Indications and Outcome of Tracheostomy in Ilorin, North Central Nigeria: 10 Years Review

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Abstract

Background: The study aims to highlight common indications as well as outcome of treatment among patients with tracheostomy in Ilorin, North-Central Nigeria. Methods: A review of clinical records of all patients with tracheostomy over a period of ten years (2002-2011), using the Theatre, Ward, ICU and the emergency register after approval from the ethical review committee. Data retrieved included; demographic profile, primary diagnosis, indication for tracheostomy, surgical technique, hospital admission and care outcome of management. All information retrieved input and analysed using an SPSS version 17.0 and data analyzed descriptively. Results: Seventy-six patients had complete data for analysis, age range from 1-89yrs, and mean age of 41.9yrs. There are 48 males and 28 females with M:F ratio of 1.6:1. Majority of the patients were in the 3rd–5th decade. About 47.4% had temporary tracheostomy. The commonest indication for tracheostomy is upper airway obstruction secondary to aerodigestive tract tumors in 60.5%, then trauma in 26.3%. The complications are higher among the under tens’. Out of the 36 temporary tracheostomy only 18 were successfully decannulated. The mean hospital stay was 22±2days. Overall 15% mortality was recorded. Conclusion: Common reason for tracheostomy is essentially same earlier documentation in developing countries, common among males, emergency type still most common, neoplasm, prolonged intubation and trauma are the commonest indications, its complication is still high among the under tens’. The outcome is good with 15% mortality due to the primary disease and not from tracheostomy.

Keywords: Complication, emergency, indications, outcome, tracheostomy

Résumé

Le contexte(La formation) l’étude a pour but de mettre en évidence(de surligner) des indications communes aussi bien que le résultat de traitement parmi des patients avec tracheostomy dans Ilorin, le Nigeria du Centre-nord. Méthodes un examen(une revue) des dossiers médicaux de tous les patients avec tracheostomy pour la durée de dix ans (2002-2011), utilisant le Théâtre, Salle(Tutelle), ICU et le registre(l’enregistreur) de secours après approbation du comité d’examen(de revue) éthique. Les données ont recouvré inclus; profil démographique, diagnostic principal(primaire), indication pour tracheostomy, technique chirurgicale, admission hospitalière et résultat de soin de gestion(direction). Toutes les informations ont recouvré l’apport(la saisie) et ont analysé l’utilisation d’une version 17.0 SPSS et de données analysées d’une manière descriptive. Les résultats Soixante-six patients avaient des données complètes pour l’analyse, la tranche d’âge de l’âge 1-89yrs et moyen de 41.9yrs. Il y a 48 males et 28 femelles avec le ratio M:F de 1.6:1. La Majorité des patients était en 3ème 5ème décennie. Environ 47.4 % avaient tracheostomy provisoire. L’indication la plus commune pour tracheostomy est l’obstruction de voie aérienne supérieure secondaire aux tumeurs d’étendue aerodigestive à 60.5 %, alors le trauma à 26.3 %. Les complications sont plus hautes parmi le sous les dizaines. De 36 tracheostomy provisoires seulement 18 étaient avec succès decannulated. Le séjour à l’hôpital moyen était 22±2days. La mortalité de 15 % globale a été enregistrée. La conclusion la raison Commune à tracheostomy est l’essentiellement même documentation précédente dans des pays en voie de développement, communs parmi des mâles, le type de secours toujours le plus commun, le néoplasme, a prolongé intubation et le trauma est les indications les plus communes, sa complication est toujours haut parmi le sous les dizaines. Le résultat est bon avec la mortalité de 15 % en raison de la maladie principale(primaire) et pas de tracheostomy.

Mots-clés: Complication, urgence, indications, résultats, une trachéotomie

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**INTRODUCTION**

Tracheostomy, an ancient surgical procedure originally described in the 1st century BC. It is a procedure aimed at establishing an alternative airway by creating a surgical opening in the anterior wall of the trachea and maintaining with a tube. Tracheostomy is a life-saving procedure as quoted by Johannes Scultetus (1595–1645) in his book “Armamentarium Chirurgicum” when performed with an appropriate indication and surgical technique. Other methods of airway intervention include endotracheal intubation, cricothyroidotomy, and Percutaneous Dilatation Tracheostomy (PDT). Since 1985, PDT has gained popularity over traditional tracheostomy which, however, remains the backup method in difficult cases, however, in Nigeria the method is still poorly developed. PDT can be performed in the critically ill patient requiring a tracheostomy this technique is more easily and quickly performed at the bedside and may even be safer when compared with the standard surgical technique. The percutaneous tracheostomy tube insertion is usually carried out electively in an intubated patient although it has been performed as an emergency under local anesthesia (LA) in a patient with acute airway obstruction.

