

# SINGLE INCISION SLINGS: DO THEY STAND THE TEST OF TIME? A 10-YEAR FOLLOW-UP COHORT

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## INTRODUCTION

Stress urinary incontinence (SUI) prevalence varies according different populations, ranging from 10% to 25%.

When conservative management fails, surgery is the preferred option.

Mid-urethral slings (MUS) are the recommended procedure to uncomplicated SUI.

First and second generation MUS, inserted either by retropubic or transobturator approach, have been proven to be effective and equivalent.

However, the associated complications, as risk of bladder injury during retropubic approach and inguinal pain following transobturator route, have conducted to the development of a third generation MUS, the single-incision slings (SIS).

SIS and standard MUS provide similar short-term cure rates in women with predominant SUI, according to a large metanalysis at 2 years follow-up, two randomized controlled trials at 1 year and 3 years follow-up and a retrospective analysis of two homogeneous cohorts at 5 years follow-up.

Nevertheless, failures after SUI surgery increase with time and EAU guidelines maintain a strong statement that the long-term efficacy of SIS remains uncertain.

To clarify this statement, data from cohorts with longer follow-up time is relevant.

Here we analyze a SIS cohort with a median follow-up of 10 years.

## MATERIALS AND METHODS

A total of 172 women with predominant SUI were consecutively treated with SIS MiniArc until 2013.

From these, 115 (66.9%) were available for reevaluation during the second semester of 2018. The treatment success, the primary outcome, used the same criteria of the TOMUS trial, no reintervention and no self-reported SUI symptoms.

Secondary outcomes included the response to patient reported outcomes among women not submitted to a second surgery for complications or SUI recurrence: the questionnaires Patient Global Impression of Improvement (PGI-I) and Severity (PGI-S), and the question "would you repeat the surgery".

Adverse events were also evaluated.

## RESULTS

The mean age at surgery was 51 years and median follow-up was 113 months.

The overall treatment success was 47.0%.

Forty-four women (38.3%) reported incontinence at reevaluation and 14 women (12.2%) had been reoperated due to the reappearance of SUI. Fifty-eight percent of the women reoperated received the second surgery within the first 24 months after the initial surgery, in the majority of the cases, with a standard MUS.

In the PGI-I, 63.3% stated that they were much better or very much better. In 17.4% some improvement was still found. Only 3% declared they were much worse or very much worse.

In the PGI-S, the continence problem was normal or mild in 71.4% of the patients, while only 8.2% reported that the situation was severe.

When asked "would you repeat the surgery", 83.7% answered affirmatively.

There were no differences in all these parameters when patients with less or more than 113 months follow-up were compared.

Reoperation due to complications was rare (2.5%).

Acute urinary retention led to sling section in 2 women and in 1 the sling was removed after vaginal erosion.

*De novo* urgency appeared in 30.6% of the patients and it was managed with anticholinergic drugs with favorable outcomes.

