

Letters to the Editor

Chest Pain Asthma: A Neglected Variant?

To the Editor: Many physicians involved in asthma management have often faced asthmatic patients who complain of chest¹ or epigastric pain which may last for several hours or even a couple of days, and which occurs during or shortly after cessation of heavy attacks of asthma. This pain is usually overlooked because the severity of other symptoms, including dyspnea, shortness of breath, wheezing, etc., masks the transient pain. However, chest pain as the presenting symptom is seldom noted.²

Over a 20-year period, the author encountered three young and active patients whose chief complaints were cramping exertional chest pain, which usually began with heavy exertion, but unlike cardiac pain did not resolve shortly after rest and needed an hour or so to ameliorate. Two of these patients were also noted to have frequent colds and intermittent cough attacks either independently or after exercise. Post-exercise pulmonary function study of the three patients showed a definite obstructive pattern. Anti-asthmatic treatment including disodium cromoglycate (Intal[®]) and salbutamol in two patients, and beclomethazone and salbutamol inhaler in the third case, dramatically resolved all symptoms of the chest pain.

These three cases aroused the author's interest in the possibility of a subpopulation of asthmatics who may present with chest pain. Therefore, cardiologist colleagues were asked to refer all their non-smoking "chest pain patients" for pulmonary evaluation if cardiac origin of the pain had been ruled out.

During a three-year period from August 1993 to October 1996, a total of 232 nonsmoker patients with chest pain were referred for pulmonary evaluation. This group

comprised 141 females and 91 men, ranging from 16 to 65 years of age. Before pulmonary consultation, a traditional cardiologic work-up had been performed in all cases, but this failed to confirm a cardiac origin for the chest pain. This work-up included history, physical examination, electrocardiography, treadmill stress test, and coronary angiography in 183 patients who were suspected to have true angina.

After a pulmonary-oriented medical interview and physical examination, the patients underwent spirometry and either bronchodilator or provocation tests as indicated. The provocation tests used for these patients involved exercise and/or cold air. Methacholine was not used because many patients refused it. Thirty-three patients (14.2%) were found to have asthma, and their chest pain disappeared with asthma treatment. Most of the patients are enjoying good health with disodium cromoglycate and/or beclomethazone inhaler. One 41-year-old woman needs 10 g oral prednisolone per day in addition to 800 µg beclomethazone for optimal control of the disease.

In our series, the diagnosis of asthma was based on an initially obstructive pattern of spirometry, with a 15% or more increment of FEV₁ after inhalation of bronchodilators in 14 cases, and an initially normal spirometry with a decrease of 15% or more increment of FEV₁ after exercise or cold air challenge in the remaining 19 patients. As noted, the major presenting symptom was chest pain, but most patients when questioned admitted to having other symptoms, including shortness of breath and/or mild cough, a history of frequent colds and/or remitted childhood asthma.

Eventually, there were 12 asthmatic patients who denied any symptoms other than the chest pain. The profile of these 12 patients and other characteristics of their chest pain are listed in Table 1.

Discussion

Non-cardiac chest pain is a common clinical problem.³ Between 10%-50% of patients with supposed angina pectoris who are referred for angiography are found to have normal coronary arteries.⁴

After exhaustive work-up, a substantial proportion of these patients will remain with no confirmed diagnosis.⁵ Most of these patients will be assumed to have functional or psychosocial problems, while the psychic abnormalities found in some of them may be irrelevant or secondary to the unsolved problem of chest pain.⁵

As an independent etiology for chest pain, asthma has seldom been noted.⁶⁻⁹ In this report, in addition to presenting 33 cases of chest pain as the chief complaint of asthma, we also found 12 asthmatic patients whose only symptom was chest pain. Interestingly, their chest pain was only exertional, closely resembling angina pectoris, but the patients were generally younger than the predicted age for ischemic heart disease. We conclude that asthma should

TABLE 1. Profile of the patients and characteristics of their symptoms.

Sex/Age	Location of pain	Type of pain	Duration of symptoms before diagnosis
M/26	Left hemithorax	Cramping	>36 months
M/21	Retro-sternal	Aching	19 months
F/29	Bilateral	Cramping	26 months
F/41	Left hemithorax	Cramping	>36 months
F/23	Left-sided	Burning	12 months
F/25	Bilateral	Cramping	18 months
M/25	Bilateral	Aching	8 months
F/29	Bilateral	Cramping	>24 months
M/18	Bilateral	Cramping	3 months
M/25	Retro-sternal	Aching	10 months
F/28	Retro-sternal	Cramping	>12 months
F/30	Epigastric	Burning	5 months

have its own place in the differential diagnosis of chest pain, and that patients with unexplained chest pain should be questioned for chest symptoms and laboratory work-up for asthma should be provided, especially for the younger patients.

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Coarctation of the Aorta: A Call for Early Detection

To the Editor: We read with interest the article by Ghazal et al.¹ on "Coarctation of the Aorta: A Call for Early Detection." We were surprised that the authors did not stress the value of plain film chest radiograph for the diagnosis of coarctation of the aorta. One should emphasize the importance of plain film in showing abnormalities of the aortic arch which permits the radiologic diagnosis of coarctation of the aorta before the late appearance of rib notching and cardiac enlargement. These mediastinal anomalies include the elongated aortic arch, the "figure 3" sign (Figure 1), which is the most frequent, the double-indentation sign, the dilated aortic knob (Figure 2), and the dilatation of the ascending aorta.²

We studied 78 cases of coarctation of the aorta³ comprising 20 males and 58 females aged one month to 20 years. Four percent of the cases had normal chest radiograph, 25.5% had abnormal but not typical image, and 70.5% had chest radiography with mediastinal signs of the



FIGURE 1. "Figure 3" sign with indentation (←) at the level of coarctation.



FIGURE 2. Dilated aortic knob (→).

upper left border of the heart, which was typical of coarctation.

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Reply

To the Editor: We read with interest the letter by Hoeffel et al. regarding our report titled "Coarctation of the Aorta: A Call for Early Detection."¹ Actually, our aim in the article was not to list the methods of diagnosis where chest x-ray is a reliable indicator as stated, but rather to highlight the importance of screening neonates during their routine neonatal examination for this abnormality by simple and noninvasive methods like examination for femoral pulse and blood pressure measurement in the four limbs. Patients suspected to have coarctation of the aorta will then be referred to the cardiologist, who will decide according to

the situation whether to do a chest x-ray first or proceed directly to echocardiography.

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