The most common indications for tracheostomy are relieve of upper airway obstruction (UAO), prolonged mechanical ventilation, lower airway protection in the comatosem, and facilitation of tracheobronchial toileting.

There is a changing trend in literature as regarding the indications and outcome of tracheostomy, especially in children for the management of the airway. In the past, short-term tracheostomy for obstructive airway disease secondary to acute inflammatory infection was the most common indication but in recent time trauma to the upper airway has become the most common indication. These have been attributed to the changes in the epidemiology of infectious diseases due to early diagnosis, adequate use of antibiotics, and the improvement in the capabilities of medical technology.

Tracheostomy in the pediatric age group has been reported to be different from that in adults because in pediatric patients this procedure is challenging and technically more demanding and carries higher degree of morbidity and mortality when compared to the adult population. The procedure of traditional tracheostomy is associated with numerous complications which may occur anytime during the operative and postoperative periods. These complications are more common in emergency traditional tracheostomy than in elective ones. Complication rates associated with tracheostomy have been reported in literature to range from 6% to 66% and the mortality rate related to tracheostomy is reported to be <2%. Complications and mortality associated with tracheostomy are mostly avoidable if the procedure is carefully performed and the postoperative management strictly and conscientiously followed. Despite the fact that tracheostomy is a common life-saving procedure in the care of critically ill patients, there is paucity of information in our local setting regarding the subject. The aim of this retrospective study is to highlight our own experiences with tracheostomy in Ilorin North Central Nigeria outlining the common indications and outcomes of patients with tracheostomy.

**MATERIALS AND METHODS**

This was a retrospective review of all the patients who had tracheostomy at the tertiary health care centered in North Central Nigeria over a period of 10 years (2002–2011) using the Theater, Clinic, Ward, Intensive Care Unit (ICU), and the emergency registers. This is a 600-bedded hospital located in Ilorin North Central Nigeria with coverage of about 6 states from the north, south, east, and western parts. Ethical approval to conduct the study was obtained from the Hospital Ethical Review Committee before the commencement of the study.

Data were retrieved from patient registers kept in the Medical record departments, the surgical wards, ICU and operating room and entered in a preformed questionnaire before analysis. Included in the questionnaire were; demographic profile (age, sex), primary diagnosis, indication for tracheotomy, surgical technique, duration of the tracheotomy before decannulation, hospital stay and outcome of management such as complications, death, and cause of death. The primary diagnosis was classified based on the etiology which is divided into trauma, infection/inflammation, neoplasm, and others. The indications for tracheostomy were divided into UAO, respiratory insufficiency, bronchial toileting, and others. Complications related to tracheostomy were also reviewed. Tracheostomies were performed in emergency and electively both under general as well as local anesthesia. The procedure was performed under general anesthesia (GA) in the operating room and bedside tracheostomy was performed in the ICU under LA so also are some elective cases. Transverse skin crease incision was employed in all the cases. Patients who had incomplete or missed basic information were excluded from the study.

All the information retrieved was entered into an SPSS computer software version 17.0 and data analyzed descriptively and results presented in tables and figures.

The statistical analysis was performed using statistical package for social sciences (SPSS) version 17.0 for Windows (SPSS, Chicago IL, USA). The mean ± standard deviation (SD), median and ranges were calculated for continuous variables whereas proportions and frequency tables were used to summarize categorical variables. Continuous variables were categorized. Chi-square test was used to test for the significance of association between the independent (predictor) and dependent (outcome) variables in the categorical variables.

**RESULTS**

A total of 82 patients had tracheostomy during the study period under review; however, only 76 patients had complete data for analysis. Age of the patients ranged from 1 to 89 years with a mean age of 41.9 years (SD = 22.5 ± 3.7) the median age of presentation is 45.0yrs. There are 48 males and 28 females...
Table 1: Distribution of tracheostomy by age, gender, and route of anesthesia

