The Incidence of Cartilago-triticea in Bangladeshi Cadaver

* A.A. K, Rahman MM2, Ara ZG3, Chowdhury Ar4, Begum R5, Chowdhury MR6, Fazilatunnesa7

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.

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 hyoid 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.

The larynx is composed of nine cartilages, of which three (thyroid, cricoid, arytenoids) are unpaired and three (arytenoids, corniculate, cuneiform) are paired.

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 portion of cricoid cartilage; bifurcation of common carotid artery; junction of 4th & 5th cervical vertebrae-level of thyroid cartilage; 6th cervical vertebrae-level of cricoid cartilage.

The triticate cartilage 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 cornua 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.

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.

1. * Dr. Anjuman Ara, Assistant Professor of Anatomy, Community Based Medical College Bangladesh.
2. Dr. Md. Mahbubur Rahman, Associate Professor & Head of the Department of Anatomy, Community Based Medical College Bangladesh.
3. Dr. Zakir Hossain, Assistant Professor, Department of Anatomy, Community Based Medical College Bangladesh.
4. Dr. Ashraf Ali Chowdhury, Assistant Professor, Department of Anatomy, Community Based Medical College Bangladesh.
5. Dr. Taslima Begum, Curator, Department of Anatomy, Community Based Medical College Bangladesh.
6. Dr. Mamunur Rashid Chowdhury, Assistant Professor, Department of Orthopedic Surgery, Community Based Medical College Bangladesh.
7. Dr. Fazilatunnesa, Assistant Professor, Department of Pathology, Community Based Medical College Bangladesh.

* Address of correspondence
Email: dr.anjuman@yahoo.com
Mobile: 0088 01711232907
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 cartilago-triticea 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 I). Cartilago-triticea was found in 36 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-III). Carilago-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

<table>
<thead>
<tr>
<th>Group</th>
<th>Age limit</th>
<th>No. of specimen</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>28 to 40 weeks of gestation</td>
<td>15</td>
</tr>
<tr>
<td>B</td>
<td>upto 16 years</td>
<td>16</td>
</tr>
<tr>
<td>C</td>
<td>17 years &amp; above</td>
<td>29</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>60</td>
</tr>
</tbody>
</table>

Table II: Incidence of Cartilago-triticea in Different Sex

<table>
<thead>
<tr>
<th>Sex</th>
<th>Present Number</th>
<th>Present percent</th>
<th>Absent Number</th>
<th>Absent Percent</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>16</td>
<td>55.17</td>
<td>13</td>
<td>44.83</td>
<td>29</td>
</tr>
<tr>
<td>Female</td>
<td>19</td>
<td>61.29</td>
<td>12</td>
<td>38.71</td>
<td>31</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>58.33</td>
<td>25</td>
<td>41.66</td>
<td>60</td>
</tr>
</tbody>
</table>
Discussion:
In the present study it was found that in (50.5%) 35 cases out of 60 the cartilago-triticea was present. Incase of female, in 61.29% cases out of 31 and incase 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. 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. 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.

References