

# Efficacy of continuous suturing using STRATAFIX<sup>®</sup> for vaginal cuff closure in total laparoscopic hysterectomy

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## Background

Ligation and suturing in total laparoscopic hysterectomy (TLH) is a time-consuming procedure, especially for vaginal cuff closure, but an accurate technique is required for prevention of vaginal cuff dehiscence and hematoma. Since October 2017, we have used a barbed suture (STRATAFIX<sup>®</sup>), which enables easy and equal tension suturing in a short period of time. The objective of this clinical study was to compare the time required between continuous suturing using STRATAFIX<sup>®</sup> and single interrupted suturing.

## Methods

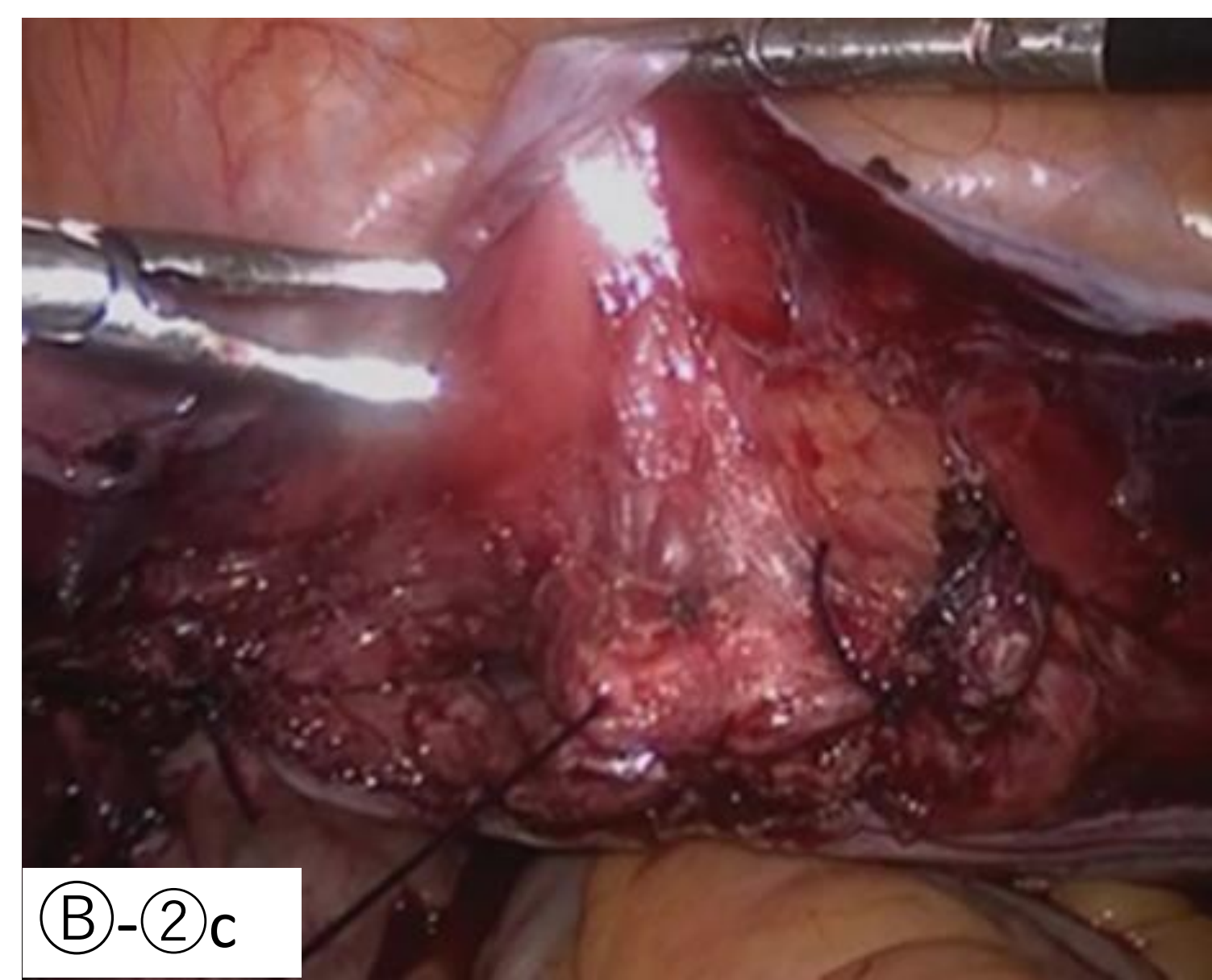
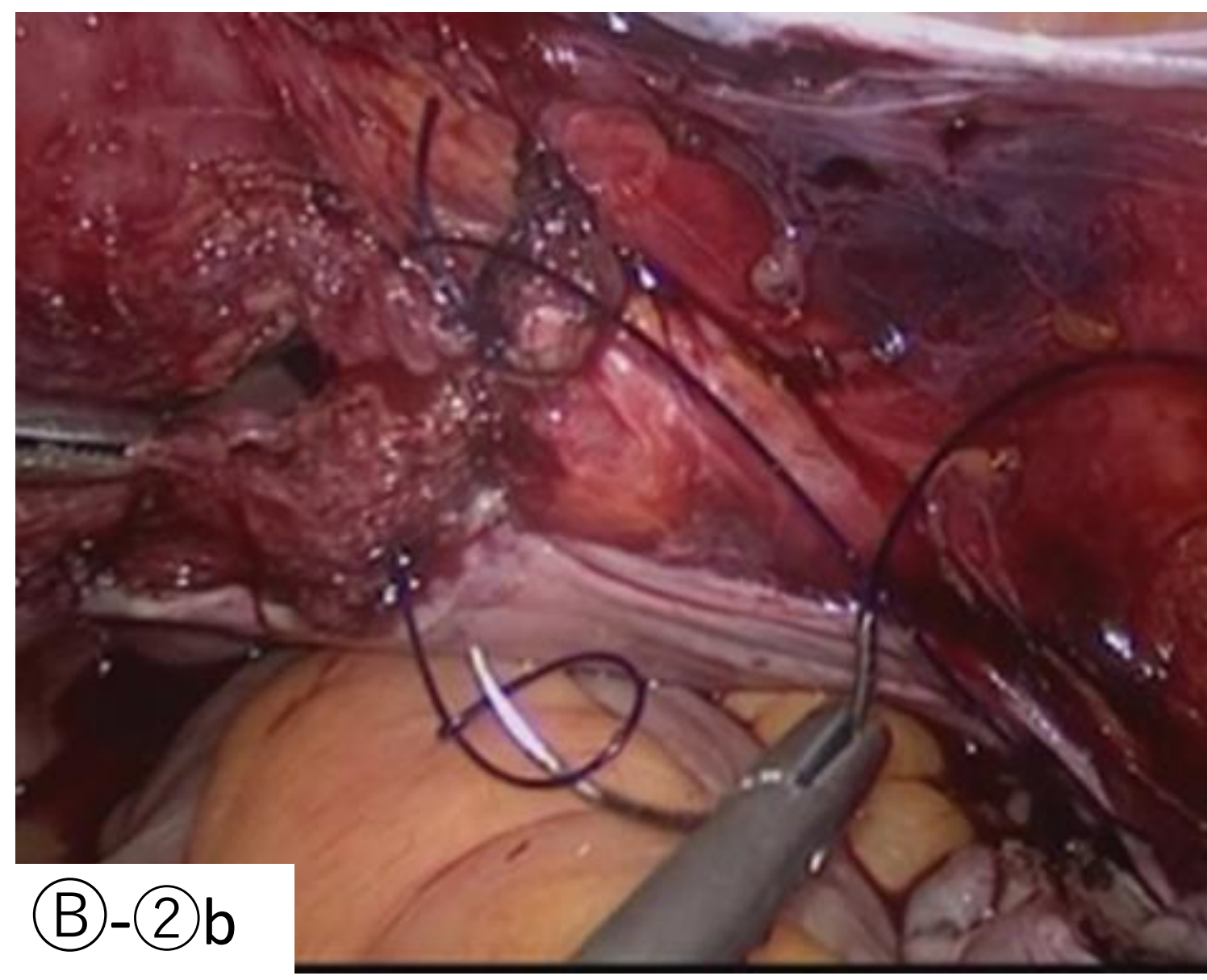
