

Case report:

Retropharyngeal and longus capitis intramuscular abscesses in a four year old presenting as torticollis

Gan BC¹, Sazly J², Taha HM³

Abstract:

Retropharyngeal abscess (RPA) is defined as a potentially serious deep neck space infection, commonly seen in children and usually associated with prior upper respiratory tract infection (URTI), history of trauma or foreign body ingestion. We report a rare case of RPA and longus capitis intramuscular abscesses in a 4 year old, who presented with chief complaint of torticollis but with normal oropharyngeal findings. RPA, longus capitis inflammation may be common but abscess in the longus capitis muscle is rare. The aim of this case report is to highlight that subclinical RPA in pediatric age group may present with only acquired torticollis and without sore throat nor high fever. Diagnosis and evaluation of extension was made with contrast enhanced computer tomography (CECT) of the neck. In stable patient with non-extensive abscess and low risk of developing complications, medical management is always the preferred choice.

Keywords: Retropharyngeal abscess; Upper respiratory tract infection; Torticollis; Neck; Lymphadenitis

Bangladesh Journal of Medical Science Vol. 15 No. 04 October'16

Introduction:

RPA is a deep space neck infection, between prevertebral fascia of cervical vertebra and posterior wall of pharynx. It can extend from the base of skull to the tracheal bifurcation. There are communications between retropharyngeal space with parapharyngeal space and posterior mediastinum, so infection from retropharyngeal space can spread to these spaces.¹ This condition is rare in adults and usually occur as a result of local trauma, such as fish bone ingestion or procedures such as laryngoscopy, intubation or Ryle's tube insertion.² It is more commonly found in children because of the abundance of retropharyngeal lymph nodes.³ Clinical presentation include feeding problem, fever, cervical pain with swelling, upper

airway obstruction and in rare cases, torticollis, which is a result from irritation of cervical/prevertebral muscles due to inflammation, causing spasm.⁴

Case report:

A previously healthy 4 years old boy, presented to the general practice clinic with complaints of left neck swelling associated with pain and limited movement for 3 days duration. He was discharged home with oral Amoxicillin and paracetamol. Due to the unresolved neck swelling and stiffness with poor appetite and low grade fever for the next 2 days, the mother brought the child to the emergency department. He was then referred to the otorhinolaryngologist for further management. On further history taking, there was no noisy breathing and shortness of breath. No history

1. Boon Chye Gan, Department of Otorhinolaryngology - Head & Neck Surgery, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kubang Kerian, Kelantan, MALAYSIA. and Otorhinolaryngology Department, Hospital Bukit Mertajam, Jalan Kulim, 14000 Bukit Mertajam, Pulau Pinang, MALAYSIA.

2. Jamal Sazly

3. Haslinda Md Taha,

Department of Otorhinolaryngology - Head & Neck Surgery, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kubang Kerian, Kelantan, MALAYSIA.

Corresponding author: Boon Chye Gan

Department of Otorhinolaryngology – Head & Neck Surgery, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan, Malaysia.

Tel: +60105665008, E mail: gbchye@gmail.com

Corresponds to: Dr Gan Boon Chye , Department of Otorhinolaryngology, Bukit Mertajam Hospital , Jalan Kulim , Bukit Mertajam , Pulau Pinang , Malaysia . ***Email:*** gbchye@gmail.com.



Figure 1: CECT neck of axial view showing the site of abscess collection (white arrow).



Figure 2: Resolving torticollis after 1 week of IV Unasyn.

of foreign body ingestion and dental procedures. The child had preceding URTI and contact with paternal grandfather who was diagnosed with pulmonary tuberculosis a few years ago. Oropharyngeal

examination was normal with no trismus and good hydration. Noted left sided torticollis with multiple subcentimeter lymph nodes over bilateral cervical region, at level II, III and IV. A mildly tender swelling with no skin changes, size of 3.5x2.5cm palpated over the left posterior triangle. He was admitted to the ward with preliminary diagnosis of left cervical lymphadenitis. He was started on intravenous (IV) Unasyn (Ampicillin+Sulbactam) of 700mg tds (150mg/kg/day) with maintenance hydration through IV drip. Primary investigations showed raised total white blood cell count (18,910) with predominant lymphocytes, a good renal function test, normal chest and lateral cervical radiographs. Mantoux test and sputum for acid-fast-bacilli direct smears x 3 were negative. Flexible scope was normal without medialization of parapharyngeal and retropharyngeal wall. CECT Neck revealed intramuscular abscess over the left longus capitis muscle, measuring 2.2x1.9x0.5cm at the level of nasopharynx till hypopharynx with association of RPA measuring 0.5x1.3x2.5 at the 2nd to 5th cervical vertebra level. There was also narrowing of the left parapharyngeal space. As the child was stable, medical management was continued with regular reviews. Over the next 72 hours, we noticed that his neck movement gradually improved. IV antibiotic was continued and in time other symptoms started to resolve. Two weeks later he was successfully discharged home. On subsequent follow up, we notice no recurrent swelling over the neck and complete resolution of the previous abscesses.

