

# Evaluation of the Ambu aScope2 in eight patients with anticipated difficult airways having awake fibre-optic intubations.

Guy's and St Thomas' NHS Foundation Trust



V Vincent B, M Raval, C Ong, I Ahmad

Guys and St Thomas Hospital NHS Trust, London, UK.

## Introduction

- Fibre optic assisted tracheal intubation by the oral or nasal route is the recommended technique of management of an anticipated difficult airway[1].
- Ambu aScope 2 is a single use flexible scope designed to aid tracheal intubation.
- The advantages of this device over the previous model, aScope, are clearLens design and an extended usage time of eight hours.
- The use of this device in patients with difficult airway has not been reported yet.
- We report our experience with Ambu aScope 2 in anticipated difficult airway in eight patients.

## Methods

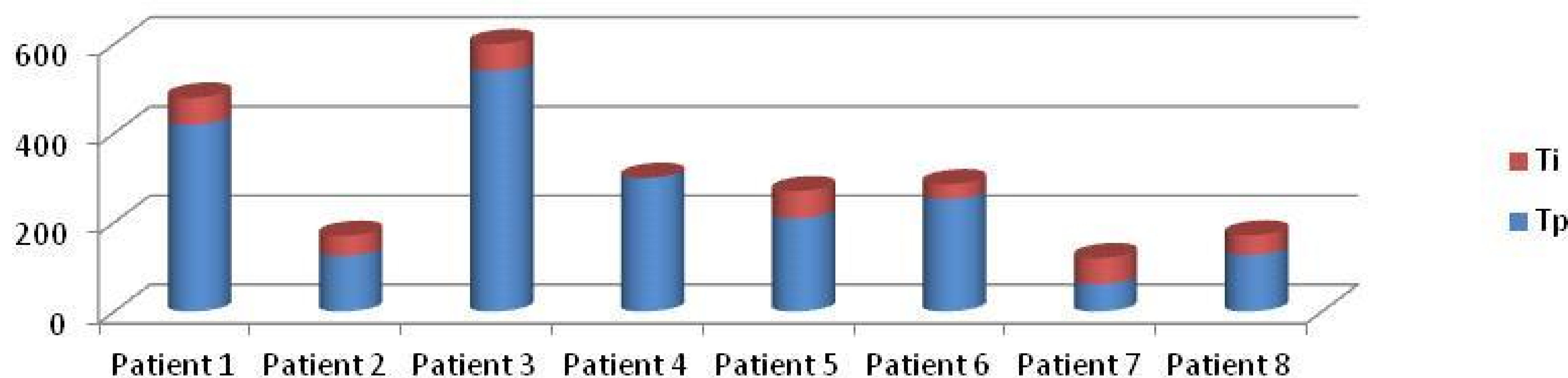
- Adult patients for elective ENT and maxillofacial surgeries with anticipated difficult airway were included.
- Airway was assessed by modified Mallampatti score, mouth opening, neck movement and jaw protrusion before making a decision on awake fibreoptic intubation.
- Three Consultant anaesthetists with special interest in difficult airway management used the Ambu aScope 2 to aid tracheal intubation.
- Intubation success and time for scope position were the primary endpoints.
- Verbal Rating Scores on the performance of the device and fatigability by the operator, were also recorded.



## Results

- All eight patients [mean BMI of 23.75 (17 - 35)] were intubated awake using Ambu aScope 2 successfully, six out of eight (75%) were intubated in the first attempt and the other two in the second attempt. Seven out of eight patients were intubated by the nasal route and one orally. Seven patients received sedation in addition to the local anaesthetic topicalisation. The mean time to visualize the carina (Tp) was 254.5 s (62 - 540 s) and the mean time for confirming position of the tube in the trachea after visualizing carina (Ti) was 51.5 s (44 - 60 s).
- Six of the eight uses reported excellent view of anatomical land marks, two uses reported the view as poor, but sufficient for intubating the trachea. The mean score for manoeuvrability was 6.8 (range 3 -9). During one use the scope could not be removed from the endotracheal tube, but could be removed very easily after the other seven uses. The mean score for the usefulness of the scope was 7.4 (3 -10)

Time for scope position(Tp) and Time for intubation(Ti) in seconds



## Discussion

- Our clinical experience shows that this single use flexible scope could be used to facilitate tracheal intubation in anticipated difficult airways. Ambu aScope 2 has many advantages over the reusable fibre scope. This lightweight portable equipment is disposable and hence avoids any biological risk of disease transmission[1].
- We did not have to interrupt the use of the flexible scope to clear the tip of secretions in any of our cases. The users reported no fatigability while using the scope, and the light weight allows the operator to railroad the tube easily without the help of an assistant.
- The lower picture resolution and acuity of the scope did not limit the identification of the anatomical landmarks to enable tracheal intubation[2].
- The limitations we found were the absence of a suction port and that scope is too large to be used with an Aintree catheter.
- We conclude Ambu aScope 2 is a useful alternative to aid tracheal intubation in anticipated difficult airways and suggest this always ready to go equipment could have a place on the difficult airway trolley.

### Reference.

1. E. Pujol, A. M. Lopez and R. Valero. Use of the Ambu aScopeTM in 10 patients with predicted difficult intubation. Anaesthesia, 2010, 65, 1037-1040
2. T.Piepho, C Werner, RR Noppens. Evaluation of the novel, single use flexible aScope for tracheal intubation in the simulated difficult airway and first clinical experiences. Anaesthesia 2010, 65, 820-25