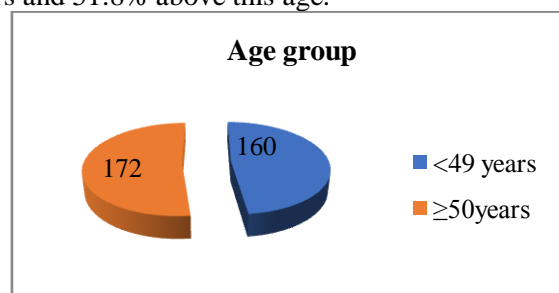


Fig 1

The symptomatology and location of pain are given in Fig 2.

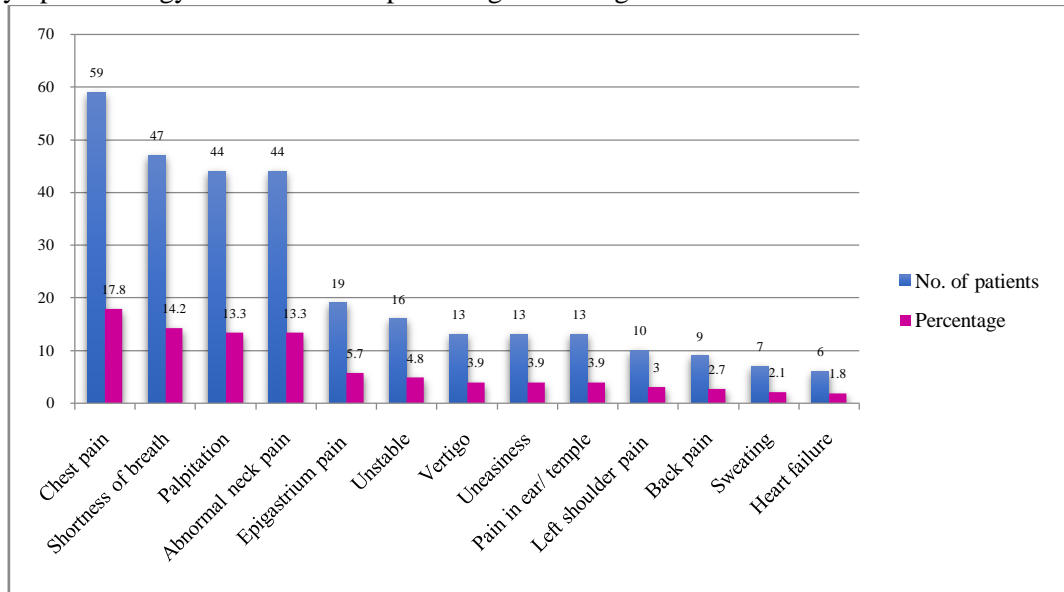


Figure 2

Thus shortness of breath, palpitation and neck pain were important anginal equivalents. The sites of pain radiation were epigastrium, back, neck, ear and temple, left shoulder pain. Other associated symptoms included vertigo, sweating and features of heart failure. 95% were stable as patients were selected from the OPD. 6% had clinical features of heart failure.

