

An Atypical Case of Retropharyngeal Abscess with Long Blind Tract Treated with Ryle's Tube Drainage

M L Tang, MBBS (IMU), S C Lee, MBBS (UM), MMed ORL-HNS (UM), M P Y Phoon, MBBS (MMMC)

Department of Otolaryngology-Head and Neck Surgery, Sibul Hospital, Jalan Ulu Oya, Batu 5 ½, 96000 Sibul, Sarawak

SUMMARY

A 10 year-old Iban girl presented with severe odynophagia for 4 days and subcutaneous emphysema. Clinically, her neck was tender with crepitus. Lateral neck radiograph showed multiple linear radiolucent shadows at retropharyngeal space. Flexible nasopharyngolaryngoscope revealed a tunnel behind upper oesophagus with slough and there was pooling of saliva at pyriform sinus. Feeding via nasogastric tube was started and empirical treatment for fungal and bacterial infection was commenced. Subsequent computed tomography of neck and thorax showed a 15-long blind tract at subglottic region posterior to oesophagus (prevertebral region), extending to superior mediastinum just before carina at T3/T4 level, represent abscess. Hourly suctioning of the remaining abscess in the blind tract with 10ml-syringe was done.

KEY WORDS:

Retropharyngeal abscess, Severe odynophagia, Subcutaneous emphysema, Oropharynx

INTRODUCTION

Retropharyngeal abscess can be classified into acute and chronic forms. In the acute form, the patient is ill with high temperature and sore throat with a smooth swelling on one side of the posterior pharyngeal wall. In the chronic form, the illness is insidious and only gives rise to pharyngeal discomfort.

In the acute form, the paediatric causes are suppuration of retropharyngeal lymph nodes secondary to infections in nasopharynx (e.g. adenoids, nasopharyngitis, postnasal discharge), oropharynx (e.g. tonsillitis, pharyngitis, foreign body trauma) and upper respiratory tract infection. The cause of the acute form in adults is usually direct infection secondary to penetrating injury or foreign body.

In the chronic form, the etiology in adults or older children is chiefly tuberculosis infection of the cervical spine, whereas in children below 4-5 years old, it is the tuberculosis infection of the retropharyngeal lymph nodes¹.

CASE REPORT

A 10 year-old Iban girl with insignificant past medical or surgical history was referred from a district hospital for severe odynophagia with poor oral intake for 4 days and

subcutaneous emphysema. She was well until 4 days ago when she complained of epigastric pain which radiated to her back, chest, and neck. She then developed severe sore throat with odynophagia. She coughed and vomited on attempt to eat. She had no fever, chest pain, or pus discharge from her mouth. No recent trauma or tuberculosis contact was noted.

On examination, she was dehydrated but clinically stable and afebrile. Her neck was tender with crepitus felt at the neck and left upper chest. No lymphadenopathy and other systemic examination was unremarkable.

Chest radiograph showed clear lung field with no pneumothorax but subcutaneous air collection from neck to upper chest. Lateral neck radiograph showed multiple linear radiolucent shadows at retropharyngeal space with normal cervical spine. Total white cell count showed leukocytosis with raised neutrophils count. Erythrocyte sedimentation rate was 30mm/h. Mantoux test was negative.

Flexible nasopharyngolaryngoscope revealed a blind tract posterior to upper oesophagus with slough and also pooling of saliva at pyriform sinus. Larynx and 's epiglottis were normal. Ryle's tube feeding, Nystatin suspension, IV Unasyn and Metronidazole were commenced. Computed tomography of neck and thorax defined a 15cm-tract at subglottic region, posterior to oesophagus (prevertebral region) until superior mediastinum just before carina at T3/T4 level, which represents a retropharyngeal abscess. Drainage of abscess intraorally under general anaesthesia was performed the next day with intraoperative findings of blind tract depth measuring about 15cm from incisor teeth. The blind tract was explored with a bronchoscopy and all visible necrotic tissues and slough within were suctioned. A small-sized Ryle's tube was then inserted into the retropharyngeal tract for hourly suctioning with 10ml-syringe in ward. *Escherichia coli* was cultured from the necrotic tissues and IV Cefuroxime was started based on sensitivity results.

Postoperatively, the patient was comfortable and odynophagia resolved. The Ryle's tube for suctioning was gradually withdrawn 1cm each day when aspirations were nil. Subsequent flexible nasopharyngolaryngoscope after removal of Ryle's tube a few days later revealed that the tract at the retropharyngeal space was obliterated with no slough seen. Repeat lateral neck radiograph revealed normal retropharyngeal soft tissue density. Subcutaneous emphysema had also resolved. Patient was discharged home

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Corresponding Author: Tang Mee Ling, Sibul Hospital, ENT, Jalan Ulu Oya 5 1/2, Sibul, Sarawak 96000 Malaysia

