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Original Article

Painful Rib Syndrome a Series of 89 Cases

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Abstract:

Painful rib syndrome is an under diagnosed or neglected clinical entity presented with pain in the lower chest and upper abdomen with a tender spot (or spots) at the lower costal margin. This study was designed to see the presentation of a relatively less recognized clinical condition painful rib syndrome. Consecutive patients presenting with pain in the lower chest or upper abdomen at one or both sides with reproducible tender points or points on the costal margin and positive hooking sign were included. Patients' epidemiological and clinical data were recorded. A routine x-ray chest of PA view and ultrasonogram of the abdomen were done in all. Data analysis was done using SPSS (Statistical Package for Social Science) version 20. *Total 89 patients, male 31(34.8%) and female 58(65.2%) with age ranging from 10 to 70 years (mean 35.34) were included. Of them, 48(53.9%) were within 26 to 45 years group, 43(48.3%) were housewives and 47 (52.8%) were from middle-class economic group. Among them, 16 (18%), 16 (18%), 12 (13.48%), and 30 (33.71%) patients presented with pain in the right lower chest, left lower chest, both sides of chest and right upper abdomen respectively and were managed conservatively with complete or acceptable improvement in 78(87.64%) patients. Painful rib syndrome can be diagnosed easily by history, clinical examination, and minimum investigations which may save patients from anxiety and economic loss.*

Keywords: Painful rib, Hooking sign

Introduction:

Painful rib syndrome, also known as slipping rib syndrome, clicking rib syndrome, twelfth rib syndrome, rib tip syndrome, intercostal neuralgia, syndrome of hypersensitive xiphoid, cyriax syndrome, was first described in the early part of 20th century[1,2]. It is an under diagnosed or neglected clinical entity that is not included in standard textbooks; at 1980 Wright reported 46 cases in Lancet[3]. It was very specifically described as pain in the lower chest and upper abdomen with a tender spot (or spots) at the lower costal margin (may include xiphoid) and this pain may be reproduced by pressure on the spot. It constituted around 5% of the total referral to the gastroenterology departments in the UK[3]. It is often associated with hypermobility of the eighth, ninth, and tenth ribs making them susceptible to trauma and micro-trauma sometimes without the awareness of patients[4-6]. Its diagnosis is almost clinical. History, local spot at the costal margin of lower rib and positive hooking maneuver lead to a diagnosis. And imaging and other investigations help to rule out other causes[7,8]. Both males and females are affected. But it is about three times more common among females[9,10]. It can occur at any age, but middle aged people are more affected[11,12]. It is usually unilateral but may affect both sides[13]. In addition to pain in the lower chest and upper abdomen, it may present as chronic pain in the lumbar and suprapubic areas[14,15]. Most of the cases recover by reassurance and conservative measures. A very small number of patients with severe pain not responding to conservative measures require referral to the pain clinic for injection of an anesthetic agent or to a surgeon for rib resection[13]. As it is an underdiagnosed entity, patients move from one physician to another physician with their complaints which results in time and economic loss for patients. With this background this study was designed

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to see the profile of patients with painful rib syndrome in an outpatient setting of a consultation center in Sylhet, Bangladesh.

Material and Methods:

This study was done in a private Hospital with an outpatient setting in Sylhet, Bangladesh from January 2019 to March 2021. Consecutive patients with pain in the upper abdomen or lower chest of both or any side along with the presence of reproducible tender points (points) whose hooking maneuvers were positive were included in this study. Those patients who had a history of cough, fever or respiratory disease, chest or upper abdominal surgery, history of liver disease, chest abnormality on physical examination, any lung or pleural lesion in X-Ray chest P/A view, and abnormality in USG of the abdomen, pregnant lady or patients suffering from chronic debilitating diseases were excluded. Monthly income up to 10,000 taka, >10,000 to 20,000 taka, >20,000 to 30,000 taka, and above were taken as poor, lower middle class, middle class, and rich respectively. Demographic information and findings of clinical examination and investigations were recorded in a preformed data sheet. Their follow-up visits were recorded as complete, partial, or no improvement. Telephonic communication was done with those patients who did not visit more than once within three months of the index visit. Data analysis was done using SPSS (Statistical Package for Social Science) version 20. Percentage and mean were calculated for the data.

Results:

A total of 89 patients fulfilling inclusion and exclusion criteria were enrolled in this study (Table I). Among them male was 31 (34.8%) and female were 58 (65.2%). Age of them varied from 10 to 70 years (mean 35.34±13.15). For males, the age ranges from 10 to 51 years (mean 31.58±9.09) and for females, the age ranges from 15 to 70 years (mean 37.34±14.55).