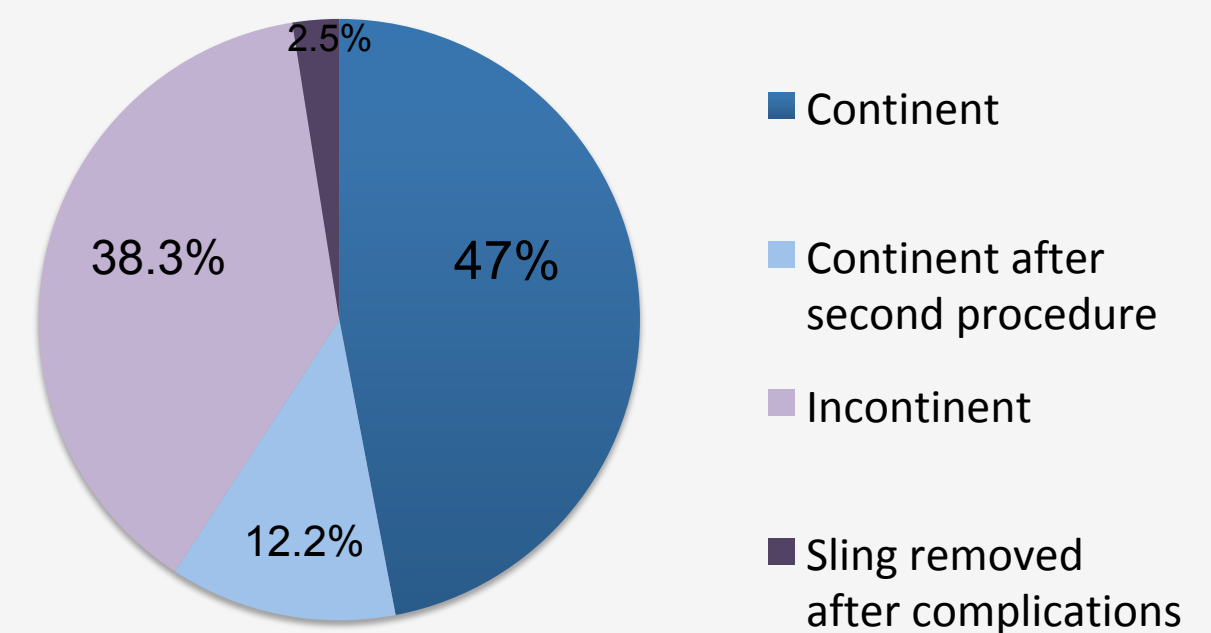
## DISCUSSION

Cure of SUI and a high degree of satisfaction were reported by almost 50% and by more than 75% of women almost 10 years after the placement of a SIS, respectively, similar to the TOMUS trial for standard MUS at 5 years.

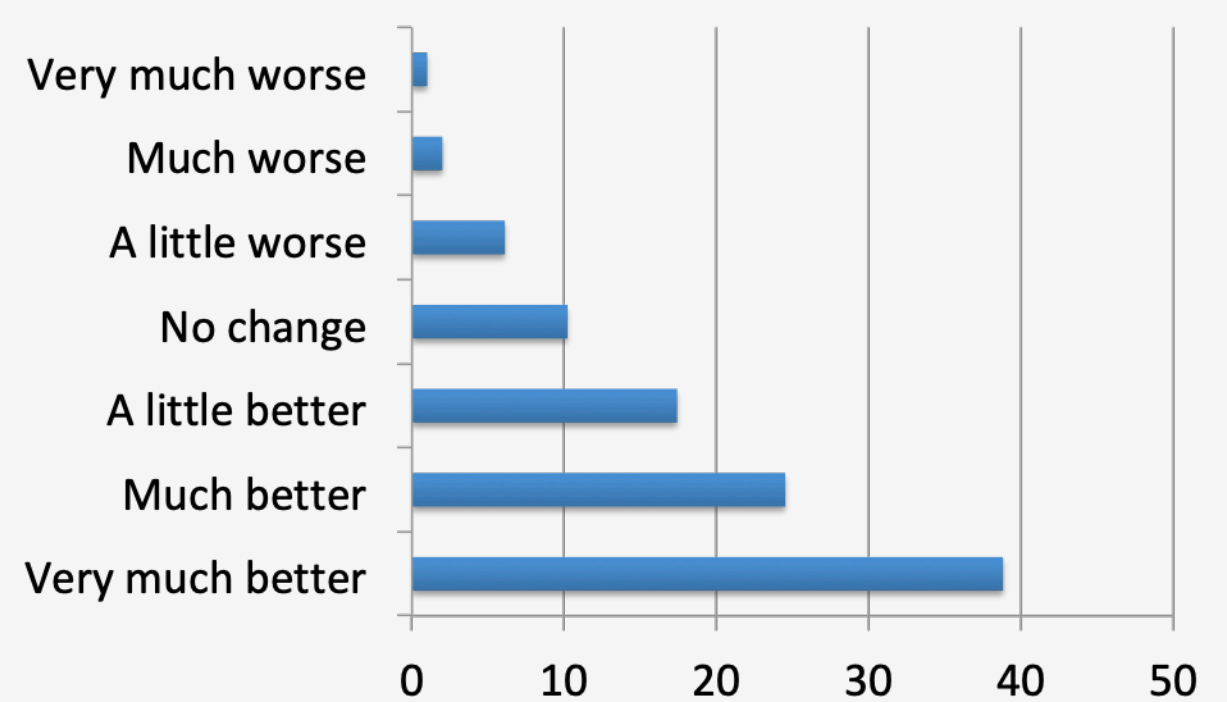
It is important to emphasize that most series consider a successful outcome both cure and improvement, while in this analysis only cure was comprised.

Our patients had a significant rate of *de novo* urgency, somehow expectable after 10 years follow-up, either caused by SIS placement and/or the cumulative incidence of such symptoms with ageing. Nevertheless, they were successfully managed conservatively.

