Allurion® Gastric Balloon Experience: A Focused Comparative Analysis on One versus Sequential Balloons

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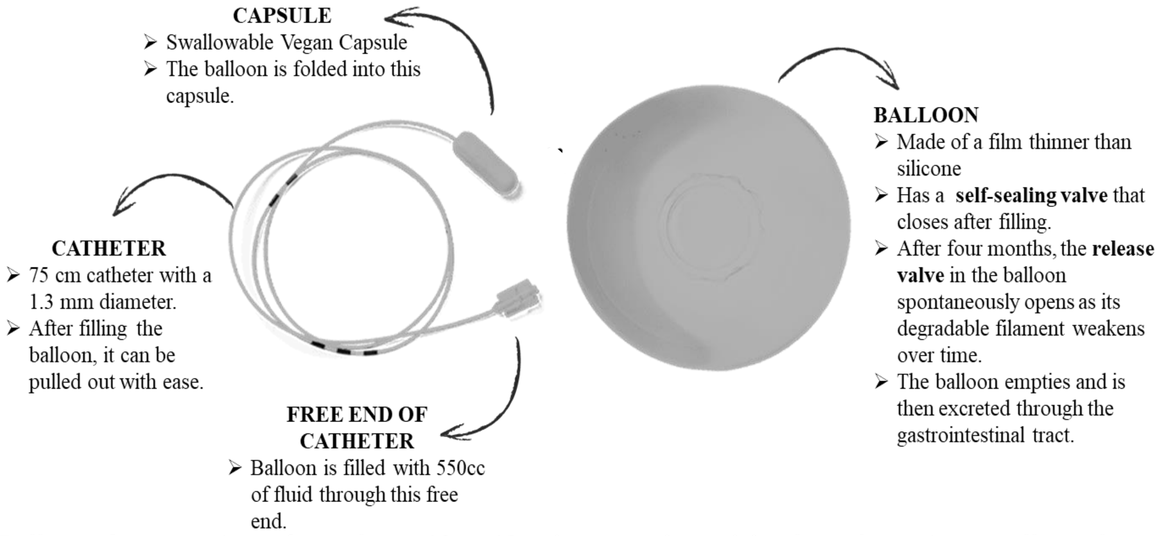
Holyoke Medical Center

EMERGING TECHNOLOGY

BACKGROUND

- Allurion® Gastric Balloon is a new, innovative and non-invasive option for weight loss without need of endoscopic procedures/anesthesia during placement or removal.
- There is no literature on the sequential use of this balloon.
- **Aim:** To compare the outcomes and effects on weight loss using one balloon (O) versus sequential balloons (SB).

ALLURION® GASTRIC BALLOON SYSTEM



Balloon placement is performed as a **10 to 12-min outpatient visit** where the patient swallows the capsule with the attached catheter. The position of the balloon is confirmed by an **X-ray** after filling.

METHODS

- Data were collected from **232** patients in a single center between 2016 and 2022.
- **Outcomes**: Weight loss and mean %TBWL at 4,8,12,16,24,52 weeks, premature extractions, inability to place balloons, follow-up rates, and complications.
- Patients who had poor weight loss with O were given SBs.

RESULTS (N=232)

Age (years)	42.6 ± 10.3
Baseline BMI (kg/m^2)	37.6 ± 7.2
Time to balloon passage (days)	119.6 ± 12.1
Premature balloon extractions	3.4% (n=8)
Inability to place the balloon	0.4% (n=1)
Patients requiring repeat balloons (SB group)	8.62% (n=20)

Mean %TBWL at 4 weeks	8.2%
Mean %TBWL at 8 weeks	11.5%
Mean %TBWL at 12 weeks	13.9%
Mean %TBWL at 16 weeks	15.9%
Mean %TBWL at 20 weeks	18.1%
Mean %TBWL at 24 weeks	18.4%
Mean %TBWL at 52 weeks	17%

	O group (n=212/232)	SB group(n=20/232)	p- value
Age (years)	42.5	44	NS
Initial BMI (kg/m^2)	37.96	34.65	NS
Complications (n)	0% (0)	5.0% (1/20)	NS
Premature removal	3.3% (7/212)	10% (2/20)	NS
Lost follow-up <8wks	4.7% (10/212)	15% (3/20)	NS
16wk %TBWL after 1st balloon	16.3	11.1	**0.003**
Cumulative 16wk %TBWL	16.3	16.7	NS

Age, gender, initial BMI, time between PB and SB_1, and % weight regain between balloons had no independent effect on cumulative %TBWL.

% TBWL comparison per balloon at 16-weeks

Sequential Balloons(SB)	%TBWL after 1st balloon (FB)	%TBWL after SB_1	%TBWL after SB_2	p-value
2 (N=16)	15.37 %	10.07 %	-	**0.0007**
3 (N=2)	13.35 %	13.72 %	9.5 %	Too few data

%TBWL comparison of 1st balloon at 16 weeks vs. Cumulative after 2nd or 3rd balloon

SB	%TBWL after FB	Cumulative %TBWL after SB_1	Cumulative %TBWL after SB_2	p-value
2 (N=16)	15.37 %	16.67 %	-	NS
3 (N=2)	13.35 %	24.45 %	26.25 %	Too few data

CONCLUSION

Sequential balloons allowed patients with lower weight loss after initial balloon to reach a cumulative %TBWL comparable to that achieved by one-balloon patients. SB group had more premature removals, poor follow-ups and a higher risk of complications. Future studies must focus on the benefits of SB on a large sample size.