In this study age of 48(53.9%) patients were within 26 to 45 years group (Table I). Of them, nine patients (10.1%) had no institutional education and 37 (41.6%) had a primary level of education. In this study 43(48.3%) were housewives, 47 (52.8%) and 34(38.2%) patients were from middle-class and lower-middle-class economic groups respectively. In this study eight (9.0%) and 16 (18%) patients were diabetic and hypertensive respectively.

Table I: Demographic parameter (n=89)

Variables	Number (%)
Age range	10 - 70 years (Mean 35.34±13.15)
Sex	
Male	31 (34.8)
Female	58 (65.2)
Age	
up to 25 years	23 (25.8)
26 – 45 years	48 (53.9)
>45 years	18 (20.2)
Education	
No institutional education	09 (10.1)
Primary	37 (41.6)
SSC	16 (18.0
HSC	12 (13.5)
Above	15 (16.9)
Economic condition	
Poor	05 (5.6)
Lower middle class	34 (38.2)
Middle class	47 (52.8
Rich	03 (3.4)
Occupation	
Housewife	43 (48.3)
Student	14 (15.7)
Service	07 (7.9)
Busines	06 (6.7)
Working abroad	06 (6.7)
Farmer	03 (3.4)
Others	10 (11.2)
Comorbidity	
Diabetic	08 (9.0)
Hypertensive	16 (18.0)

Among them 16 (18%), 16 (18%), 12(13.48%), 30 (33.71%), 10(11.23%), and 05 (5.62%) presented with pain in the right lower chest, left lower chest, both lower chest, right upper abdomen, left upper abdomen and both upper abdomen respectively (Table II). In addition, 14 (15.73%) and 02 (2.25%) had back and loin pain respectively. USG scan of the abdomen with attention to the lower chest was normal in all patients. In contrast, X-Ray chest posteroanterior view was normal in 86 (96.63%), dextrocardia in one, cervical rib in one, and cardiomegaly in one patient.

Table II: Symptoms and investigation reports (n=89)

Symptoms	Number (%)
Right lower chest pain	16 (18.0)
Left lower chest pain	16 (18.0)
Both lower chest pain	12 (13.48)
Right upper abdominal pain	30 (33.71)
Left upper abdominal pain	10 (11.2)
Both upper abdominal pain	05 (5.62)
Back pain	14 (15.73)
Loin pain	02 (2.25)
Reports	
USG of whole abdomen Normal	89 (100.0)
X-Ray chest P-A view Normal	86 (96.63)
Dextrocardia	01 (1.12)
Cervical rib	01 (1.12)
Cardiomegaly	01 (1.12)

Duration of pain varied from 3 months to 2 years (mean 5.23 months). Among them, 65 (73.03%), 19 (21.35%), and five (5.65%) patients had one, two, and three consultations physically respectively (Table III). All patients were on reassurance and conservative management with acetaminophen, baclofen and gabapentin. These patients were followed up for three months and 26 (29.21%), 52 (58.42%) and 11 (12.36%) had full improvement, a partial or acceptable level of improvement and no improvement at all respectively in this series.

Table III: Number of visits for consultation physically and outcome (n=89)

Variables	Number (%)
Single visit	65 (73.03)
Two visits	19 (21.35)
Three visits	5 (5.62)
Complete improvement	26 (29.21)
Partial improvement	52 (58.42)
No Improvement	11 (12.36)

Discussion:

Painful rib syndrome was described in the early 20th century. But it is not widely accepted in medical literature and not found in standard medical books. Recently it is suggested to be named Myofascial Pain Syndrome (MPS)[16]. In this study females are more affected. Other studies[9,13] also suggested female predominance. The age of about half of the patients in this study was from 26 to 45 years. Other published reports also showed that it is more common among middle-aged people[13,17,18]. In this study, it is more common among people with lower educational levels and middle-class economic groups. In this study, some patients had loin pain which is consistent with other reports from India[18], and UK[19], and Korea[20]. But no reports regarding the role of economic and educational background with painful rib syndrome were found. But the possibility of any role of lifestyle, education, economic status, and occupation could not be ruled out. Duration of pain in this study ranges from one month to 2 years which is lower than reports from the UK[13] and India[18]. This may be explained by differences in the social, cultural, and economic conditions of the study people. In this study full improvement was similar to the report from the UK[13].

All the patients in this study had at least more than one consultation prior to diagnosis which resulted in economic and time loss. But careful history, physical examination, and minimum investigations could help in the diagnosis of these cases.

Limitations: Small sample size, the follow-up period was short and most of the patients were followed up virtually.

Conclusion:

Painful rib syndrome is not uncommon in medical practice. It can be diagnosed with clinical examination and minimum investigations which may save patients from anxiety and economic loss. Further study with large sample size and follow-up is recommended for a better understanding of the disease and to elicit its prognosis.

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