

INTRODUCTION

- Male infertility microsurgery (MIM) is an area in intense development, requiring intensive surgeon training, since its results highly depends on surgeon’s skills and domain of microsurgical techniques¹.
- Vasectomy reversal (VR) is the most cost-effective option for couples desiring offspring after vasectomy, and is one of the most difficult microsurgical procedures².

OBJECTIVES

- We report the early learning curve results for VR performed by a single surgeon just after his MIM fellowship training.

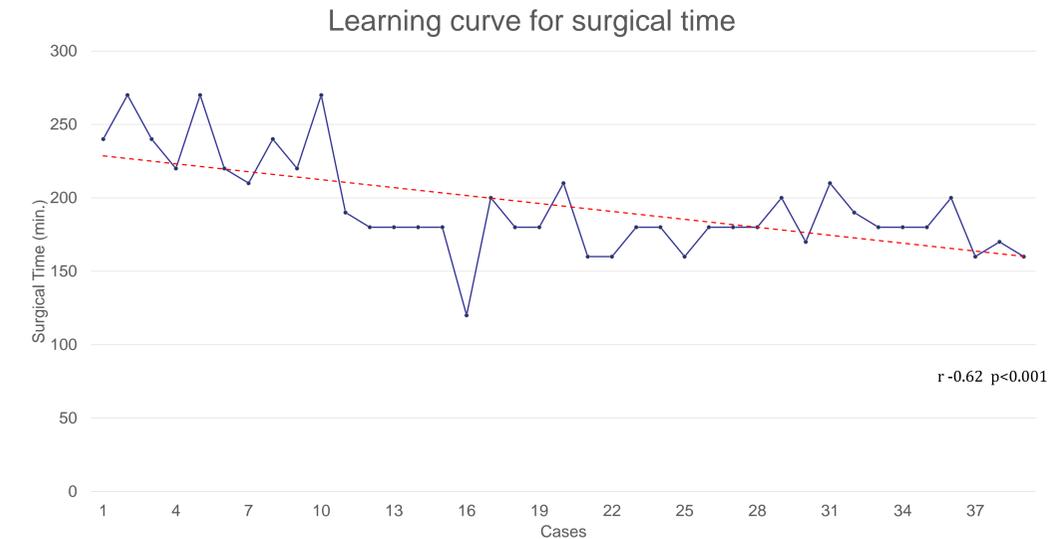
METHODS

- We reviewed the charts of all men who underwent VR by a single surgeon from June 2016 to September 2017. We divided them into tertiles by dates.
- The following variables were assessed and compared: surgical time, complications, post-operative sperm total count, and patency.
- All procedures were performed using a operating microscope. A multilayer technique was used for vasovasostomies (VV), and the LIVE technique for vasoepididymostomies
- Descriptive statistics, Anova, and Fishers exact tests were used to compare the groups, with significance set at $p < 0.05$.

RESULTS

- 39 men underwent VR in the period, and had postoperative semen analysis data available. Each tertile was composed of 13 men.
- There were no differences between groups regarding the baseline characteristics. Overall, the mean patient age was 38.1 ± 5.3 years, the mean partner age was 29.1 ± 5.4 , and 92% of the men were in a new relationship (**Table 1**).
- The mean time since vasectomy was 6.9 ± 4.3 years. Men who underwent bilateral VV composed 87%, 92% and 61% of the first, second and third tertiles respectively, although this difference was not statistically significant, we believe that it might have impacted the results of the third tertile.
- The surgical time progressively reduced from the first tertile through the third one ($p < 0.0001$) (**Figure 1**).
- There were no statistical differences of patency rate and mean total sperm count among the groups, but the second and third tertiles had higher overall patency rates than the first group. The VV patency rate and the mean total sperm count had a clinically significant improvement through the tertiles (**Table 1**).

Baseline Characteristics and Results				
Parameter	First Tertile	Second Tertile	Third Tertile	p value
Number, n	13	13	13	1.00
Age, mean (SD) years	38.2 (± 5.9)	37.3 (± 5.9)	38.8 (± 4.3)	0.79
Female age, mean (SD) years	28.5 (± 4.1)	28.3 (± 6.3)	30.6 (± 5.8)	0.51
New relationship	100%	92%	84%	0.36
Time since vasectomy, mean (SD) years	7.4 (± 5.3)	6.0 (± 3.5)	7.4 (± 3.9)	0.61
Bilateral Vasovasostomy	87%	92%	61%	0.20
Surgical time, mean (SD) minutes	226 (± 31)	174 (± 21)	181 (± 15)	<0.0001
Complications	0	7%	7%	0.59
Overall Patency	77%	90%	85%	0.75
Vasovasostomy Patency	87%	90%	100%	0.76
Total sperm count, mean (SD) millions	76.3 (± 70.0)	106.0 (± 175.8)	113.9 (± 203.4)	0.92



CONCLUSIONS

- These early results show that VR is a challenging procedure that has a steep learning curve and requires specialized microsurgical training.
- MIM fellowship training provides microsurgical skills that help to accelerate the procedure learning curve.

REFERENCES

1. Belker AM, Thomas AJ Jr, Fuchs EF, et al. Results of 1,469 microsurgical vasectomy reversals by the Vasovasostomy Study Group. J Urol, 1991;145:505-2.
2. Lee R, Li PS, Goldstein M, et al. A decision analysis of treatments for obstructive azoospermia. Hum Reprod. 2008;0:2043-9