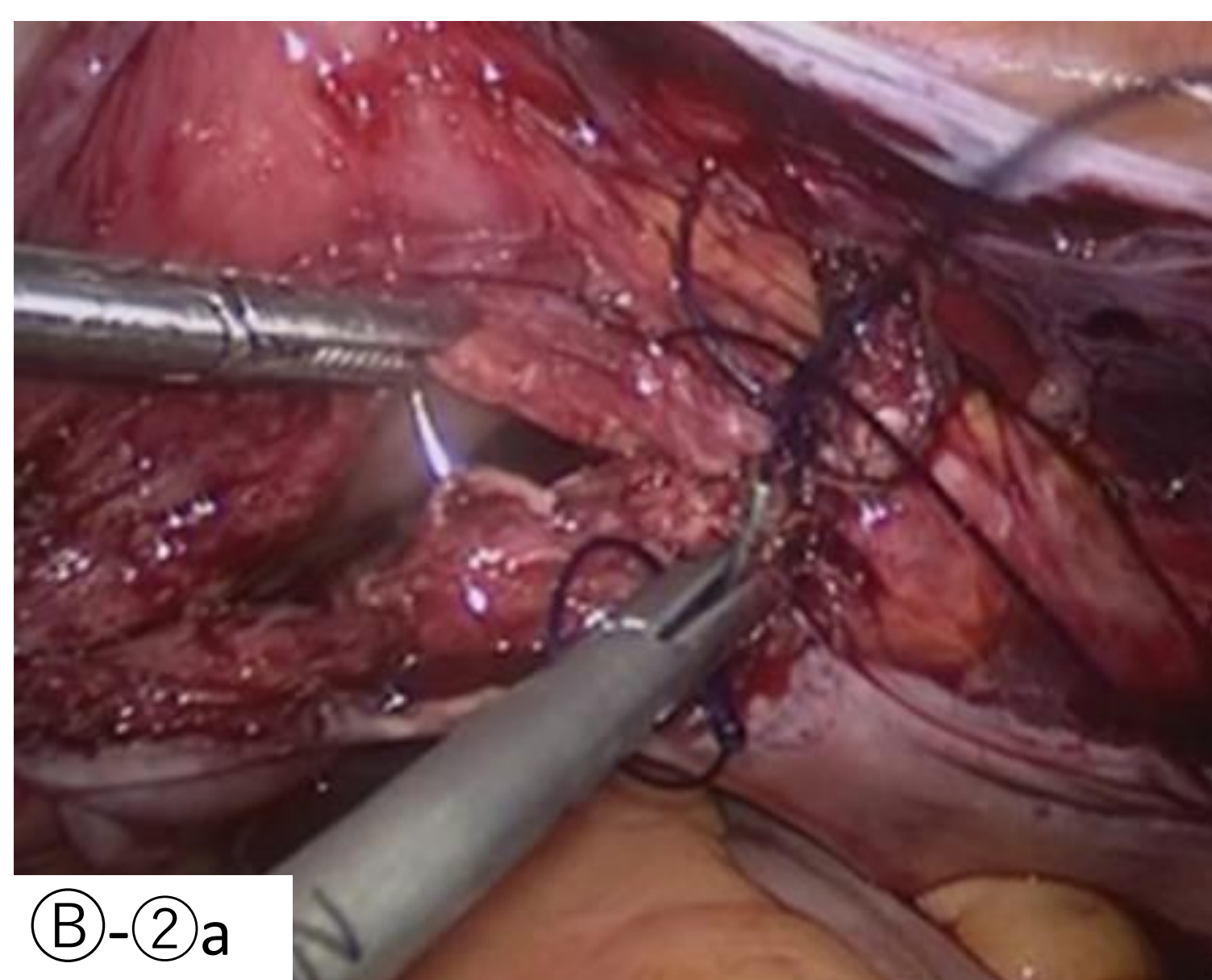
A total of 59 patients who underwent TLH at our hospital from January to March 2017 were divided into groups treated with single interrupted suturing (n=24) or continuous suturing using STRATAFIX<sup>®</sup> (n=35). We performed a retrospective study of the time required between continuous suturing using STRATAFIX<sup>®</sup> and single interrupted suturing.

