

# Ascaris Lumbricoides: Post Operative Hypoxia

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## Abstract

Post operative airway obstruction may be due to anaesthesia related factors such as residual anaesthetic or sedative effects of drugs, inadequate antagonism of neuromuscular block or secondary to several physical factors such as compression of airway due to haematoma, bilateral recurrent laryngeal nerve palsies, massive tongue swelling, paradoxical vocal cord motion or simply obstruction by mucous plug. The case reported highlights the possibility of unusual airway obstruction in post operative period due to obstruction caused by regurgitation of round worm (*Ascaris Lumbricoides*).

## INTRODUCTION

A simple surgery of lens extraction for traumatic cataract in a 5 years old patient from tropical country with high eosinophil counts was complicated by post operative airway obstruction causing hypoxia by *Ascaris lumbricoides*, highlighting the importance of high eosinophil counts and deworming prior to surgery in tropical countries.

## CASE REPORT

A 5 years old male child was admitted for removal of traumatic cataract. Physical examination was normal. Routine investigations were within normal limits except for raised eosinophil count (11%). Deworming was done a day before surgery.

After securing intravenous access anaesthesia was induced with Inj thiopentone sodium 5 mg/kg, and succinylcholine 1 mg/kg was given to facilitate endotracheal intubation with 5.5 uncuffed tube and maintained with 33% O<sub>2</sub> in air, halothane 0.5%- 1% .& Inj vecuronium .The child was monitored with a pulse oximeter, non invasive blood pressure and electrocardiogram. Intraoperative anaesthetic course was uneventful. At the end of surgery, neuromuscular block was reversed with Inj neostigmine (0.05 mg/kgbw) and Inj atropine (0.02mg/kgbw) i.v. and child was extubated after oropharyngeal suctioning. Child was conscious, spontaneously breathing and obeying verbal commands and shifted to post operative ward. For next two hours the recovery was uneventful. At this junction we received an urgent call regarding falling of oxygen saturation and ineffective respiratory efforts of the same child.

Immediately the call was attended, the child was making ineffective respiratory efforts along with stridor. Clinically airway obstruction was suspected. Attempts at relieving the airway obstruction by Triple maneuvers and insertion of an oropharyngeal airway proved unsuccessful with progressive fall in oxygen saturation. Immediately direct laryngoscopy was done for endotracheal intubation, which revealed a bright object moving at the laryngeal inlet .The object visualized was taken out by Magill's forceps. The object removed from the larynx was found to be *Ascaris Lumbricoides* measuring 22 cms. Immediately after removal, the stridor was relieved and oxygen saturation increased from 81% to 97% on room air.

## DISCUSSION

Acute respiratory distress is an uncommon but most alarming presentation of any foreign body. In the immediate post-operative, airway obstruction necessitating reintubation is rare and is found to have an incidence of 0.17-19%.<sup>1, 2</sup> Diagnostic triad of airway obstruction are wheezing, coughing and decreased breath sound .<sup>3</sup> After the initial paroxysm of coughing, tracheobronchial mucosa becomes tolerant to foreign body and the cough ceases .In a case of foreign body in the larynx can reveal changes in cry with the cry becoming hoarse and stridulous.<sup>4</sup> There could be other features of respiratory distress like suprasternal retraction and use of accessory muscles of respiration. There can also be a catastrophic asphyxiation leading to cyanosis and cardiac arrest. In the case of radio opaque foreign body chest x-ray is informative showing normal or secondary changes like obstructive emphysema, atelectasis, collapse or consolidation of lung.<sup>5</sup>

The case being reported is that of an unusual foreign body (*Ascaris lumbricoides*) in larynx post operatively in a child who had undergone surgery uneventfully.

*Ascaris lumbricoides*, (common roundworm), the largest nematode parasitizing man is specially prevalent in the tropics. The adult worm lives in the lumen of the small intestine (jejunum) of man and maintains its position by its muscle tone. The adult worm frequently migrate up in the oesophagus and is vomited out. When fresh from intestine, it is light brown or pink in colour. The life span of adult worm in human host is less than a year. Male is 15-20cms in length with tail end curved ventrally with conical tip. Female is longer, stouter, measure 25-40cms with tail end is neither curved nor pointed but conical. Eggs are liberated by fertilized female with faeces of host. Fertilized eggs are round or oval, bile stained, brownish and surrounded by thick smooth translucent shell with an outer albuminous coat thrown into rugosities. Fertilized eggs float in saturated solution of common salt contrary to unfertilised eggs (heaviest of all helminthic eggs) does not float. Worm passes its life cycle in one host without any intermediate host. Man is the only known definitive host. The mode of infection is by swallowing ripe embryonated egg or inhalation of desiccated eggs. Infecting agent is embryonated egg, portal of entry is alimentary canal, and migration of larvae is through lung. Clinically it may cause *Ascaris* pneumonia (Loeffler' pneumonia), protein energy malnutrition, and typhoid like fever, urticaria, and intussusceptions. Diagnosis

is based on finding of adult worms or eggs in faeces. Blood examination shows eosinophilia. In our case worm migrated up through the esophagus and tried to enter the respiratory passage causing obstruction of rima glottides.

This case highlights the importance of eosinophilia and deworming before surgery of patients from tropical countries.

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### **References**

1. Hill RS, Kottai, Parnes SM. Airway complication from laryngoscopy and panendoscopy. *Ann Otol Rhino Laryngol* 1987; 96:691-94.
2. Mathew JP, Rosenbaum SH, O'Connor T et al. Emergency tracheal intubation in the post anaesthesia care unit; Physician error patient disease? *Anaesth Analg* 1990; 71:691-97.
3. Nathan E. Wiseman .The diagnosis of foreign body aspiration in childhood. *J Paed Surg* 1984; 19(5); 531-535.
4. J.N.G. Evans. Foreign bodies in the larynx and trachea: Scott-Brown's disease of Ear, nose and throat; 4th edition; Butterworth Publications 1979; 6/25/1-6/25/11.
5. Fatma Oguz, Agop Citak, Emin Unuvar, et al. Airway foreign bodies in children. *Int J Paed Otorhinolaryngol* 2000; 52:11-16.
6. K.D. Chatterjee: Parasitology (Protozoology & Helminthology) in relation to clinical medicine: Phylum Nematohelminthes, class Nematoda, Superfamilies Ascaridoidea:182-188; 12th ed ;Calcutta.1981.

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