| Age of patients (years) | Frequency (%) | Anesthetic route (%) |
|-------------------------|---------------|----------------------|
|                         | Male          | Female               | LA          | GA          |
| 1-10                    | 4 (5.3)       | 8 (10.5)             | 6 (7.9)     | 6 (7.9)     |
| 11-20                   | 4 (5.3)       | 0                    | 0           | 4 (5.3)     |
| 21-30                   | 6 (7.9)       | 0                    | 2 (2.6)     | 4 (5.3)     |
| 31-40                   | 8 (10.5)      | 4 (5.3)              | 6 (7.9)     | 6 (7.9)     |
| 41-50                   | 4 (5.3)       | 4 (5.3)              | 6 (7.9)     | 4 (5.3)     |
| 51-60                   | 10 (13.2)     | 10 (13.2)            | 12 (15.8)   | 8 (10.5)    |
| 61-70                   | 12 (15.8)     | 0                    | 8 (10.5)    | 2 (2.6)     |
| 71-80                   | 0             | 0                    | 0           | 0           |
| 81-90                   | 0             | 2 (2.6)              | 2 (2.6)     | 0           |
| Total                   | 48 (63.2)     | 28 (36.8)            | 42 (55.3)   | 34 (44.7)   |

LA=Local anesthesia; GA=General anesthesia

Table 2: Correlation table for the route of anesthesia and the type of tracheostomy

| Anesthetic route (type of trachea) | LA | GA          | Total |
|------------------------------------|----|-------------|-------|
| Emergency tracheostomy             | 32 (42.1) | 26 (34.2) | 58 (76.3) |
| Elective tracheostomy              | 10 (13.2) | 8 (10.5)  | 18 (23.7) |
| Total                              | 42 (55.3) | 34 (44.7) | 76 (100)  |

\( \chi^2 = 0.11, \text{Uncorrected } P = 0.736, \text{ Fisher’s exact one-tailed}=0.5216. \)

Two-tailed=1.000. LA=Local anesthesia; GA=General anesthesia

with M: F ratio of 1.6:1. Majority of the patients were in the 3rd–5th decade of life [Table 1].

Out of the 76 patients reviewed 76.3% had emergency tracheostomy while 23.7% had an elective procedure. More than half of patients (55.3%) had the procedure under LA while 44.7% had it under GA. The cross tabulation of the type of tracheostomy to the route of anesthesia used indicated that \( \chi^2 = 0.11, \text{Uncorrected } P = 0.736, \text{ Fisher’s exact 1 tailed } P = 0.5216, \text{ and 2 tailed } P = 1.000 \) this indicated difference is not statistically significant thus between the two indices [Table 2].

Of the 76 tracheostomized patients, 36 (47.4%) had temporary tracheostomy, and the remaining 40 (52.6%) had permanent tracheostomy as part of their treatment.

The most common indication for tracheostomy was UAO secondary to tumors in the aerodigestive tracts (60.5%) among which the most common being laryngeal tumor in 11 (28.9%), this was followed by UAO due to traumatic causes in 26.3% of patients [Table 3]. The high incidence of neoplastic cases that requires tracheostomy was found among those in the 6th decade of life [Table 4] more among the males than females. High incidence of traumatic causes of UAO was found between the 3rd and 4th decade of life. The most common indication for tracheostomy in the 1st decade of life was foreign body in the airway which accounted for 3 (7.9%).

In patients who had tracheostomy secondary to prolonged ventilation, the duration of intubation before tracheostomy was performed ranged from 16 to 33 days with a mean duration of 18 days.

All the patients had a transverse skin crease incision and also a vertical slit of the trachea ring and none of the patients had Bjork technique.

Complications related to tracheostomy were documented only in 15 of the patient’s case notes reviewed giving a complication rate of 19.7% [Table 5]. The specific period of occurrence either intraoperative or postoperative was not documented in the case notes; however, suprastoma granuloma formation and subcutaneous emphysema were the most common complications encountered generally in our series. About 86.7% (n = 15) occurred with emergency tracheostomy while only 13.3% occurred with elective. The complications were more with pediatric age group (<10 yeras) with 20% occurrence (Difficult decannulation, Subcutaneous emphysema, and Bleeding) and the least was among those in the 3rd decade (6.7%). Out of 36 temporary tracheostomy, only 18 were successfully decannulated from the records. The minimum hospital stay ranged between 16 and 42 days with a mean hospital stay of 22 ± 2 days.

Eleven patients died with an overall mortality rate of 15%, and 73%[11] of this occurred in the ICU among patients on prolonged intubation with comorbidities and 27% on the ward among patients with neoplastic disease.