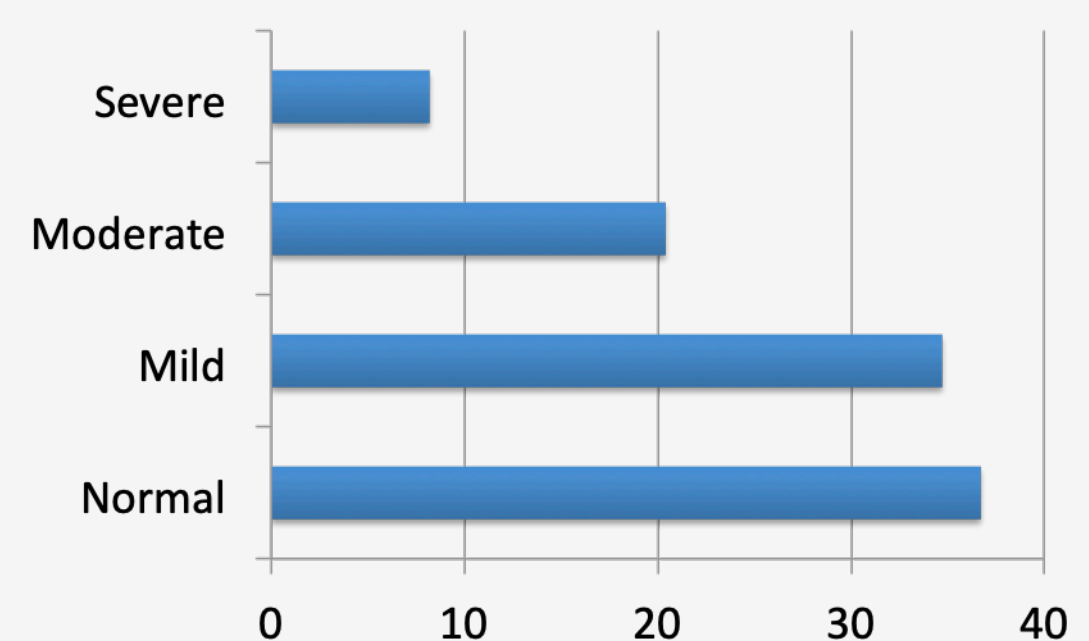
### Urinary incontinence after 10 years



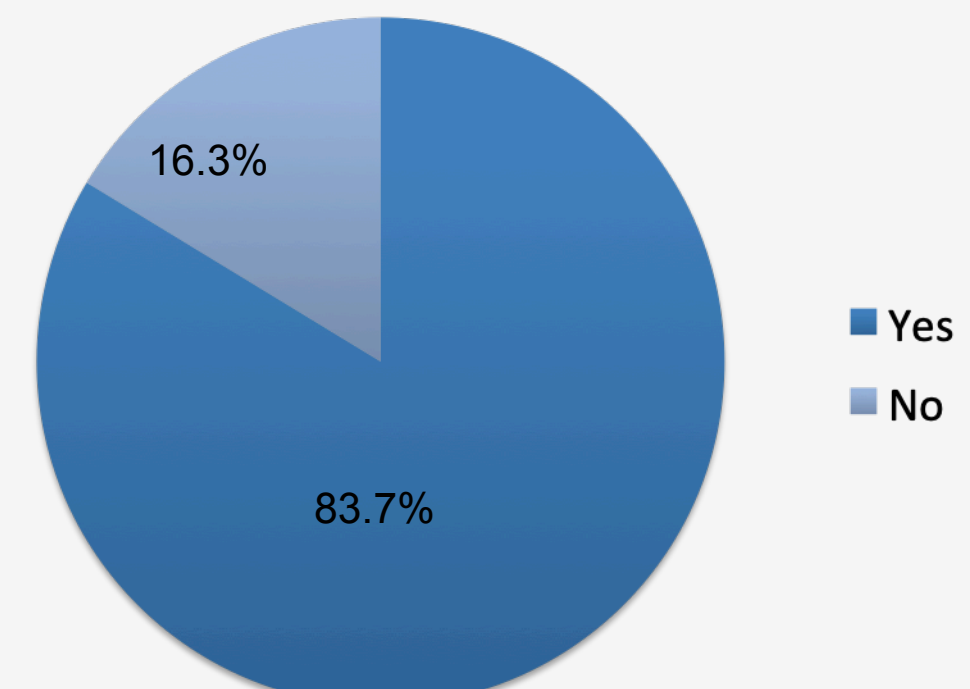
### Patient Global Impression of Improvement



### Patient Global Impression of Severity



### Would repeat the surgery?



## CONCLUSION

This report adds evidence to the long-term outcomes of SIS, confirming their reasonable cure and high satisfaction rates, at the expense of a low morbidity.

SIS can be offered to women seeking for long-term cure of SUI through a minor surgery virtually free of severe complications.