**INTRODUCTION**

Acute leukaemia is the commonest malignancy in childhood, affecting 1 in 2000 children in the United Kingdom.

Of these children, 80% have acute lymphoblastic leukaemia (ALL). Children with ALL tend to present with symptoms that are vague and non-specific such as pallor and shortness of breath, consistent with being anemic. Very rarely these children can present with acute life-threatening complications.

Presented is a unique case of a child who was referred with recurrent croup and found to have a subglottic mass masquerading as ALL.

**CASE PRESENTATION**

A 1 year old boy presented with a history of recurrent croup, who had already required five hospital admissions.

He was otherwise systemically well, with no significant medical, birth or family history.

Clinical examination showed no evidence of stridor or respiratory distress. All other examination was entirely normal.

He had a Laryngo-tracheo-bronchoscopy (LTB) to exclude any underlying airway pathology.

LTB showed laryngomalacia and a broad based left subglottic swelling occluding approximately 35% of the airway, and was felt to be an unknown subglottic lesion (Fig 1.).

![Figure 1. Subglottic mass (bottom right) viewed during LTB](image)

The mass was biopsied and debulked along with division of short aryepiglottic folds.

He was observed in our Paediatric High Dependency Unit and given Dexamethasone and subsequently discharged home after 48 hours.

**MANAGEMENT**

Histology results from the subglottic biopsy showed, unexpectedly, T-Cell acute lymphoblastic leukaemia.

He was managed by our Paediatric Haematology Team who confirmed the ALL was confined to the subglottis. Chemotherapy was commenced and he was discharged 12 days later.

LTB was performed at day 35 post treatment and revealed a normal subglottis with no lesion seen, and a subsequent endoscopy confirmed remission.

**DISCUSSION**

This case highlights to the clinician the need for a broader differential diagnosis for recurrent croup, and the consideration of extramedullary presentation of haematopoietic disease.

In some cases in the paediatric population with so-called recurrent croup, causes can include extrinsic mediastinal masses, which can be secondary to leukaemia or lymphoma.

To the best of our knowledge, this is the first reported case of ALL presenting solely as intrinsic airway obstruction in a paediatric patient.

It is important to note that with this case the bone marrow biopsy, lumbar puncture and rest of clinical examination was entirely normal. Had an LTB not been performed the diagnosis may have easily been missed. This case also highlights the need for all clinicians to be aware of when a referral to an ENT surgeon for endoscopy is appropriate:

**LEARNING POINTS**

- Early referral to ENT in children with more than 3 episodes of croup in one year
- Consider LTB in cases of persistent stridor/episodes of croup
- Intrinsic airway leukaemia can be a cause of recurrent croup