The associated comorbidities are shown in Fig 3

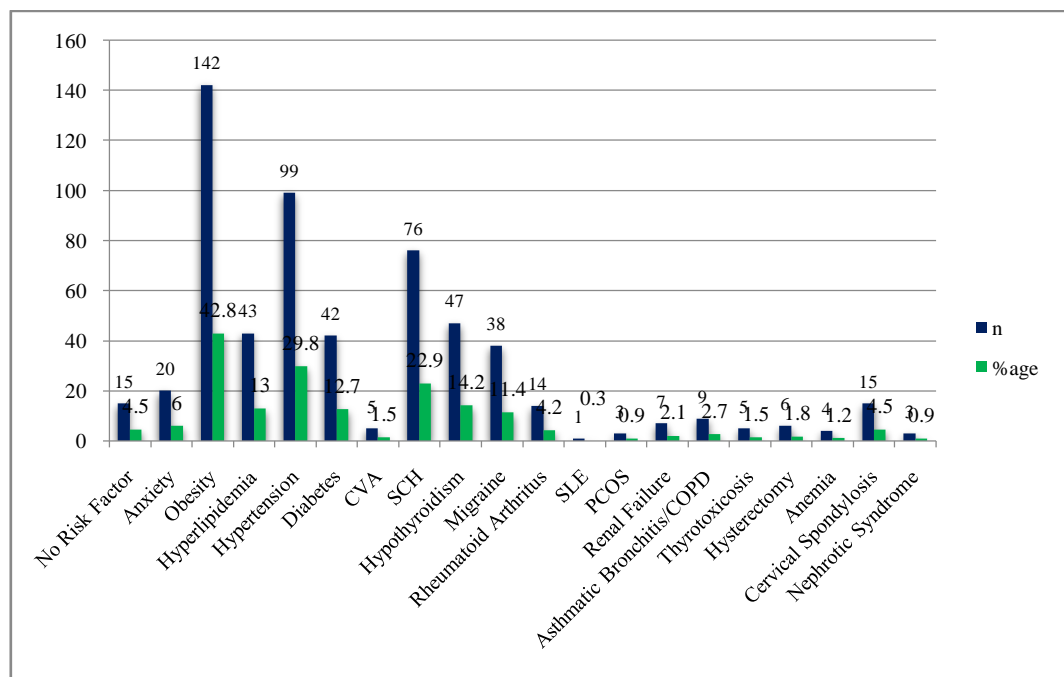


Fig 3

Thus obesity and hypertension were important comorbidities associated with angina.

The prevalence of the various conventional risk factors with respect to age in our study is depicted in Fig 4 and Table 1

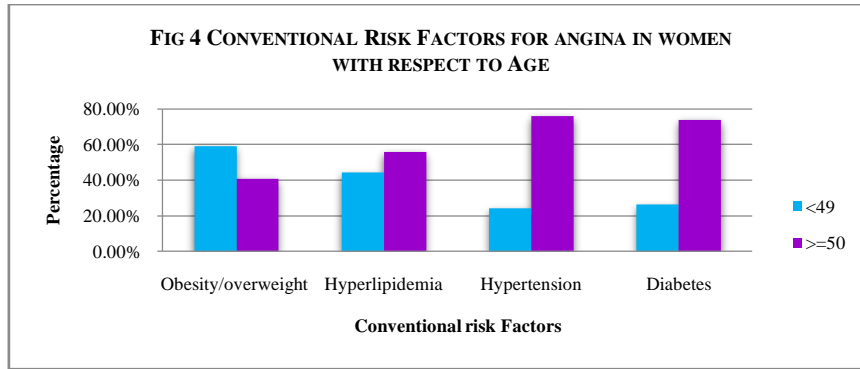
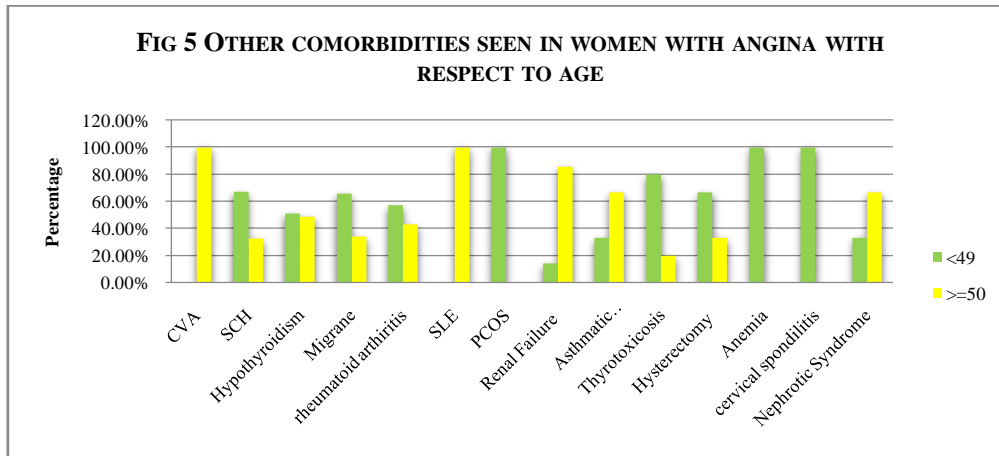


Table 1

Conventional risk factors

	<49		>=50		total		
	n	%	n	%	n	%	
Obesity/overweight	84	59.20%	58	40.80%	142	100.00%	0.001
Hyperlipidemia	19	44.20%	24	55.80%	43	100.00%	0.573
Hypertension	24	24.20%	75	75.80%	99	100.00%	<.001
Diabetes	11	26.20%	31	73.80%	42	100.00%	0.002

Obesity was more common in younger women and hypertension and diabetes in the older age group. Other associated comorbidities are depicted in Fig 5 and Table 2