**Discussion**

There has been a change in the indication for tracheotomy over the past two decades. Performing tracheostomy for inflammatory conditions such as epiglotitis and laryngotraechobronchitis (CROUP) has been on the decline following the development of better technology in anesthetic equipment and safer techniques of endotracheal intubation. The incidence of infectious diseases has also declined on account of the availability of potent vaccines for immunization. The prevalent indication would depend on the prevalent health challenges in the particular region of the world. Relief of UAO is one of the traditional indications for tracheostomy. It was the major indication for tracheostomy in 65.8% of cases in this review. This agrees with patterns from other parts of Nigeria.

Tracheostomy remains a life-saving surgical procedure commonly performed in critically ill patients worldwide. It is performed on all age group depending on the indication. In our review, the procedure was done among all age group with the youngest being 1yr and the oldest being 89yrs, and males were more affected than females which is similar to findings in the literature by other workers. Tracheostomy was found to be higher among economically males from an anecdotal evidence of increased susceptibility to head injury from road traffic crash which may necessitate ICU admission, prolonged intubation with assisted ventilation.

The most common indication for tracheostomy in our series was UAO secondary to tumors and the most common tumor...
was laryngeal tumor.\cite{23} UAO secondary to laryngeal carcinoma and other neck malignancies were the main indications for tracheostomy in the 6th–8th decade of life in our series. In our experience, all cases with laryngeal carcinoma and other neck malignancies present late in severe respiratory distress and so an emergency tracheostomy was always performed to relieve the UAO even before confirming the diagnosis. Higher incidence of laryngeal carcinoma in our series may also support previous report of increase in the incidence of laryngeal cancer in our society.\cite{26} This was followed by UAO due to traumatic causes which is at variance with report from Tanzania that found trauma to be the most common indication but similar to report from the western and eastern part of Nigeria.\cite{27,28} These variations between series might be due to different patient populations, socioeconomic, and sociocultural difference.

Trauma to the head and neck was the leading indications in the 3rd–4th decade of life in our series.\cite{25} This is the economically active age and portrays an economic loss both to the family and the nation and the reason for their high incidence of head and neck injuries reflects their high activity levels and participation in high-risk activities. The fact that the economically productive age group were mostly involved calls for an urgent public policy response. Interestingly, majority of these injuries were from road traffic crashes, Ilorin being strategically located between the North and the Southern states has high traffic movement and other likely contributory factors are bad roads and human errors. The most common indication recorded in the 1st decade of life in our study was UAO primarily from vegetative foreign bodies such as fishbone as previously documented\cite{27,28} which necessitated emergency tracheostomy as these patients presented in respiratory distress which necessitated emergency tracheostomy as these patients presented in respiratory distress as shown in other studies.\cite{23,25,27,28} This may not be unrelated to several factors such as parental education and awareness of hazards and necessary safety precautions which was not evaluated in this study. In addition, young infants tend to explore their body orifices such as the oral cavity. This is at variance with other studies carried out both in northern Nigeria and in Tanzania.\cite{23,29}

The surgical technique employed in all our patients was the transverse skin crease incision in the operating room. This is the method preferred by us whether it is an emergency or an elective tracheostomy because of the advantage of a better cosmetic result though, the vertical incision has the advantage of cosmetic result though, the vertical incision has the advantage

![Table 3: Indication for the tracheostomy](image-url)

| Indications (UAO)                       | Frequency | Total (%) |
|----------------------------------------|-----------|-----------|
| Tumors                                 | Male (%)  | Female (%)| Total (%) |
| Burkitt lymphoma with UAO              | 16 (21.1) | 10 (13.2) | 26 (34.2) |
| Hypopharyngeal tumor with UAO          | 1 (1.3)   | -         | -         |
| Laryngeal tumor with UAO               | 11 (14.5) | 6 (7.9)   | 17 (22.4) |
| Recurrent respiratory papillomatosis   | 1 (1.3)   | 1 (1.3)   | 2 (2.6)   |
| Tongue tumor with UAO                  | 1 (1.3)   | 1 (1.3)   | 2 (2.6)   |
| Oropharyngeal tumor with UAO           | 1 (1.3)   | 2 (2.6)   | 3 (4.0)   |
| Ventilatory support/toiletting         | 15 (19.7) | 7 (9.2)   | 22 (29)   |
| Prolonged Intubation                   | 15 (19.7) | 7 (9.2)   | 22 (29)   |
| Acute UAO secondary to blunt laryngeal trauma | 5 (6.6) | 1 (1.3)   | 6 (7.9)   |
| Cutthroat injury                       | 1 (1.3)   | -         | -         |
| Severe head injury with UAO            | -         | 3 (4)     | 3 (4)     |
| Penetrating neck injury with UAO       | 1 (1.3)   | -         | -         |
| Foreign body in aerodigestive tract with UAO | 5 (6.6) | 4 (5.3)   | 9 (12)    |
| Infection                              | 2 (2.6)   | 2 (2.6)   | 4 (5.3)   |
| Retropharyngeal abscess                | 1 (1.3)   | 1 (1.3)   | 2 (2.6)   |
| Tetanus infection                      | 1 (1.3)   | 1 (1.3)   | 2 (2.6)   |
| Others                                 | -         | 3 (4)     | 3 (4)     |
| Postthyroidectomy UAO due to recurrent laryngeal nerve palsy | - | 1 (1.3) | - |
| Huge goiter with difficult intubation   | -         | 2 (2.6)   | -         |
| Total                                  | 48 (63.2) | 28 (36.8) | 76 (100)  |

