

Introduction

Sore throat is a common source of patient pain affecting patient satisfaction after surgery. Less is known about the incidence or impact of vocal changes after surgery. The incidence of sore throat after general anesthesia is well described with rates of up to 50%.^{1,2} Several studies have described hoarseness after endotracheal intubation,^{3,4} however little is known about hoarseness with other airway techniques. Little is known about loss of voice.

We retrospectively analyzed an outpatient surgery dataset to explore vocal changes after general anesthetics.

Methods

The study was approved by the University of Utah IRB.

Design: Retrospective EMR review

Outpatient surgical cases at the University of Utah routinely receive a Nursing follow up call on POD 1. The questions; 1) Do you have hoarseness? 2) Did you have a loss of voice? were asked at that time. We performed a retrospective data analysis including all outpatient surgery call back notes and corresponding airway note from our EMR. These cases were analyzed for reported hoarseness and loss of voice for different airway management techniques as well as for temporal variation. Any patient who had an outpatient surgery was included. 18905 cases met our inclusion criteria.

Results

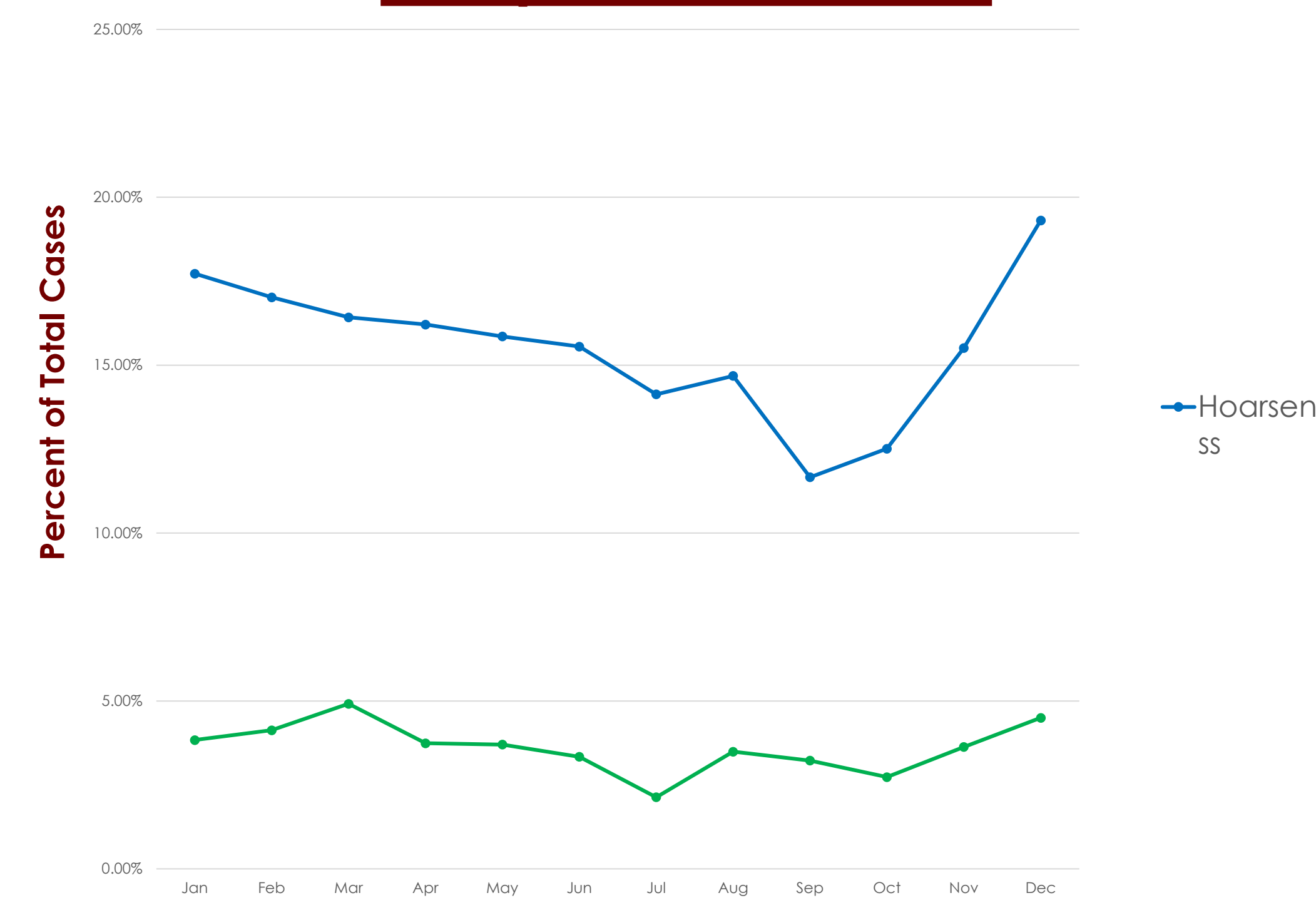
Table 1. Number of airways managed by technique.

Airway Management	Number
Any Surgery	18905
ETT	12944
LMA	4947
Direct Laryngoscopy	7135
Video Laryngoscopy	1231
Light Wand	39
Fiberoptic Scope	24
MAC	290

Table 2. Hoarseness and loss of voice for different airway techniques.

	%Hoarseness	%Loss of Voice
Any Surgery	12.54%	2.67%
ETT	15.02%	3.04%
LMA	6.45%	1.60%
Direct Laryngoscopy	14.85%	2.80%
Video Laryngoscopy	16.57%	3.33%
Light Wand	25.64%	10.26%
Fiberoptic Scope	19.65%	3.28%
MAC	3.44%	1.03%

Temporal Variation



Conclusions

Patient reported hoarseness and loss of voice are common after general anesthetics for outpatient surgeries across a wide variety of airway management techniques. Hoarseness occurs at a higher rate than loss of voice for all forms of airway management studied. Further studies are needed to understand the incidence and mechanisms of vocal changes. We find evidence of vocal changes with LMA interesting as it is described as a 'supraglottic airway' technique which in theory, has little contact with the vocal cords themselves. The high rates of hoarseness and loss of voice with the use of a light wand warrants further study. Some temporal variation exists, with an uptrend of the rates of both hoarseness and loss of voice between the months of October through December. Caution should be used in drawing conclusions from this data as it is retrospective from a single institution.

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Disclosures

The authors have no conflicts of interest.

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