



**ORIGINAL RESEARCH PAPER**

**Anaesthesiology**

**INNOMINATE ARTERY COMPRESSION SYNDROME IN THYMOMA PATIENT**

**KEY WORDS:**

brachiocephalic artery, thymoma, difficult intubation

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**ABSTRACT**

**Introduction:** Innominate artery compression syndrome is a condition in which brachiocephalic artery arises too far to the left side of aortic arch compressing the anterior wall of trachea as it courses from left to right. It is one of the rare cause of tracheal compression in paediatric population. Symptoms of this condition may vary from mild to severe with mild symptoms & minimal tracheal compression on bronchoscopy to severe respiratory distress, recurrent broncho pulmonary infections & occasionally apnoea which is an indication for surgery. **Case report:** A 39year old female known case of myasthenia gravis was posted for thymectomy. During intubation flexometallic tube 7.5 size & 7 size was tried. Though Intubation was possible further negotiation of the tube was difficult, hence after adequate mask ventilation intubation was again tried with 6.5 flexometallic reinforced size tube. Bilateral air entry was equal & tube was fixed at 21cm **Discussion:** In our patient the cause for difficult intubation was meticulously done. Ruling out the thymus tumour, ruling out anatomical abnormalities, we observed that in serial CT chest scan a compression of the trachea by brachiocephalic artery was found out. Probably this the reason for dynamic airway obstruction

**INTRODUCTION:**

The brachiocephalic artery which is also known as innominate artery is one of the great vessels arising from aortic arch. The artery courses superior and posterior from the aortic arch. During its course it crosses the trachea anteriorly from left to right around the ninth tracheal ring and then bifurcates into right subclavian and right common carotid artery at the level of sternoclavicular joint. (Dugas & Samra, 2022) During which it may cause compression over the trachea. It may be also due to aberrantly positioned thymus displacing innominate artery from normal position leading to compression. (El-Feky, n. d.)

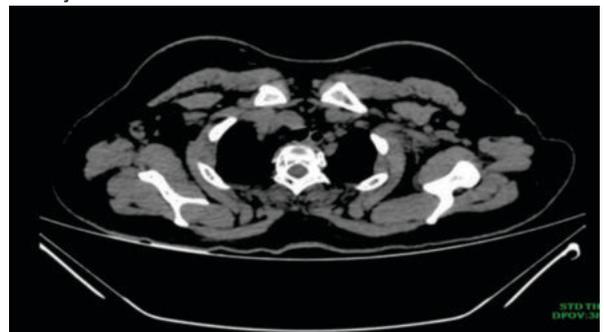
**Case Report:**

A 39-year-old female presented with c/o difficulty in speech, breathlessness on exertion for one & half month. She was diagnosed with myasthenia gravis & started on pyridostigmine 60mg TDS. CT thorax revealed well defined mass 2.5\*1.9cm in anterior mediastinum probably thymoma. For which patient was scheduled for sternotomy & excision of mass. Premedication was given as per institution protocol. On arrival to operating room, routine ASA monitors were connected. One large bore IV cannula was secured. Left radial arterial line secured & IABP monitoring was done. Premedication inj.glycopyrrolate 0.2mg & inj.midazolam 1mg was given.

After adequate preoxygenation, Induction was done with fentanyl 100mcg, thiopentone 125mg, vecuronium 6mg. Intubation was done using 3 size mcintosh laryngoscope. Cormack lehane Grading was 1. Initially flexometallic tube 7.5 size & 7 size was tried. Though Intubation was possible further negotiation of the tube was difficult, hence after adequate mask ventilation intubation was again tried with 6.5 size flexometallic reinforced tube. Bilateral air entry was equal & tube was fixed at 21cm. Anaesthesia was maintained with O2 :Air 1:1 & Isoflurane with MAC of 1%. Compression by thymus was ruled out intraoperatively. Intraoperative & post operative period was uneventful. Patient was electively ventilated & extubated awake after full recovery of ventilatory function.

**DISCUSSION:**

The brachiocephalic trunk also known as innominate artery is the second branch to arise from aorta. It extends for about 4-5 cm towards the root of the neck. It follows the right side of trachea upto the level where the clavicle meets the sternum where it ends by dividing into right subclavian & right carotid artery. Whereas in innominate artery compression syndrome the artery arises partially or totally to the left of midline. As the artery courses from left to right anterior to the trachea, it causes tracheal compression. simple division, division with reimplantation into the right side of the ascending aorta, and suspension to the overlying sternum are the various approaches for correction. Following which tracheal patency should be confirmed with bronchoscopy. (Schuster et al., 1991) In our patient the cause for difficult intubation was meticulously done. Ruling out the thymus tumour, ruling out anatomical abnormalities, we observed that in serial CT chest scan a compression of the trachea by brachiocephalic artery was found out(fig:1). Probably this the reason for dynamic airway obstruction.



**Fig1: Innominate Artery Compression Over Trachea**

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