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In regard to head and neck oncology surgery, percutaneous tracheostomy how covid-19 impacted our approach

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AUTHORS' CONTRIBUTION: (A) Study Design · **(B)** Data Collection . **(C)** Statistical Analysis · **(D)** Data Interpretation · **(E)** Manuscript Preparation · **(F)** Literature Search · **(G)** No Fund Collection

ABSTRACT

Changes to the airway management procedure for patients undergoing major head and neck reconstructive surgery in our department were brought about by improved expertise with performing percutaneous tracheostomies during the COVID-19 epidemic. In place of the formerly preferred surgical tracheostomy, the majority of patients now undergo a percutaneous tracheostomy. This study's objective was to assess our experience with percutaneous tracheostomies while contrasting complication rates with those of surgical tracheostomies carried out in comparable circumstances. Between June 2020 and November 2021, all consecutive patients undergoing free flap reconstructive surgery for head and neck cancer were included, with 56 of them receiving a percutaneous tracheostomy. Age, BMI, concomitant conditions, complications, and data from 56 surgical tracheostomies performed on the same patients before the COVID-19 epidemic were also compared. Adjustments in protocol that follow the rate of complications were slightly lower in the percutaneous group (28.57% vs. 30.35%) than in the surgical tracheostomy group. Based on the analysis of the 16 patients in the percutaneous group who had issues, selection criteria for future percutaneous tracheostomy recipients were developed. These criteria take into account things like BMI, bleeding risk, and placement deformities. The COVID-19 epidemic has provided healthcare workers with a wealth of learning opportunities that will impact the way we practise. In our unit, this has required changing the standard tracheostomy technique used for intraoperative and postoperative airway care in major head and neck reconstruction surgery.

Keywords: Tracheostomy; Cancer; Head and neck; Free flap reconstruction; Covid-19

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INTRODUCTION

The Covid-19 pandemic has changed the NHS significantly. Its substantial impact has affected all branches of community and hospital medicine and such changes are likely to last for years to come [1]. During the first wave of the pandemic, it was estimated that 10–17% of patients infected with the coronavirus 2 (SARS-CoV-2) were admitted to the intensive care units (ICU) and some required tracheotomy procedures as part of their treatment to facilitate weaning from mechanical ventilation. Percutaneous tracheostomy is a safe and widely performed procedure by ICU specialists [2]. During the first and the second waves of the Covid-19 pandemic, a multidisciplinary COVID-19 airway team at the Queen Elizabeth Hospital Birmingham, which included head and neck surgeons, gained enhanced experience in performing the percutaneous tracheostomy procedures. These new skills have led to changes in our protocol of managing the elective airway in head and neck cancer operations where the standard practice in our unit was to use surgical tracheostomies for most free-flap reconstructions [3]. Airway management is crucial for patients undergoing maxillofacial oncological operations and remains a debatable topic [4]. The two current philosophies are either overnight ventilation followed by extubation when it is clinically safe or the use of temporary surgical tracheostomies [5]. Marsh et al. undertook a national survey on the postoperative care for free flap head and neck reconstructive surgery and showed that the routine use of a tracheostomy was common, observed in 69% of cases [6]. The primary aim of the study is to review our experience in performing percutaneous tracheostomies for major head & neck reconstruction patients and to assess the short-term complication rates in comparison with surgical tracheostomies performed in the same settings [7]. The secondary aim is to propose selection criteria for identification of appropriate patients for percutaneous tracheostomies. In this study, 124 patients' medical records were examined who underwent tracheostomy procedures at University Hospitals Birmingham's Department of Oral and Maxillofacial Surgery as a part of their surgical head and neck cancer treatment [8].

DISCUSSION

All consecutive patients receiving free flap reconstruction between June 2020 and November 2021 whose surgical plan included percutaneous tracheostomy for elective airway management both peril- and post-operatively were included in the prospective arm [9]. Similar numbers of patients who underwent surgical tracheostomies in the

"pre-Covid" era were included in the retrospective arm [10]. All patients with an oral cancer diagnosis and a planned resection with free flap repair met the inclusion criteria. Surgery for minor lateral head and neck abnormalities that wouldn't otherwise require a tracheostomy was one of the exclusion criteria. Data gathered on a variety of Age, BMI, comorbidities, surgery specifics, Dec annulation duration, and perioperative and short-term post-operative problems are just a few examples of the many variables. Short-term issues were those that surfaced within two weeks of the original tracheostomy operation. Throughout the course of the trial, the percutaneous dilatational tracheostomy was performed according to the following standard approach, which is described below: Following the induction of anaesthesia, this procedure is completed in the anaesthetic room. We frequently employed the TRACOE to carry out a PDT. The important anatomical structures in the neck are identified similarly to how a surgical tracheostomy is often marked. In order to direct vision of the PDT insertion, an endoscope is placed through the endotracheal tube. In between the first and second, an introducer needle is placed. Changes to the airway management procedure for patients undergoing major head and neck reconstructive surgery in our department were brought about by improved expertise with performing percutaneous tracheostomies during the COVID-19 epidemic. In place of the formerly preferred surgical tracheostomy, the majority of patients now undergo a percutaneous tracheostomy. ‘

CONCLUSION

This study's objective was to assess our experience with percutaneous tracheostomies while contrasting complication rates with those of surgical tracheostomies carried out in comparable circumstances. Between June 2020 and November 2021, all consecutive patients undergoing free flap reconstructive surgery for head and neck cancer were included, with 56 of them receiving a percutaneous tracheostomy. Age, BMI, concomitant conditions, complications, and data from 56 surgical tracheostomies performed on the same patients before the COVID-19 epidemic were also compared. Adjustments in protocol that follow. The rate of complications was slightly lower in the percutaneous group (28.57% vs. 30.35%) than in the surgical tracheostomy group. Based on the analysis of the 16 patients in the percutaneous group who had issues, selection criteria for future percutaneous tracheostomy recipients were developed. These criteria take into account things like BMI, bleeding risk, and placement deformities. The COVID-19 epidemic has provided healthcare workers with a wealth of learning opportunities that will impact the way we practise. This has required altering the standard tracheostomy technique used for intraoperative and postoperative airway care in major head and neck reconstruction surgery in our unit. Reviewing our experience doing percutaneous tracheostomies for patients undergoing significant head and neck reconstruction is the main goal of the study, as is comparing the short-term complication rates to those of surgical tracheostomies carried out in the same situations. The secondary goal is to suggest criteria for choosing patients who are suitable candidates for percutaneous tracheostomies. In this study, 124 patients' medical records were examined who underwent tracheostomy procedures at University Hospitals Birmingham's Department of Oral and Maxillofacial Surgery as a part of their surgical head and neck cancer treatment. All consecutive patients receiving free flap reconstruction between June 2020 and November 2021 whose surgical plan included percutaneous tracheostomy for elective airway management both peri- and post-operatively were included in the prospective arm. In the retroactive arm, there were in the "pre-Covid" era, a comparable number of individuals underwent surgical tracheostomies. All patients with an oral cancer diagnosis and a planned resection with free flap repair met the inclusion criteria. Surgery for minor lateral head and neck abnormalities that wouldn't otherwise require a tracheostomy was one of the exclusion criteria. Age, BMI, comorbidities, surgery specifics, DE cannulation time, and perioperative and short-term post-operative problems are only a few of the many factors that were collected. Short-term issues were those that surfaced within two weeks of the original tracheostomy operation.

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