UAO=Upper airway obstruction

![Table 4: Cross tabulation of age with diagnosis](image-url)

| Diagnosis (age of patients) (years) | Trauma from blunt laryngeal injury | Infection | Foreign body in the airway | Tumor | Head injury | Prolong intubation | Total |
|-------------------------------------|-----------------------------------|-----------|---------------------------|------|-------------|-------------------|-------|
| 1-10                                | 1 (1.3)                           | 2 (2.6)   | 8 (10.5)                  | 2 (2.6)| 1 (1.3)     | 2 (2.6)           | 14 (18.4) |
| 11-20                               | -                                 | -         | 1 (1.3)                   | 1 (1.3)| -           | 2 (2.6)           | 4 (5.3)   |
| 21-30                               | 1 (1.3)                           | 1 (1.3)   | -                         | 1 (1.3)| -           | 4 (5.3)           | 12 (15.8) |
| 31-40                               | 5 (6.6)                           | 1 (1.3)   | -                         | 2 (2.6)| -           | 4 (5.3)           | 8 (10.5)  |
| 41-50                               | 4 (5.3)                           | -         | -                         | 1 (1.3)| -           | 3 (4.0)           | 8 (10.5)  |
| 51-60                               | 1 (1.3)                           | -         | 11 (14.5)                 | -    | 8 (10.5)    | 20 (26.3)         |       |
| 61-70                               | -                                 | -         | 9 (11.8)                  | -    | 3 (4.0)     | 12 (15.8)         |       |
| 71-80                               | -                                 | -         | -                         | -    | -           | -                 |       |
| 81-90                               | -                                 | -         | 1 (1.3)                   | -    | 1 (1.3)     | 2 (2.6)           |       |
| Total                               | 12 (15.8)                         | 4 (5.3)   | 9 (11.8)                  | 28 (36.8)| 1 (1.3)    | 22 (29)          | 76 (100) |

This was followed by UAO due to traumatic causes which is at variance with report from Tanzania that found trauma to be the most common indication but similar to report from the western and eastern part of Nigeria.\cite{27,28} These variations between series might be due to different patient populations, socioeconomic, and sociocultural difference.
of running in the line of the trachea, and it is easy to perform and less vascular. The transverse method is the preferred reported method used in Nigeria based on the author’s knowledge. The presence of postoperative complications has an impact on the outcome of tracheostomies. The rate of postoperative complication in our study was 15%, which is lower than what was reported by others. However, much higher complication rates have been reported from other centers in Nigeria. In other studies, complication rates of between 6% and 66% have been quoted. The reason for low rate of complications following tracheostomy in our study may be because the majority of tracheostomy was done by the ENT surgeons compared to study in another part of the world with higher rate because the procedure was handled by nonspecialist. Posttracheostomy complication rates were found to be significantly higher in emergency tracheostomy than in elective one, which is comparable to other studies done elsewhere. This observation is at variance with one report which reported elective tracheostomy as the most frequent performed procedure. Complication rates related to tracheostomy was also significantly higher in children aged 10 years and below than in adult patients in our study which is in agreement with other studies. High complication rate in patients who had emergency tracheostomy can be explained by the fact that the majority of patients with UAO presented late to the accident and emergency department in severe respiratory obstruction and so emergency tracheostomy was always a rule. High rate of complication among children aged 10 years and below is attributed to the fact that tracheostomy in children is challenging and technically more difficult due to small caliber of their larynx and trachea as well as the soft consistency, compared to that of an adult. It, therefore, carries higher postoperative complication rate when compared to the adult population. However, in comparative analysis of Traditional tracheostomy and PDT a prospective randomized trial reported by Hazard et al., showed that traditional tracheostomies were associated with a least one complication in 58% (14/24), compared with 25% (6/24) in the PDT group. In addition, in a prospective-nonrandomized study reported by Griggs et al., 18.9% (14/74) of the traditional tracheostomies were associated with complications compared with 3.9% (6/153) of the one stage PDT. The lower incidence of complications in the percutaneous tracheostomy group in their study was due largely to a lower incidence of wound infection and wound breakdown associated with the smaller tracheal stoma being a minimal access procedure in PDT. In the present study, suprastomal granulation tissue and subcutaneous emphysema were found to be the most common surgical complications of tracheostomy in our series. This was at variance with report from southwestern part of Nigeria. In addition, notable complication among the pediatric age group was difficult decannulation, which may be associated with physiological dependence on the easy tracheal stoma for respiration which was difficult to change.

