

# The Incidence of Cartilago-triticea in Bangladeshi Cadaver

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## ABSTRACT:

The cross sectional descriptive type of study was done to see the presence of the cartilago-triticea in relation to age and sexes of Bangladeshi people. A total of 60 human larynges (male 29 and female 31) were collected purposively from dead bodies during routine postmortem examination at the autopsy laboratory of Department of Forensic Medicine and stillborn babies from Gynaecology and Obstetrics Department of Mymensingh Medical College, Mymensingh from October' 2008 to March' 2009. Gross and fine dissection was carried out to see the presence of cartilago-triticea. Cartilago-triticea was found in 58.33% cases. It was observed that the prevalence of cartilago-triticea was more common among females than in males and that their incidence increased with age.

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Key words: Larynx, cartilago-triticea, incidence, Bangladeshi people.

## Introduction

The larynx is an air passage, a sphincter and an organ of phonation. It extends from the tongue to the trachea. It projects ventrally between the great vessels of the neck and is covered anteriorly by skin, fascia and the hyoid depressor muscles. Above, it opens into the laryngopharynx through the laryngeal inlet and forms its anterior wall while below, it continues with the trachea. It is mobile on deglutition. At rest it lies opposite the 3rd to 6th cervical vertebrae in adult males, although it is somewhat higher in adult females. In infants between 6 and 12 months, the tip of the epiglottis (the highest part of the larynx) is a little above the junction of the dens and body of the axis vertebrae. Until puberty the male and female larynges are similar in size. After puberty, the male larynx enlarges considerably in comparison with that of the female.<sup>1,2</sup>

The larynx is made up of skeletal framework of cartilages, which are connected by synovial joints, ligaments and fibrous membranes (cricovocal and quadrate) and are moved by a number of intrinsic muscles. The cavity of the larynx is lined by mucous membrane.<sup>1,2,3</sup>

The larynx is composed of nine cartilages, of which three (thyroid, cricoid, epiglottis) are unpaired and three (arytenoids, corniculate, cuneiform) are paired.<sup>1,2</sup>

In relation to the surface anatomy of the larynx, the levels of the laryngeal cartilages worth noting are: at 3rd cervical vertebrae-level of body of hyoid; junction of 3rd & 4th cervical vertebrae-level of upper border of thyroid cartilage and bifurcation of common carotid artery; junction of 4th & 5th cervical vertebrae-level of thyroid cartilage; at 6th cervical vertebrae-level of cricoid cartilage.<sup>1</sup>

The tritiate cartilages are another two small nodules of elastic cartilage, which are situated one on either side above the larynx within the posterior free edge of the thyrohyoid membrane, about halfway between the superior cornu of the thyroid cartilage and the tip of the greater cornua of the hyoid bone. Their functions are unknown, although they may serve to strengthen this connection.<sup>1</sup>

## Methods:

The present study was performed on 60 human larynges at the Department of Anatomy of Mymensingh Medical College, Mymensingh. Specimens containing larynx were collected from dead bodies autopsied at the autopsy laboratory of Department of Forensic Medicine and dead babies from Gynaecology and Obstetrics Department of Mymensingh Medical College, Mymensingh from October' 2008 to March' 2009 and all the collected specimens of cadavers were from medico-legal cases (unnatural death) and another group from stillborn infants. Only fresh specimens from persons who died within the preceding 12 to 24 hours and stillborn infants just after expulsion were chosen. The age range of persons whose larynx was collected varied from 9 years to 60 years and 28 to 40 weeks for intrauterine life in case of stillborn babies. The persons belonged to either sex.

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From each cadaver the larynx and related neighboring structures were collected by "Block Dissection", during routine postmortem examination. Then the tissue block was washed gently with running tap water to remove the blood and blood clots as far as possible. Each specimen was duly tagged by a piece of waxed cloth, which bore an identifying number representing individual serial number. Then the specimen was fixed and preserved in 10% formal-saline solution.

For convenience of differentiating the incidence of cartilagotriticea in relation to age and sex, the collected specimens were divided into three groups e.g. A, B and C (Table I). Associated muscles, membrane and ligaments were detached from the thyroid cartilage specially it was detached from its attachment with the thyrohyoid membrane in the posterior border where it is thickened to form lateral thyrohyoid ligament and connect the tip of the superior thyroid cornu to the posterior end of the greater hyoid cornu. For study purpose, observation notes were kept regarding the presence or absence of (small nodular like cartilage) the cartilago triticea within the posterior free edge of the thyrohyoid membrane, about halfway between the superior cornu of the thyroid cartilage and the tip of the greater cornua of the hyoid bone. If present, it was noted and its incidence was expressed in percentage according to different age and sex groups.

