

Thoracodynia from the Perspective of General Practitioners

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Abstract— This paper introduces how to look at thoracodynia from the perspective of general practitioners. Using general clinical diagnosis and treatment thinking to deal with thoracodynia, especially acute thoracodynia. Look at patients with thoracodynia, especially acute patients, from the general practitioner's clinical diagnosis and treatment thinking. Thoracodynia is a common symptom in hospitals, involving multiple organ systems. Rapid and accurate differential diagnosis is the difficulty and focus of thoracodynia. In many places, the diagnosis and treatment of thoracodynia has been trained as a special education for general practitioners, which has significantly improved the general practitioners' cognition and handling ability of thoracodynia. According to the teacher's explanation and comments in class, the PBL discussion of each member of the group, and the reading of personal literature after class, this article was finally formed, hoping to have a better understanding of the future study of thoracodynia, especially the hierarchical and classified learning of distinguishing between specialist and general medical perspectives.

Keywords—General practice, thoracodynia, diagnosis thinking, diagnosis and treatment thinking, treatment strategy, general practitioner, general practice medicine.

I. INTRODUCTION

Thoracodynia mainly refers to pain and discomfort in the anterior chest area. Patients often complain of dull pain, tightness, burning, acupuncture like pain, squeezing, tearing like pain, slashed pain, etc., as well as some symptoms that are difficult to describe, the location of thoracodynia generally refers to the range from the neck to the lower end of the thorax, sometimes radiating to the maxillofacial, teeth and throat, shoulder and back, upper limbs or upper abdomen [38] [39]. Thoracodynia is caused by stimulation of nerve endings innervating trachea, bronchus, heart and aorta, including radiation pain, the causes of thoracodynia are common in inflammatory diseases, ischemic diseases, tumors, trauma, mechanical compression, physical and chemical factors, autonomic nervous dysfunction, reflex or involvement of adjacent organ diseases, etc. [57].

1%~2% of the patients coming to the outpatient clinic mainly complained of thoracodynia although most causes of thoracodynia are non-cardiac, heart disease is still the leading cause of death in the United States [60]. Therefore, it is necessary to judge the severity, benign and malignant of the cause of thoracodynia, it is also very important to diagnose and predict the problem when making judgments [60].

The causes of thoracodynia are complex, and the severity of the disease varies, fatal thoracodynia can threaten the lives

of patients. Community general practitioners are the "gatekeepers" of residents' health, and often the first doctors for patients with thoracodynia, it is important to master the diagnostic skills of thoracodynia [3].

Thoracodynia is one of the common clinical symptoms. In addition to thoracodynia caused by obvious trauma, there are thoracodynia caused by chest wall lesions, chest organ diseases, shoulder joint and its surrounding tissue diseases [78]. Thoracodynia of very few patients is not caused by the above reasons, it is easy to be confused or misdiagnosed in diagnosis, thoracodynia caused by costal cartilage calcification is one of them clinically, we have made a comparative analysis of this kind of cases from clinical and imaging aspects for more than ten years, and obtained the above views [78].

Characteristics of thoracodynia [32]

- ◆ Pain incentives
- ◆ Painful parts
- ◆ Nature of pain
- ◆ Duration of pain
- ◆ Whether there is radiation pain or complications

Cause of thoracodynia [32]

- ✓ Cardiogenic
- ✓ Pulmonary origin
- ✓ Aortic dissection
- ✓ Gastrointestinal origin
- ✓ Banded scar rash
- ✓ Unclear reasons, etc

Thoracodynia that occurs in the chest and chest region. Common diagnosis: skin herpes zoster, costal chondritis of chest wall, shoulder disease, intercostal injury, spinal nerve root compression, breast lesions, malignant metastatic lesions of chest wall, pneumothorax of lung, pulmonary embolism, pneumonia, pleural disease, connective tissue disease, malignant tumour [41].

Thoracodynia is a common reason for patients to visit the emergency department, the condition is complex, often involving multiple organs and systems, and the severity of the disease varies, its efficacy and prognosis are time dependent [70].

Thoracodynia is a common symptom in the community, which is generally caused by chest diseases, the severity of thoracodynia is not necessarily related to the cause of thoracodynia, for example, chest herpes zoster can cause severe thoracodynia, while thoracodynia in acute myocardial infarction is sometimes not very serious [75]. Therefore, patients with thoracodynia should be carefully examined to

find the cause of thoracodynia as far as possible and timely diagnosed and treated [75].

II. GENERAL PRACTICE - SPECIALIST

When a general practitioner sees a patient and complains of thoracodynia, dull pain, no radiation pain, no chest tightness, shortness of breath, no history of hypertension, diabetes, coronary heart disease and so on, many doctors will choose to give ECG, chest imaging and myocardial enzyme spectrum examination first to rule out cardiovascular diseases, such as angina pectoris and myocardial infarction, in addition, pneumothorax or aortic dissection should also be considered [74].

Specialists' clinical analysis thinking of general practice medicine is a prerequisite for reducing clinical misdiagnosis [101].

III. DISCUSSION

Patients with thoracodynia who are negative in coronary angiography are collectively referred to as non-specific chest pain (NSCP) when they still cannot find a clear cause of physical disease after repeated examinations, at present, there is no effective method to identify NSCP, and they are mainly excluded by coronary angiography, but coronary angiography is invasive and expensive [6].

