

Crossover Assessment of the Ambu Aura Gain, LMA Supreme New Cuff and Intersurgical i-Gel in Fresh Cadavers

Background:

The Ambu Aura Gain is a new single use supraglottic airway device with gastric channel designed to facilitate intubation. The aim of this pre-clinical study was to assess the anatomic fit and performance of the Aura Gain in fresh cadavers compared to that of the Intersurgical i-gel and LMA Supreme New Cuff.

Methods:

The three devices were inserted in random order in seven fresh cadavers without difficult airway criteria. The assessed items were: Time, number of attempts and ease of insertion, airway seal pressure, ease of gastric tube insertion, endoscopic view of vocal cords, efficacy of guided tracheal intubation through the Aura Gain and i-gel, and anatomic fit by lateral X-ray and neck dissections.

Results:

Data is shown in table 1. Insertion was successful for all devices within three attempts, except for one case of the LMA Supreme. Adjusting manoeuvres were often required to accomplish correct insertion in all three devices. The reason was a resistance detected at different levels: palato-pharyngeal curve for the Aura Gain, base of the tongue for the i-gel and arytenoids for LMA Supreme. Lateral X-ray and neck dissections confirmed optimal alignment of all devices with the respiratory and digestive tracts.

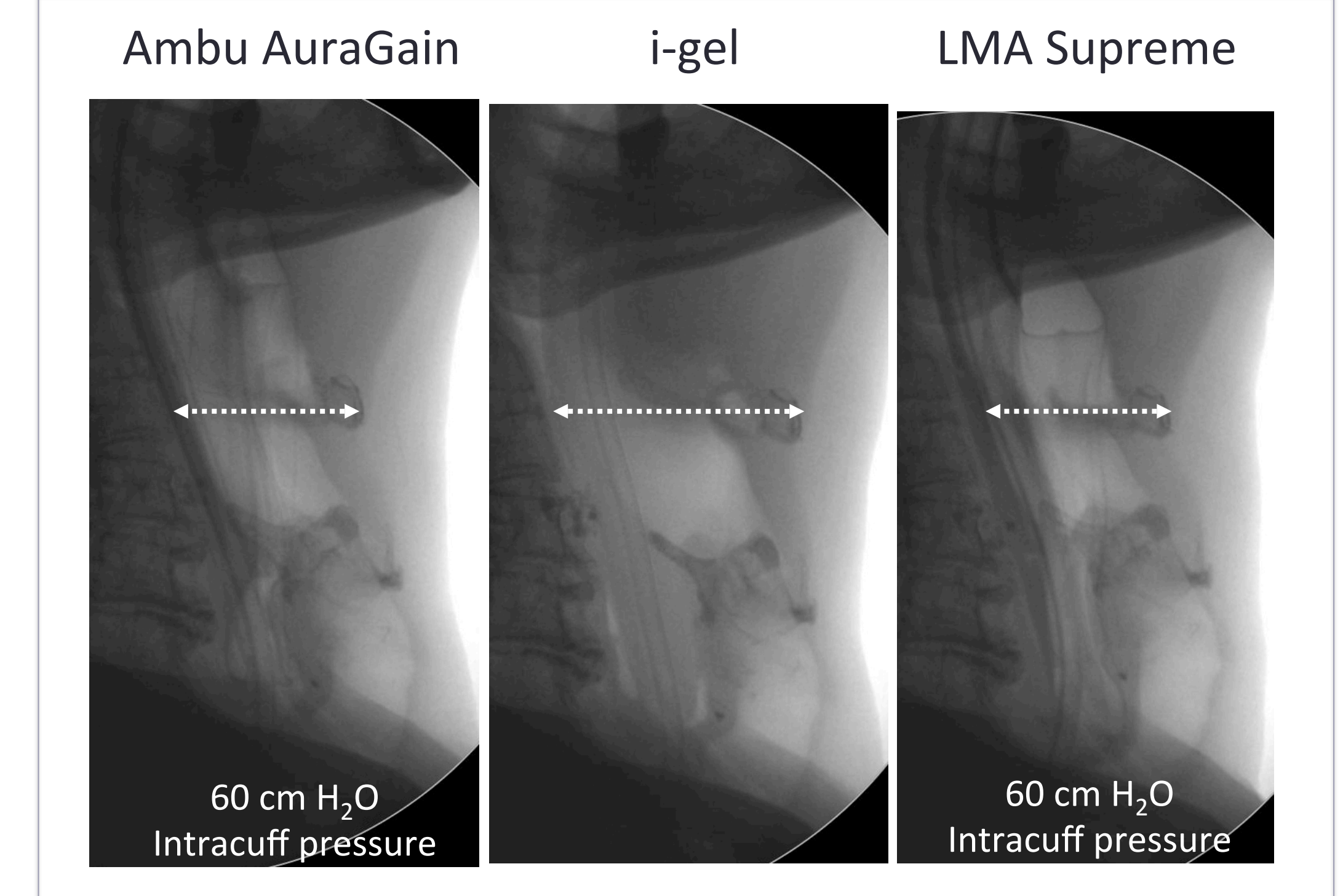
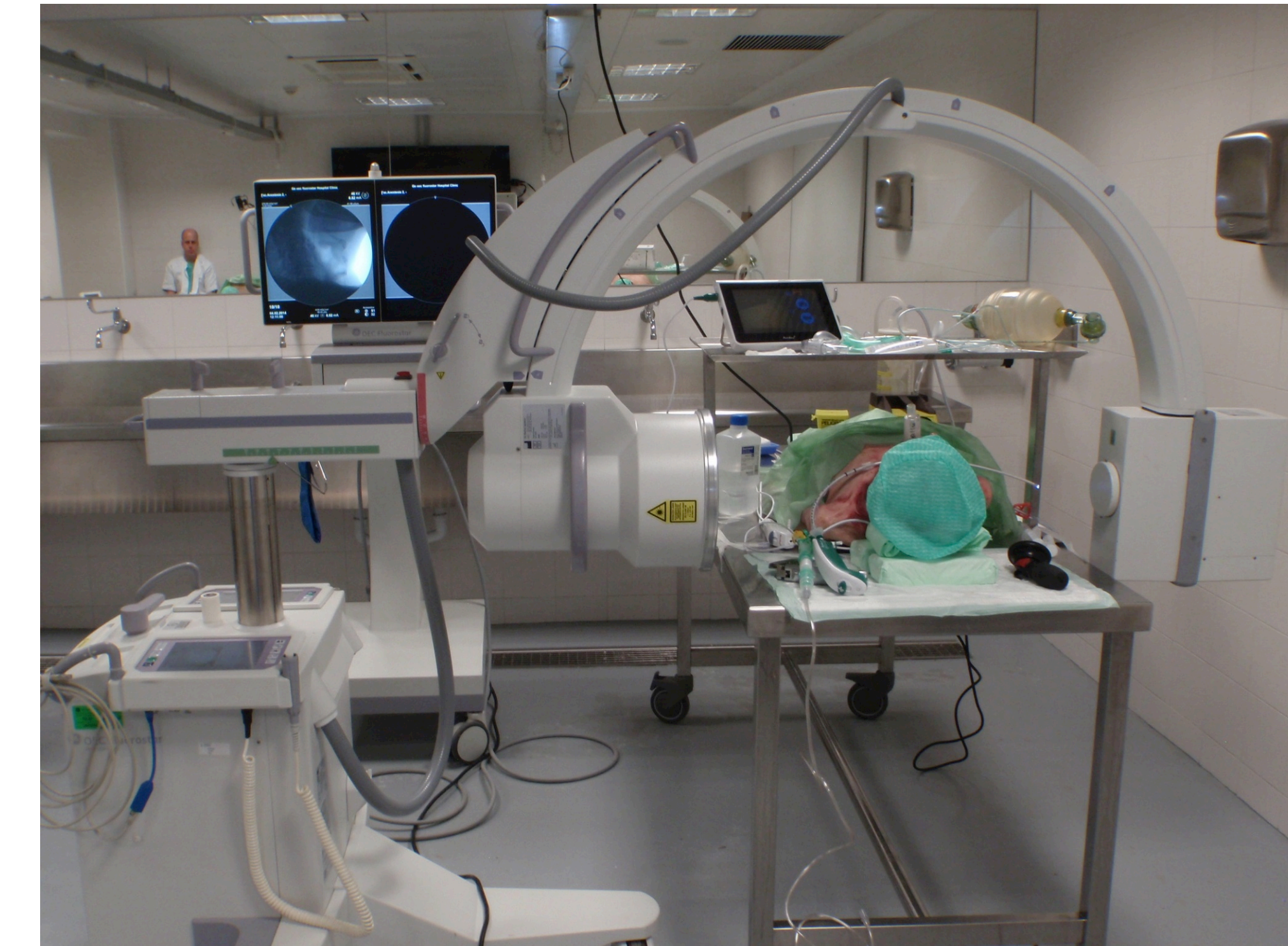
Conclusions:

The results of this preliminary study suggest that the new Ambu Aura Gain is comparable to the i-gel and LMA Supreme in terms of ease of insertion and the airway seal pressure achieved. In addition, the Aura Gain allowed an easy passage of a large bore gastric tube similarly to the LMA Supreme, and was as efficient to facilitate intubation as the i-Gel. These preliminary features require confirmation by clinical studies.