### Result

In the present study, total 60 human larynx were examined. Of them 29 were males and 31 were females. The age range of the persons varied from 9 years to 60 years and 28 to 40 weeks for intrauterine life in case of stillborn babies (Table 1). Cartilago-triticea was found in 35 cases (58.33%) (Table-II). Cartilago-triticea was present in 16 out of 29 males (55.17%) and 19 out of 31 females (61.29%) (Table-I)ly Cartilago-triticea was found to be increased with age of the persons (Table-III).

Table I: Age Distributions in Different Age Groups of the Present Study

Group	Age limit	No. of specimen
A	28 to 40 weeks of gestation	15
B	upto 16 years	16
C	17 years & above	29
Total		60

Table II: Incidence of Cartilago-triticea in Different Sex

Sex	Present		Absent		Total
	Number	percent	Number	Percent	
Male	16	55.17	13	44.83	29
Female	19	61.29	12	38.71	31
Total	35	58.33	25	41.66	60

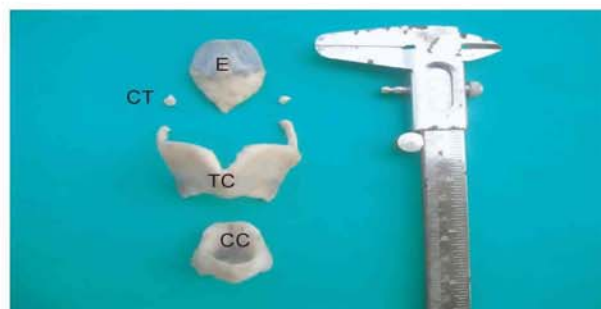
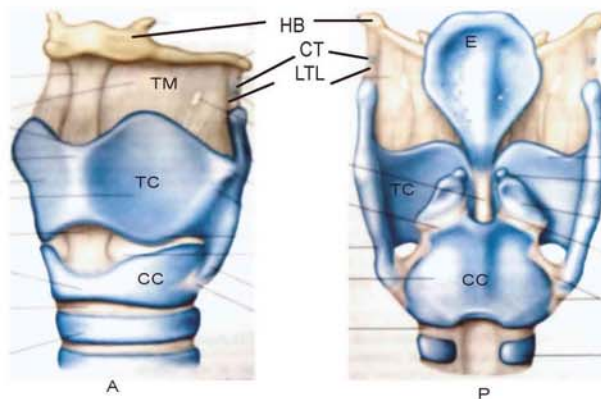


Figure 3 (a): Figure of laryngeal cartilages and ligaments (A = Anterolateral, P = Posterior view) shows here, E = Epiglottis, CT = Cartilago-triticea, TC = Thyroid cartilage, CC = Cricoid cartilage, HB = Hyoid bone, TM = Thyrohyoid membrane and LTL = Lateral thyrohyoid ligament

Table III : Incidence of Cartilago -triticea in Different Age Groups

Incidence	Group A (28 to 40 weeks of gestation) n = 15		Group B (upto 16 years) n = 16		Group C (17 years & above) n = 29	
	Number	Percent	Number	Percent	Number	Percent
Present	0	0	11	68.75	24	82.75
Absent	15	100	5	31.25	5	17.25

**Discussion:**

In the present study it was found that in (50.5%) 35 cases out of 60 the cartilago-triticea was present. In case of female, in 61.29% cases out of 31 and in case of male, in 55.17% cases out of 29 the cartilago-triticea was present. This difference was not statistically significant ( $P > .05$ ). Ajmani (1990) stated that the incidence of the presence of the cartilago-triticea is greater in the female (16.66%) than the male (13.15%) and they occur more commonly in Nigerians than in Indian adults.<sup>4</sup> The incidence observed in the present study was greatly higher than that mentioned by the author. Ajmani et al (1980) stated that the presence of cartilago-triticea is not constant; they were seen more commonly in females than in males.<sup>5</sup> The present study conforms to the findings of above mentioned authors regarding its incidence. In the present study it was also observed that the incidence of cartilago-triticea increases with age.

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