Patients with tracheostomy in our environment faced many other social complications which included reluctance of the family members to accept them, Problems of social integration, rehabilitation of professional use of voice, scarcity of the tracheostomy tube with speaking valve as well as poor social support are some of the factors identified by Akenroye and Osukoya in their studies done in southwestern Nigeria. Complication rates associated with tracheostomy can be prevented by good surgical technique and meticulous postoperative care. Suprastomal granulation tissue is a notable late complication of tracheostomy that can be prevented with good surgical technique, sparing the cricoid cartilage during dissection. High volume low pressure endotracheal tube should be used for intubation and repeated intubation should also be avoided, thus, the need for experienced hand in intubation of head injured is advocated to prevent granulation process. In addition, cuffed orotracheal intubation for more than a week in unconscious and tetanus patients should be avoided.

The overall mortality recorded in our series was 15%, and these were from underlying diseases and the majority from those on prolongs intubation in the ICU of the hospital. There was no mortality attributed to tracheostomy in this present review reflecting significant improvements not only in the skill of placing a tracheostomy but also in the postoperative management of these patients in our hospital. The overall median duration of hospital stay in the present study was 22 ± 3 days, which is higher when compared with the studies from western Nigeria and the developed nation. The reasons for the longer duration of hospital stay may be attributed to the underlying disease that necessitated the tracheostomy and presence of postoperative complications.

Tracheostomy as earlier stated is a life-saving procedure, but is not psychosocially acceptable in our society because of the difficulty with phonation and the stigma associated with it by some uninformed people as well as poor socioeconomic conditions in our setting. Therefore, most patients with temporary tracheostomy desire decannulation before being discharged into the community from the hospital. This might have contributed to longer duration of hospital stay in this study with an increased cost of hospital care.

**Conclusion**

Surgical tracheostomy is still a life-saving procedure, UAO secondary to laryngeal tumors and trauma were the common indications for tracheostomy in our center, more common among patients

### Table 5: Complication observed (n=15)

| Complications         | Frequency (%) |
|-----------------------|---------------|
| Subcutaneous emphysema| 4 (26.7)      |
| Suprastomal granulation| 3 (20)        |
| Bleeding              | 2 (13.3)      |
| Accidental decannulation| 2 (13.3)   |
| Tracheal stenosis      | 2 (13.3)      |
| Tracheostomy tube blockage| 1 (6.7)  |
| Difficult decannulation| 1 (6.7)      |
| Total                 | 15 (100)      |
males, emergency type still most common and its complication is still high among the under tens’. Most complications related to tracheostomy can be avoided by meticulous surgical technique, careful intubation, and postoperative tracheostomy care by skilled and trained specialist.

**Summary**

Tracheostomy is a life-saving procedure aimed at establishing an alternative airway between the anterior wall of the neck and trachea maintained with a tube. There is paucity of information in our local setting regarding the subject. We highlight our experiences with tracheostomy in Ilorin North Central Nigeria outlining:

- The common indications and timing of tracheostomy
- Technique of tracheostomy and anesthetic route
- Duration of hospital stay, complications, and outcome of patients with tracheostomy.

**Strength and limitations**

- Tracheostomy is a common ENT surgical emergency done worldwide by all practitioners; being a retrospective study we were unable to know the category of the surgeon to correlate with the complication and duration of hospital stay and inability to find out the reason why decannulation was difficult in some of the patients

In addition, to know the type of tracheostomy tube used as well as duration of the procedure and postoperative tracheostomy cares. This will be useful in the future prospective study

- Most of complications related to tracheostomy can be avoidable by meticulous surgical technique, careful intubation, and most mortality are due to the underlying disease.

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**Conflicts of interest**

There are no conflicts of interest.

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