



## A REVIEW OF TRACHEOSTOMY CASES IN BAQUBA TEACHING HOSPITAL

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### ABSTRACT

**Background:** Tracheostomy is operative procedures that create a surgical air way in cervical trachea. It is most often performed in patients who have difficulty in breathing due to trauma that disturbs normal breathing or neurological insult or infections and tumors. **Aim of study:** Aim of this study is to show tracheostomy procedure in relation to causes, gender, age and type of anesthesia. **Patient and methods:** This study was performed in Baquba teaching hospital for the period from 1st. April, 2016 to 31 of December 2017. A review of cases records was done for all patients admitted during the study period. **Result:** Total number of cases during the study period was 54, with male to female ratio 1.9:1, most patients age group (51 – 60) years and lowest age group (1 -10) years. The most common indication was trauma to head and neck followed by post thyroidectomy, 54% need general anesthesia. **Conclusion:** In this study the most common causes of tracheostomy was trauma 42.5%. Tracheostomy done in male more than female. most cases of tracheostomy was reported in age group [51-60] years 24%. Most of cases of tracheostomy done under general anesthesia 53.7%.

**KEYWORDS:** Tracheostomy, Diyala.

### BACKGROUND

Tracheostomy is an operative procedure that create a surgical air way in cervical trachea. It is most often performed in patients who have difficulty in breathing due to trauma that disturbs normal breathing or neurological insult or infections and tumors. Trachea is a conduit between upper air way and lungs.<sup>[1]</sup> Blockage at any point along the trachea or above it can be most readily corrected. In case of upper air way obstruction tracheostomy provides a path of low resistance for air exchange. Tracheostomy is either temporary or permanent procedure.<sup>[2]</sup>

It is performed at the level of 2nd or 3rd or 4th rings. The trachea is 11cm. Long. In cross section it is D shape with incomplete cartilaginous rings anteriorly and laterally and a straight membrane posteriorly. It start from cricoid cartilage down to the level of T4 and T5 vertebrae where it divides into right and left bronchi.<sup>[3]</sup> Tracheostomy is indicated in congenital anomalies of the larynx, upper air way foreign body, or infections or tumors or vocal cord paralysis, Head and neck trauma, upper air way odema due to burn or trauma. Also it is needed in respiratory failure for respiratory support.<sup>[4]</sup>

Tracheostomy can be performed either by open or percutaneous procedure. Open one is the oldest

technique and still the procedure of choice. Percutaneous technique has been increasingly used. Many studies have support the percutaneous procedure over open one because it can be performed at bed side. The complications of tracheostomy can happened early or later on. These complications are tracheoinnometate fistulae, suction injuries, stomal site infection, bleeding, laryngomalacia, tracheomalacia and tracheal stenosis.<sup>[5]</sup>

### AIM OF STUDY

Aim of this study is to show tracheostomy procedure in relation to causes, gender, age and type of anesthesia.

### PATIENT AND METHODS

This study was performed in Baquba teaching hospital for the period from 1st. April, 2016 to 31 of December 2017. A review of cases records was done for all patients admitted during the study period. The information were collected by special designed questionnaires including causes of tracheostomy, gender, age and type of anesthesia. The result of this study presented by number and percentage.

## RESULTS

Total number of cases during the study period was [54]. Most of cases were reported among male [35], 64.8%, with male to female ratio 1.9:1 as shown in table 1.

**Table 1: Distribution of cases according to gender.**

Gender	No	%
Male	64.8	35
Female	35.2	19
Total	100	54

According to age tracheostomy was reported mostly in age group [51-60] years [13] 24%, followed by age group [21-30] years, [12] 22.2%, and the lowest number of was reported in age group [1-10] and [11-20] years, [3] 5.5% for each as shown in table 2.

**Table 2: distribution of cases according to the age group.**

Age Group; (year)	%	No
1-10	5.5	3
11-20	5.5	3
21-30	22.2	12
31-40	16.6	9
41-50	14.8	8
51-60	24	13
61-70	3.7	2
>71.	7.7	4
Total	100	54

The most common indication for tracheostomy in this study was trauma to head and neck,[23] 42.5%, followed by post thyroidectomy [12] 22.2%, as shown in table 3.