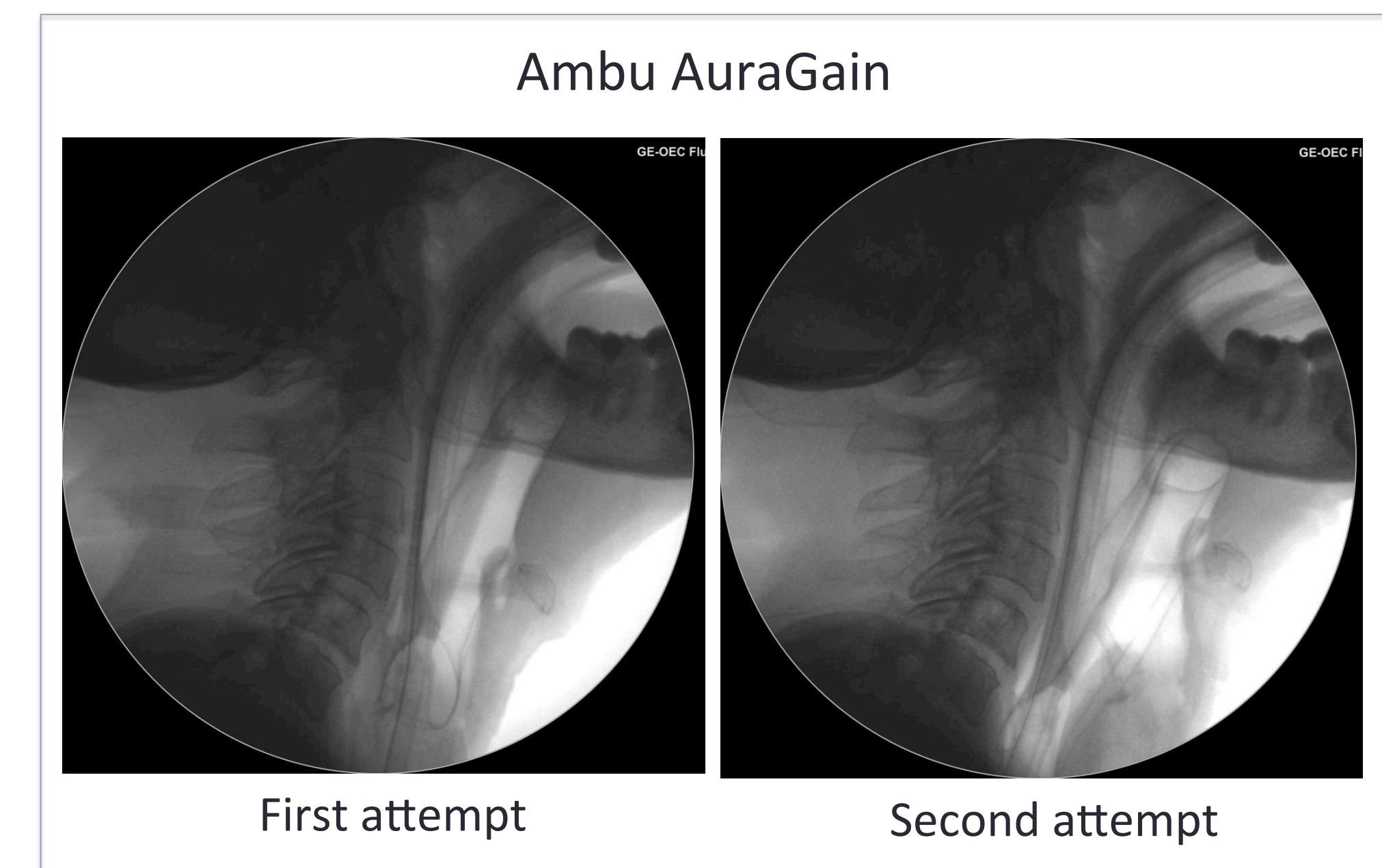


INTUBATION		Tracheal Tube Size (mm)	
SGA size	5	4	3
	8	7.5	6.5

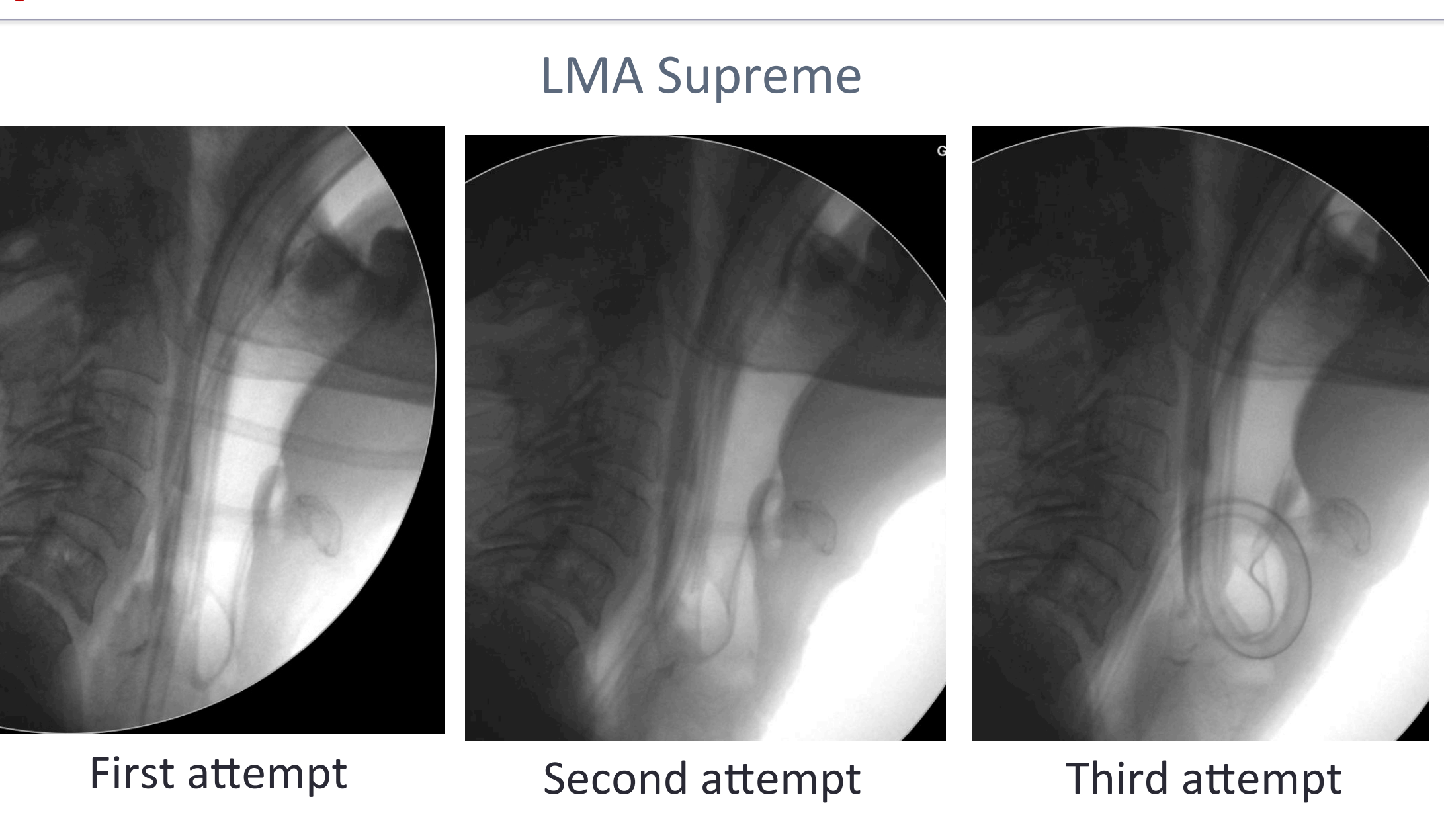
		Aura Gain		I-gel		LMA Supreme	
INSERTION	Size 3 / Size 4 / Size 5	3 / 2 / 2		3 / 2 / 2		3 / 2 / 2	
	Time (s)	14 (14)		17 (20)		16 (18)	
	Nº attempts	5		6		5	
	• 1	1		-		-	
	• 2	1		1		2	
• 3							
Qualitative assessment	3		4		2		
• Easy	4		3		4		
• Manoeuvres					1		
• Impossible							
GASTRIC TUBE INSERTION	Tube size (G)	16	14	14	12	16	14
	Time (s)	5 (3)	8 (7)	12 (10)	12 (4)	6 (2)	5 (4)
	Qualitative assessment	7		2		1	
	• Easy	-		2		-	
• Acceptable	-		-		-		
• Impossible	-		-		-		
ANATOMIC FIT	Seal pressure (cm H ₂ O)	25 (8)		26 (8)		23 (4)	
	FBS view	6		6		Only size 4, 5	
	• Complete vocal cords	1		1		3	
• Epiglottis + vocal cords					1		
INTUBATION	Intubation time (s)	30 (12)		27 (6)		NA	
	Qualitative assessment	6		6		NA	
	• Easy	1		1		-	
• Acceptable	-		-		-		
• Impossible							



Incorrect positions



Size 5 Cuff



Neck dissections