OTHER COMORBID ASSOCIATIONS WITH RESPECT TO AGE

	<49		>=50		Total		
	n	%	n	%	n	%	
CVA	0	0.00%	5	100.00%	5	100.00%	0.03
SCH	51	67.10%	25	32.90%	76	100.00%	<.001
Hypothyroidism	24	51.10%	23	48.90%	47	100.00%	0.671
Migraine	25	65.80%	13	34.20%	38	100.00%	0.021
Rheumatoid arthritis	8	57.10%	6	42.90%	14	100.00%	0.493

<i>SLE</i>	0	0.00%	1	100.00%	1	100.00%	0.334
<i>PCOS</i>	3	100.00%	0	0.00%	3	100.00%	0.071
<i>Renal Failure</i>	1	14.30%	6	85.70%	7	100.00%	0.07
<i>Asthmatic Bronchitis/COPD</i>	3	33.30%	6	66.70%	9	100.00%	0.366
<i>Thyrotoxicosis</i>	4	80.00%	1	20.00%	5	100.00%	0.152
<i>Hysterectomy</i>	4	66.70%	2	33.30%	6	100.00%	0.361
<i>Anemia</i>	4	100.00%	0	0.00%	4	100.00%	0.037
<i>Cervical spondylitis</i>	15	100.00%	0	0.00%	15	100.00%	<.001
<i>Nephrotic Syndrome</i>	1	33.30%	2	66.70%	3	100.00%	0.601

Thus subclinical hypothyroidism, migraine and anemia were significantly more common in younger women and cerebrovascular accident found exclusively in the older age group.

DISCUSSION

It is thought that only older and menopausal women have ischemic heart disease. Obstructive disease may be more common in these women but our study shows that angina can be present in younger women as well. IHD in women includes not only atherosclerotic obstructive Coronary Artery Disease, but also an expanded spectrum of coronary disease, including coronary microvascular dysfunction (CMD), endothelial dysfunction and vasomotor abnormalities. The Women's Ischemia Syndrome Evaluation (WISE) and other related studies have implicated abnormal coronary reactivity, microvascular dysfunction, and plaque erosion as causative to female-specific IHD pathophysiology. Coronary microvascular dysfunction is present in approximately one half of women with chest pain in the absence of obstructive CAD and cannot be predicted by risk factors for atherosclerosis and hormone levels.³ There appears to be a heightened sensitivity of the coronary microcirculation to vasoconstrictor stimuli in the small intramural prearteriolar coronary arteries with decreased blood flow to the heart but with normal coronary arteries. Progress has been made with invasive testing to better discriminate between coronary spasm and microvascular dysfunction which is more common in younger women.⁴

Women at risk for coronary vasomotor disorders often have co-morbidities and an enhanced pro-inflammatory state, such as rheumatoid arthritis, systemic lupus erythematosus and chronic intestinal bowel syndromes.⁵

It can be observed that shortness of breath and palpitation were very common anginal equivalents in our study and should not be missed. These patients are often confused with lung diseases like asthma. Again the patient with is reassured and sent back after finding a normal heart rate in patients with palpitation. Patients with neck pain may be confused with cervical spondylosis. In these patients there also may be a history of vertigo and they are often obese and may be of a younger age group. The pain is constant and not brought on by exertion. It may or may not be relieved with anti-anginal medication but is usually relieved by analgesics. Patients with uneasiness may have anxiety or history of psychiatric illness and usually responds to anti-anxiety medication but uneasiness may be due to ischemic heart disease.

Obesity is the most important comorbidity in the present times. It was found significantly higher in the younger women showing that in the younger age group obesity is an important risk factor for angina and a reminder for taking preventive measures including dietary restrictions and exercise in this age group. Hypertension and diabetes are significantly higher in the older age group beyond 50 years.

It is important to look for subclinical hypothyroidism which is usually thought to be asymptomatic.⁶ Angina may be associated with migraine especially in younger women as in both conditions there is disproportional vascular reactivity.^{7,8} Patients may have a disorder like rheumatoid arthritis or SLE. Other associations may be cerebrovascular accident, renal disease or lung disease which may have other risk factors. Patients with anemia need to have their anemia treated. 85% of our patients were associated with some or the other comorbidity. We are familiar with conventional risk factors but we should look for any other associated comorbidity which can give a clue to the diagnosis.

CONCLUSION

Thus it is important to look for the atypical symptoms and atypical locations of pain in women including younger women and also the associated comorbidities and risk factors both traditional and non traditional ones in order to diagnose IHD which is often missed and the patient is given psychiatric in place of antianginal medication.

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