**Table 3: Distribution of cases according to the causes.**

Causes	No	%
Trauma	23	42.5
Post thyroidectomy	12	22.2
Laryngeal tumors	8	14.8
Upper resp. obstruction	4	7.4
Myocardial infarction	2	3.7
Vertebral deformities	2	3.7
Heart failure	1	1.8
Respiratory failure	1	1.8
Cerebro vascular accident	1	1.8
Total	54	100

General anesthesia indicated in most of cases [29] 53.7%, while local anesthesia used in [25] 46.3% as shown table 4.

**Table 4: Distribution of the cases according to the type of anesthesia used.**

Type of Anesthesia	No	%
General Anesthesia	29	53.7
Local Anesthesia	25	46.3
Total	54	100

## DISCUSSION

The distribution of cases according the gender shows that there is[35] male 64.8% and 19 female 35.2%, with male to female ratio of 1.9:1. Trauma was the most common cause of tracheostomy and male are more likely to exposed to trauma so that explain why tracheostomy was more in male. This study agree with other studies Garap J.P. 2002,<sup>[6]</sup> mentioned that the male percentage who exposed to tracheostomy is 57.4%, and female is 42.6%. A. Allam 2008,<sup>[7]</sup> his study shows the male with tracheostomy is 52.3% and female is 47.7%. The age group appear in all studies appears nearby each other. In this study the age of tumor and thyroid surgery increase the number of the age group [51-60] years [13] 24%. Then the age group [21-30] years [12] 22.2%, due to trauma. In most of other studies, the most common causes of tracheostomy is tumors of upper respiratory tract. So the most age group affected is old age, agree with this study. Salman A. A. et al. 2005,<sup>[8]</sup> the most age group exposed to tracheostomy is [51-60] years. Ammar Hadi 2012,<sup>[9]</sup> found the commonest age group is [40-90 ] years 69.2%, age of tumors, and the next age group is [20-39] years 23.1% due to trauma. For the indication for tracheostomy, in this study the most common indication for tracheostomy is trauma [23] case 42.5%, followed by post thyroidectomy [12] case 22.2%, then laryngeal tumors [8] cases 14.8%. Other studies differ, some of them agree with this study others are not. Nafi moyasser1997,<sup>[10]</sup> found that the Ist. Common indication for tracheostomy is upper respiratory tract tumors 74% mainly laryngeal tumors 44%. The 2nd. Common indication is trauma 12.8%. Salman A.A.et.al 2005,<sup>[8]</sup> mentioned that the most common causes of tracheostomy is upper air way obstruction mainly by laryngeal tumor 62%, the next common causes is infection specially in children 16%, followed by trauma 12.5%. Hussam Rasheed 2012,<sup>[11]</sup> he records that the common causes of tracheostomy is trauma to the head and neck 66%, then laryngeal tumor 39.3%. Altman K.W. 2005,<sup>[12]</sup> found that trauma is the most common causes of tracheostomy 80%.. Amusa Y.B. 2004<sup>[13]</sup> the Ist. Common Cause of tracheostomy is trauma 33%, then upper respiratory tract tumors 29.5%.So these studies number [11, 12 and 13] are agree with this study that trauma is the commonest indication for tracheostomy. This study records post thyroidectomy tracheostomy of 22.2%. If compared with other studies like Dr,Mr H. E. wanger, Ch. Sieler 1994,<sup>[14]</sup> they found that post thyroidectomy tracheostomy is 3.5%. Jinhao Liu, Hao Zhang ping Zhang 2017<sup>[15]</sup> they mentioned that tracheostomy in thyroid surgery is of 2.4%. Al Sobhi S.S. Ann Saudi med 2002,<sup>[16]</sup> found that thyroid surgery might end with tracheostomy in 5.9%. This difference with the percentage of this study might be due to, operation on recurrent thyroid, or done by inexperienced surgeon.

For the type of anesthesia used for tracheostomy in this study records [29] case 53.7% exposed to general anesthesia, and [25] case 46.3% the procedure done under local anesthesia, some said that the use of

ketamine provides adequate depth of sedation and analgesia with neither airway obstruction nor obtaining side effect of drug. Altman K.W. 2005,<sup>[12]</sup> mentioned that local anesthesia should be considered in any case with difficult intubation. In general all studies mentioned that the type of anesthesia is judged by the age and general condition of the patient.

## CONCLUSION

In this study the most common causes of tracheostomy was trauma 42.5%. Tracheostomy done in male more than female in a ratio of 1.9:1. Most cases of tracheostomy was reported in age group [51-60]years 24%. Most of cases of tracheostomy done under general anesthesia 53.7%.

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