

Experience of atypical chest pain that can be overlooked and neglected in youths

Myung-Soo Jang · Jong-Man Kang

Received: 24 April 2013 / Accepted: 27 July 2013 / Published online: 13 August 2013
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To the Editor:

Chest pain in the young can be a diagnostic challenge to physicians. Although adolescents scarcely have heart-origin problems, meticulous examination is important to rule these out thoroughly [1]. Sometimes, physical examination and history taking, rather than complicated laboratory tests, give an answer.

A 17-year-old girl visited our hospital because of intermittent sharp and brief left chest pain. It had started 10 days previously, and she pointed out the site well with her finger tips. The attack came during inspiration, so she breathed shallowly. The pain lasted approximately 3–15 min and completely resolved without medication. With left pneumothorax 2 weeks before visiting, she recovered with oxygen supply therapy. No abnormal findings were detected by physical examination, electrocardiography, or chest X-ray. Once we assumed the pain was rarely related to heart, myofascial trigger point injection was performed. We performed an intercostal nerve block at 3 levels on her left anterior chest. Unexpectedly, this seemed to have hardly any effect on relieving her pain. Later, we heard she experienced the pain again on her way to school and, separately, at the school. We considered the features of her pain were benign and were derived from the

parietal pleura, and finally diagnosed the problem the precordial catch syndrome.

Unfortunately, since Miller and Texidor first described PCS in 1955 [1], precordial catch syndrome (PCS) has long been under-recognized among physicians. PCS commonly occurs at age 6–12 years with no sex predominance. The pain is sharp, brief, knifelike, and easily located with the finger, commonly at the left sternal border, over an intercostal space [2]. More exclusively, the attack is aggravated by inspiration only, so patients breathe shallowly. The episode usually lasts from 3 to 30 min, and complete pain relief comes spontaneously.

Most of these patients are basically healthy [1, 3]. One study evaluated the causes of chest pain of 380 children. Interestingly, only 0.3 % had a cardiac origin and 1.1 % had abnormal electrocardiogram. Approximately 15 % were miscellaneous disorders, for example PCS. As a result, meticulous history taking and physical examination are sufficient to diagnose PCS. It seems unnecessary to conduct complicated laboratory tests, for example complete blood count, electrocardiogram, chest X-ray, and echocardiogram [2]. To diagnose the PCS, many other origins of chest pain must be ruled out on the basis of their distinct features (Table 1).

So far, definitive treatment of PCS is unknown and there are no data for effectiveness of nerve block in PCS. We tried intercostal nerve block, expecting pain relief, however, that seemed to be ineffective for PCS. According to several reports, nerve block is not always effective to any pain. For example, greater occipital nerve block is ineffective in chronic tension type headache, and idiopathic persistent facial pain [4, 5]. Finally, we should consider nerve block as a new treatment for PCS more carefully. Further investigation is required to validate its effectiveness.

M.-S. Jang
Department of Anesthesiology and Pain Medicine, College
of Medicine, Kyung Hee University, Seoul, Korea

J.-M. Kang (✉)
Department of Anesthesiology and Pain Medicine, Kyung Hee
University Hospital at Gangdong, 149 Sangil-dong
Gangdong-Gu, Seoul 134-090, Korea
e-mail: kjm@khnmc.or.kr

Table 1 Differential diagnosis of PCS

| Origin | Disease | Characteristics |
|------------------|---------------------------|---|
| Musculoskeletal | Rib fracture | History of trauma Abnormality in chest imaging |
| | Costochondritis | Swelling and tenderness Worse with coughing and physical activity |
| Pulmonary | Pleuritis | Radiating pain to the shoulder or back Fever and chills, and sore throat |
| | Pneumothorax | Feel tightening in the chest, intermittent cough Chest X-ray or CT is the way to confirm the diagnosis |
| Heart | Congenital valve diseases | Specific murmur |
| | Inflammatory pericarditis | Positional pain, provoked by exercise |
| | Angina pectoris | Dull, hard to localize, no spontaneous relief Referred pain to shoulder and back |
| Gastrointestinal | Gastroesophageal disease | Retching |
| | | Heartburn |
| | | Drooling or reluctance to swallow (foreign body) |

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