### (A) single interrupted suturing (n=24)

Both ends of the vaginal cuff were Z-stitched with VICRYL PLUS<sup>®</sup> and the center of the stump was single ligation sutured.

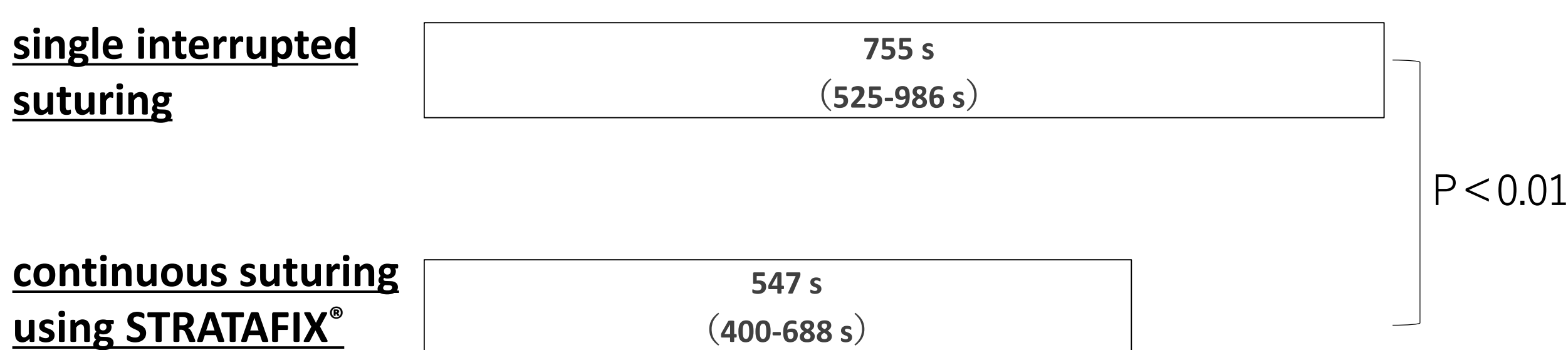
### (B) continuous suturing using STRATAFIX<sup>®</sup> (n=35)

- ① Both ends of the vaginal cuff were similarly Z-stitched with VICRYL PLUS<sup>®</sup>, the ligatures at the left end were left for pulling the vaginal cuff.
- ② Continuous suturing with 15 cm of STRATAFIX<sup>®</sup> was started from the right end. After suturing to the left end, suture in the reverse direction was performed twice.



## Results

We compared the time required for vaginal cuff closure in total laparoscopic hysterectomy between continuous suturing using STRATAFIX<sup>®</sup> and single interrupted suturing. The time required for vaginal cuff suture was significantly shorter with continuous suture compared to that with single ligation (547 s (400-688 s) vs. 755 s (525-986 s),  $P < 0.01$ ). There were no significant differences between the groups when the age, BMI, blood loss were compared. No complications occurred in either group.



	single interrupted suturing	continuous suturing using STRATAFIX <sup>®</sup>	p Value
n	24	35	
age	45.6	45.7	0.938
blood loss (g)	88.0	62.5	0.321
BMI	21.22	21.88	0.101
time required for vaginal cuff closure (s)	755	547	<0.01

## Discussion

### STRATAFIX<sup>®</sup> Spiral PDS PLUS for TLH

Barbs are oriented in one direction to allow tissue approximation without the need to tie surgical knots.

#### < Advantage >

- ① The time required for vaginal cuff suture is short compared to that using a single knot suture.
- ② Unlike continuous suture without barbed suture, tension can be maintained even when the ligature is cut due to a condition such as infection.

#### < Disadvantage >

- ① Barbed suture may be implicated as a cause of bowel obstruction and rupture of intestines.
- ⇒ This complication may be avoided if there is no exposure of the free end of the barbed suture in the peritoneal cavity. If the stump cannot be covered with the retroperitoneum, we suggest that it is better not to use barbed suture.

## Conclusion

Stitching using STRATAFIX<sup>®</sup> maintained equal tension easily and in a shorter period of time compared with single knot suture, which suggests the utility of STRATAFIX<sup>®</sup> for vaginal cuff suture.

Disclosure of Conflict of Interest : I have no COI with regard to our presentation.