Email: meelingt2001@yahoo.com

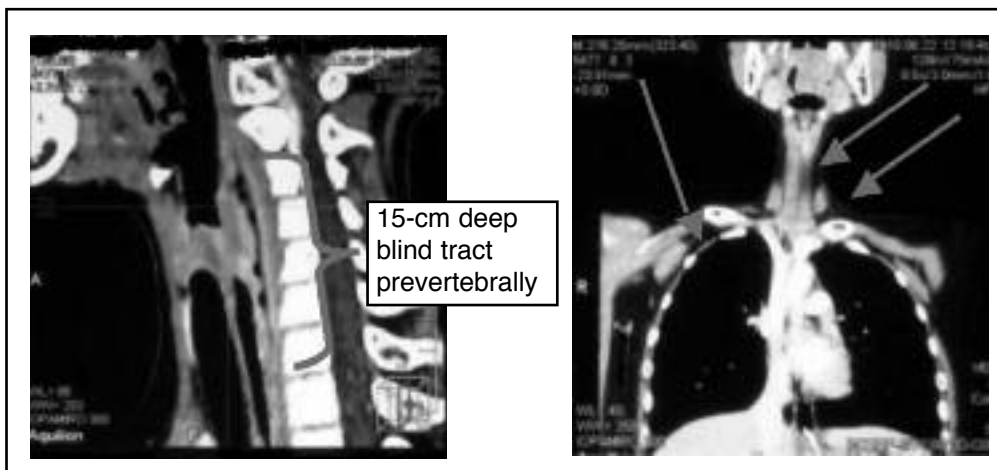


Fig. 1: Left picture- Contrasted CT neck sagittal view showing a blind tract behind oesphagus of about 15cm deep from incisor teeth; Right picture- CT neck and thorax coronal view showing subcutaneous emphysema in the neck bilaterally and upper mediastinum (arrows)

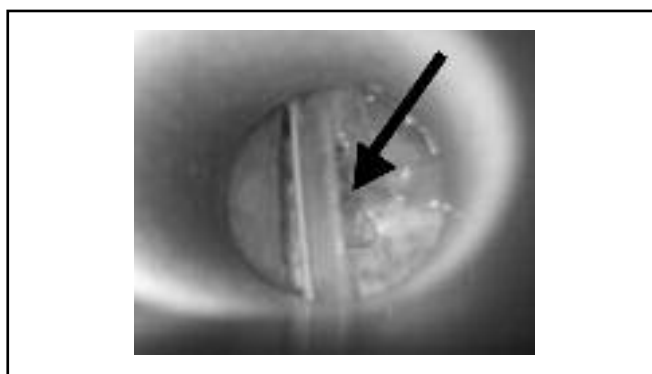


Fig. 2: Direct oesophagoscope demonstrating a potential tract with slough, behind the nasogastric tube which goes into oesophagus (black arrow).

well after 12 days' stay in hospital with completion of oral antibiotics of total 14 days. Repeated scope one week later was normal and the child was well.

DISCUSSION

The retropharyngeal space lies behind the pharynx between the buccopharyngeal fascia covering the constrictor muscle and the prevertebral fascia. It extends from the base of the skull to the posterior mediastinum as far as the bifurcation of trachea (T4 vertebra level). The space is divided into two lateral compartments (space of Gillette) by a fibrous raphe and each lateral space contains retropharyngeal nodes which usually disappear after 4-5 years of age. As the retropharyngeal space communicates with the parapharyngeal space and the posterior mediastinum, infection can spread to these areas¹.

The clinical picture of a retropharyngeal abscess is either highly variable or changing². In this 10 year-old child, the onset was fast but she was not clinically ill. The etiology of her illness could not be undetermined. The presentation of retropharyngeal abscess is atypical in this girl as there is no retropharyngeal swelling, but a 15cm-long blind tract in

retropharyngeal space, which suggested a retropharyngeal abscess which had ruptured into prevertebral region and extended inferiorly into the superior mediastinum with complication of subcutaneous emphysema.

CT scan is useful in confirming retropharyngeal abscess, especially in children^{2,3,4}. With the presentation and scope findings, CT neck and thorax is important to determine the extent of the retropharyngeal abscess to help us in planning surgery for drainage of the abscess, as well as to detect any complications such as mediastinitis. It is fortunate that we detect the abscess early when it is still confined to superior mediastinum and did not involve posterior mediastinum, causing overt mediastinitis.

The usual organisms found in acute retropharyngeal abscess are *Staphylococcus aureus*, *Streptococcus viridans*, *Klebsiella pneumoniae*, *Escherichia coli*, *beta-haemolytic Streptococcus* Group A, and *Haemophilus* species^{2,4,5}. It is of utmost importance to identify antibiotic with good sensitivity to eradicate the organisms.

Although there is role of conservative management in retropharyngeal abscess², surgical drainage intraorally is indicated in our patient due to persistent odynophagia and aspiration symptoms despite conservative management⁴. In view of the long blind tract, we had improvised by placing a Ryle's tube into the blind tract with hourly suction with syringe to drain the residual abscess trapped inside, instead of the usual incision and drainage method in a typical case.

CONCLUSION

It is important to diagnose and treat retropharyngeal abscess early to prevent complications. As the presentation of the retropharyngeal abscess may be variable, careful history and examination and imaging investigation such as CT scan will confirm diagnosis. Surgical intervention is indicated when conservative management fails and a different drainage method may need to be employed according to case-to-case basis.

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