

A case of mediastinal tumour misdiagnosed as asthma

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Introduction;

Asthma is a common condition in childhood which is diagnosed mainly on clinical grounds. Based on history and examination, even a general practitioner can start asthma treatment. However, every child with recurrent breathing difficulty may not be having asthma though they could have some improvement with asthma treatment. Here we report an 11-year-old child with a diagnosis of asthma presenting with a severe episode of shortness of breath and wheezing found to have a massive mediastinal tumour.

Case Report:

An 11-year-old child admitted with difficulty in breathing and wheezing for a 1-day duration to DGH Matara. He was a newly diagnosed patient with bronchial asthma who was followed up in the private sector by a general practitioner. He had been having cough and shortness of breath for 3 months' duration without fever or weight loss. There was no history of TB contact and the father had a history of childhood asthma.

He was seen by a general practitioner and was started on Beclomethasone 200micrograms twice a day and Salbutamol DP inhalers 3 months ago. There had been some improvement with medications, but he had received oral medications 4 times until this presentation by several GPs, due to breakthrough episodes of breathing difficulty. Though parents were not exactly aware of the names of medications, it was evident that the child was given prednisolone tablets every occasion in addition to antibiotics and bronchodilators. Before starting prophylaxis therapy, he has not undergone any investigations.

He was managed in the emergency department as for acute severe asthma and given Salbutamol nebulization and oral prednisolone. Documentation in the emergency department revealed that he had bi lat-

eral wheezing on admission. He was transferred to a general paediatric ward after initial stabilization.

On examination he continued to have respiratory distress with bi lateral reduced air entry without any wheeze. He had dilated neck veins with no puffy eyes.(Fig. 1) The apex beat was at right side 5th intercostal space and the rest of the cardiovascular examination was normal. He had a few cervical lymph nodes without generalized lymphadenopathy. There was no pallor, jaundice or hepato splenomegaly. His chest X ray showed a mediastinal widening compatible with a large anterior mediastinal mass. His



Figure 1:

basic haematological and biochemical investigations were within the normal range. He was transferred to National Cancer Institute Maharagama for specialized care. Subsequent investigations confirmed a diagnosis of Hodgkin lymphoma with superior vena cava obstruction.

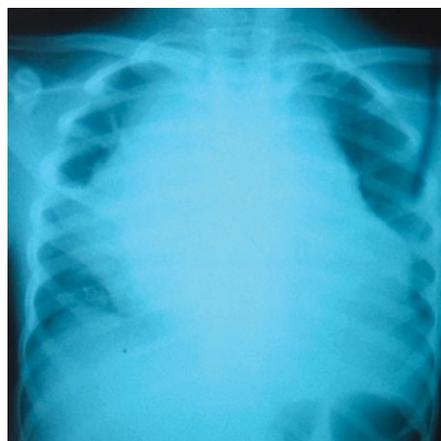


Figure 2: Chest X ray showing Mediastinal widening

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Discussion:

The mediastinum is the most common place where children get intrathoracic masses. The lesions could be located in the anterior, middle, or posterior mediastinum. Based on the anatomical location, differential diagnoses could be different. Wide mediastinum in chest X-ray could be due to a spectrum of disease conditions ranging from benign thymic enlargement to invasive malignant lymphomas.¹

Lymphoma is the commonest reason for anterior mediastinal masses in childhood.¹ About 85% of Hodgkin lymphoma and 50% of Non-Hodgkin lymphoma has intrathoracic involvement at the time of diagnosis.² Children can either have respiratory symptoms such as cough, shortness of breath, hemoptysis, and features of superior vena cava obstruction or systemic symptoms like fever, night sweat, and weight loss.² In this case, he only had pulmonary symptoms.

Asthma is a common childhood condition that presents with recurrent cough, chest tightness, and wheezing.³ According to the GINA guidelines, the diagnosis of asthma in childhood can be made only with history and examination. They can be started on preventer therapy once the diagnosis is made clinically. Features in the history that favors the diagnosis of asthma are diurnal variation, change in the severity of symptoms over time, and identifiable triggers such as allergens or viral upper respiratory tract infections.³ However, this can be challenging in children compared to adults. In this case, the child had a cough and breathing difficulty without any triggers or any diurnal variations.

It is important to confirm the diagnosis of asthma before starting treatment since it is difficult to reevaluate once the diagnosis has been made as asthma. Adult studies show 2% of the time serious cardiopulmonary conditions have been misdiagnosed as asthma and 1/3 of patients who were initially diagnosed as asthma are found not to have asthma with repeated objective assessments.⁴ If the clinical diagnosis of asthma is doubtful it is always important to confirm variable airflow limitation through spirometry or peak flow meter.³ Though chest X-ray (CXR) is not considered as a diagnostic tool for asthma, it is important to have at least one CXR to rule out other conditions. In this child, a CXR would have revealed the diagnosis at the beginning of symptoms.

The danger of labelling a child as asthma is that they will get systemic steroids once they get acute episodes of difficulty in breathing. Systemic steroids can regress a malignant tumour and which in turn would

delay the diagnosis. In this case, the child had received 4 courses of oral prednisone and that would have regressed the size of the tumour.

Conclusion

It is important to rule out other possibilities when making the diagnosis of asthma. A thorough physical examination is important to look for signs of malignancy. Variable airflow limitation should be carried whenever possible if the diagnosis of asthma is doubtful especially before starting on treatment. Systemic steroid treatment can suppress the growth of malignant tumours.

Reference

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