Discussion:

Over 95% of cases occurred in children under the age of 6. ⁵ This condition is frequently associated with URTI, pharyngitis and otitis media, which causes retropharyngeal lymphadenopathy. Abscess is developed from suppuration of these retropharyngeal nodes. The retropharyngeal space has no important structures except lymph nodes which normally regress by the age of 6 years old. This explains the rarity we see in adults. ⁷ Only some patients diagnosed with RPA have visible swelling over the posterior pharyngeal wall and thus negative finding cannot rule it out. Hence, lateral neck X-ray is useful in diagnosis. Measurement greater than 7mm at 2nd cervical vertebra and 22mm (in adult) and 14mm (in children) at 6th cervical vertebra are considered abnormal and strongly support the diagnosis of RPA. ⁸ Most of the time, a good lateral neck X-ray is enough to establish diagnosis but CT scan is superior as it can be used to evaluate the extension

of an abscess thus helping in determining treatment regimen. Medical records of 24 children with RPA were reviewed and it is reported that CT scan had a 75% accuracy for correctly identifying the abscess.⁹ The clinical diagnosis of RPA can be difficult due to nonspecific and variable clinical presentation. The signs of infection may be lacking in certain situations of immune suppression such as diabetes, acquired immune deficiency syndrome (AIDS), malignancy, chronic alcoholism and tuberculosis.^{10, 11} Treatment wise, the decision of medical or surgical intervention depends on the general condition of the child, size of the abscess, potential complications and surgical accessibility.⁹ A number of authors have suggested using surgery only when patients do not respond to medical treatment.^{8, 9}

Conclusion:

In summary, deep neck abscess may be missed

in an atypical or subclinical presentation and require a high index of suspicion. Therefore, in case of acquired torticollis with low grade fever and normal oropharyngeal findings, the diagnosis of deep space neck infection such as RPA must be ruled out. CECT neck is useful in diagnosing and evaluating the size of abscess which in turn, helped in selecting appropriate treatment. In a stable patient with non extensive abscess and low risk of possible complications like sepsis and airway obstruction, medical management is preferred before embarking on surgical intervention.

Conflict of interest: Nil

Ethical approval: was taken from Ethics Committee of HUSM about publication of this case report.

References:

1. Frances W. Craig, MD, Jeff E. Schunk, MD. Retropharyngeal abscess in children. PEDIATRICS Vol. 111 No. 6 June 1, 2003 pp. 1394-1398. Available from: <http://pediatrics.aappublications.org/content/111/6/1394.full> <http://dx.doi.org/10.1542/peds.111.6.1394>
2. Ngan JH, Fok PJ, Lai EC, Branicki FJ, Wong J. A prospective study on fish bone ingestion: experience of 358 patients. *Annals of Surgery*. 1990;211(4):459-462. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/2322040> <http://dx.doi.org/10.1097/0000658-199004000-00012>
3. Marques PM, Spratley JE, Leal LM, Cardoso E, Santos M. Parapharyngeal abscess in children: five year retrospective study. *Braz J Otorhinolaryngol* 2009 Nov-Dec;75(6):826-30. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/20209282>
4. Hasegawa J, Tateda M, Hidaka H, Sagai S, Nakanome A, Katagiri K, Seki M, Katori Y, Kobayashi T. Retropharyngeal abscess complicated with torticollis: case report and review of the literature. *Tohoku J Exp Med*. 2007 Sep;213(1):99-104. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/17785958> <http://dx.doi.org/10.1620/tjem.213.99>
5. FKC Chu. Retropharyngeal abscess. *Hong Kong J. Emerg. Med*. 2002;9:165-167. Available from: <http://www.hkccem.com/html/publications/Journal/2002-3/165-167.pdf>
6. Laughlin C. Dawes, Ronaldo Bova, Peter Carter. Retropharyngeal abscess in children. *ANZ Journal of Surgery* Volume 72, Issue 6, pages 417-420, June 2002. Available from: <http://onlinelibrary.wiley.com/doi/10.1046/j.1445-2197.2002.02432.x/full>
7. Wholey MH, Bruwer AJ, Baker HL. The lateral roentgenogram of the neck. *Radiology* 1968;71:350-6. <http://dx.doi.org/10.1148/71.3.350>
8. Oh JH, Kim Y, Kim CH: Parapharyngeal abscess: comprehensive management protocol. *ORL J Otorhinolaryngol Relat Spec* 2007, 69:37-42. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/17085951?dopt=Abstract&holding=f1000,f1000m,isrcn> <http://dx.doi.org/10.1159/000096715>
9. Courtney MJ, Mahadevan M, Miteff A: Management of paediatric retropharyngeal infections: non-surgical versus surgical. *ANZ J Surg* 2007, 77:985-987. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/17931262?dopt=Abstract&holding=f1000,f1000m,isrcn> <http://dx.doi.org/10.1111/j.1445-2197.2007.04295.x>
10. Lübben B, Tombach B, Rudack C. Tubercular spondylitis with retropharyngeal abscess. *HNO*. 2004;52(9):820-823. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/15372173> <http://dx.doi.org/10.1007/s00106-003-0953-4>
11. Sato K1, Izumi T, Toshima M, Nagai T, Muroi K, Komatsu N, Ozawa K. Retropharyngeal abscess due to methicillin-resistant *Staphylococcus aureus* in a case of acute myeloid leukemia. *Internal Medicine*. 2005;44(4):346-349. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/15897650> <http://dx.doi.org/10.2169/internalmedicine.44.346>