The mental health of coronary heart disease patients with recurrent thoracodynia after PCI and CABG is relatively poor. The main problems include more negative emotions, weakened cognitive function and lower self-evaluation when formulating comprehensive rehabilitation plans for patients with coronary heart disease, psychological intervention should be targeted [68].

The main pain sites of patients with digestive thoracodynia are the posterior sternum and precordial region [22]. Many cases are similar to cardiogenic thoracodynia, especially those patients with abnormal ECG performance, the symptoms and signs are more easily confused, which is easy to lead to misdiagnosis, by analyzing the specific performance of digestive thoracodynia itself, and without gastroscopy, digestive thoracodynia can be diagnosed efficiently by means of ECG, color ultrasound, physical examination, interrogation, and exploratory medication, the etiology of patients with digestive thoracodynia is complex, for basic level hospitals that do not have special examination items such as barium meal examination and gastroscopy, we can analyze the clinical symptoms and signs of patients when they visit the hospital, use color ultrasound, electrocardiogram and other auxiliary examination items, and take advantage of the advantages of general diagnosis and treatment to judge the condition more timely and effectively, so as to ensure that patients can get effective treatment before the diagnosis of special examination [22].

Patients with thoracodynia have a high incidence of anxiety and depression, however, the correlation between anxiety and depression, coronary artery disease, and the cause of thoracodynia in patients with thoracodynia is not very clear [24]. Patients with thoracodynia have a high incidence of

anxiety and depression, high life pressure, less social support, long duration of thoracodynia, multiple symptoms, and insomnia, patients with thoracodynia need to be alert to the possibility of anxiety and depression [24].

The cause of non-traumatic thoracodynia in male and female emergency department is mainly cardiogenic thoracodynia, the proportion of older male patients is higher than that of female patients, and most of them have a history of smoking and drinking, such patients should be treated timely and accurately according to the characteristics of the disease during clinical diagnosis and treatment [32].

Non cardiac chest pain (NCCP) refers to thoracodynia that has nothing to do with coronary artery disease, that is, so-called negative coronary angiography thoracodynia. The causes include: esophagogenic thoracodynia, peptic ulcer, mental disorder, intercostal neuritis, pleuritis and other diseases of local muscle, fascia and cartilage of chest wall. The most common cause is esophageal disease, accounting for 50%~87%, which is called esophagogenic thoracodynia, and gastroesophageal reflux disease (GERD) accounts for the majority [102].

The early symptoms of esophageal cancer are atypical, and it is difficult to distinguish the patients with thoracodynia as prominent symptoms from those with cardiogenic thoracodynia such as coronary heart disease and angina pectoris, which may lead to misdiagnosis and mistreatment [69].

Calcium sensitive receptors are more valuable than cTnI in diagnosing acute myocardial infarction within 4 hours of thoracodynia [44].

Sometimes, some people have sudden pain in the chest area, so they highly suspect angina pectoris and fear that they have coronary heart disease. Angina pectoris must be identified and treated in time, once it exceeds 15 minutes, it may develop into myocardial infarction, but not all thoracodynia is angina pectoris. Angina attack is most common in men over 40 years old and postmenopausal women, especially those with hypertension, diabetes, hyperlipidemia and smoking; those with a family history of coronary heart disease, myocardial infarction, hypertension, diabetes, hyperlipidemia and so on are also high-risk groups [76].

IV. CONCLUSION

An American study found that more than 8 million patients go to the emergency department every year due to acute thoracodynia, and only 10% of them are finally diagnosed with acute coronary syndrome (ACS) before there is no exact evidence of ACS, clinicians tend to diagnose ACS, and observe and treat patients according to ACS; in another study involving 10689 patients, 2.2% of patients who showed acute thoracodynia and were finally diagnosed as ACS were misdiagnosed [89]. Therefore, in order to avoid misdiagnosis, missed diagnosis and unnecessary medical waste, it is very important to find appropriate evaluation tools. HEART score is a scoring tool for acute thoracodynia that is widely used in emergency department at present, with high specificity and

sensitivity [89].

The treatment of patients with acute thoracodynia (especially acute coronary syndrome) is one of the clinical difficulties, how to carry out rapid risk stratification and treatment for patients with acute thoracodynia, and how to reduce both the risk of patients and the cost of treatment for patients, has become increasingly important to investigate its clinical countermeasures [50].

The patients who went to the "Chest Pain Center" for acute thoracodynia were mainly cardiovascular thoracodynia diseases, with the highest proportion of coronary heart disease, followed by respiratory diseases [70]. Spring is the season of high incidence of cardiovascular diseases, attention should be paid to strengthening warmth preservation and improving the awareness of cardiovascular disease prevention, early morning is the time of high incidence of cardiovascular diseases, attention should be paid to diagnosis and differential diagnosis to prevent missed diagnosis and misdiagnosis, early interventional treatment is beneficial to improve the clinical prognosis and reduce the mortality of patients with cardiovascular thoracodynia [70].

The cooperative transfer mode between community health service centers and regional thoracodynia centers can improve the transfer time and goal kick time of patients with acute myocardial infarction in the community [34].

From the perspective of general practitioners, this paper focuses on the classification of causes of thoracodynia, the characteristics of common fatal thoracodynia, and the diagnostic process of thoracodynia, so that general practitioners can form a clear diagnostic thinking, identify patients with critical and severe thoracodynia, find the causes of thoracodynia, formulate the best treatment strategy for the causes, and protect the health of residents [3].

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