

## Conference Paper

# Lost to Follow-up Among Patients who Underwent Vasectomy Reversal with Double Layer Microscopic Techniques in 2011-2015

Daruqutni Albar, Ponco Birowo, Nur Rasyid, and Akmal Taher

<sup>1</sup>Department of Urology, Faculty of Medicine, Universitas Indonesia, Cipto Mangunkusumo Hospital, Jakarta

## Abstract

Vasectomy already been accepted by the society as easy and effective method for male contraceptive. However, some patients want to restore their fertility status due to divorce or re-marriage cases. Techniques in performing vasectomy reversal are varying with their own advantages and disadvantages. One of the techniques is double layer microscopy vasectomy reversal. We evaluate the success rate of this technique based on the semen analysis. The success rate was good with around 98.5% patients with complete follow up had sperm in their semen analysis. However, total success of follow up were very low (5 out of 19 patients) even though the cost of reversal vasectomy was quite expensive (around 3.000\$USD). Lost to follow up rate of reversal vasectomy was 26%.

Corresponding Author: Ponco Birowo; email: ponco.birowo@gmail.com

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## 1. Introduction

Vasectomy is a contraceptive method that is easy to perform, has high efficacy, and has been accepted by society. The popularity of this surgical technique, coupled with the high divorce rate, leading to increased demand for vasectomy reversal [1,2,3].

Vasectomy reversal is a technique used in order to restore men's fertility status, especially for those whom had undergone vasectomy procedure. The success rates of vasectomy reversal are influenced by operating techniques, the interval between vasectomy and vasectomy reversal, and patients' and spouse's age at the time of vasectomy reversal. The type microscopic surgical techniques are consisting of single layer, double layer, and combinations of both techniques. Each technique has its own advantages and disadvantages. The selection of surgical technique being used is based of surgeon preferences [4,5,6].

Vasectomy reversal is performed by involving the anastomosis of the vas deferens above and below the site of obstruction. The main objective is to restore male fertility status, however these procedures are sometimes indicated in order to evaluate vas injury caused by previous surgery (hernia repair) [1,2,3,4].

In United States, vasectomy reversal procedures are performed in around 500.000 patients each year with around 2-6% of them want to recover their fertility status. The

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most common reason were the desire to have offspring following the occurrence of divorce and re-marriage [1,2,7].

Although vasectomy reversal is done by experts, procedural failure still could not be eliminated. The success rate of pregnancy is highest during the first year of vasectomy reversal and decrease in the following year. It is believed that the success of getting pregnant is low in patients without any seminal fluid during the procedure, even though the patency of vassal lumen is good [7,8,9].

The best method for microsurgery vasectomy reversal is still debated. Two layer anastomosis techniques has advantages in better approximation between both lumen and ensuring no leakage especially if muscles tissue is involved during the anastomosis. However, two layer techniques has disadvantages in triggering the occurrence of fibrosis and stricture due to surgical knot in the outer layer [3,4,5,6]. Unfortunately, around 20% of patients who underwent reversal vasectomy did not come to follow up [10].

This study aim to describe the success of double layer vasectomy based on semen analysis in male with infertility issue as well as lost follow up among the patient and the reason of it.

## 2. Experimental Details

This study was a retrospective study using secondary data collected from patients with infertility problems whom attended to urology outpatient clinic in Cipto Mangunkusumo Hospital, Asri Hospital or Bunda Hospital from 2011 to 2015. This study already got permission from Department of Urology, Faculty of Medicine, Universitas Indonesia – Cipto Mangunkusumo Hospital and from ethical committee Faculty of Medicine, Universitas Indonesia.

Patients with secondary infertility issue related to vasectomy were collected and recorded. Total subjects are all patients diagnosed with secondary infertility related to vasectomy. Six patients directly underwent PESA/TESE while 19 patients performed vasovasostomy before underwent other procedure. Patients' characteristic regarding age, duration of vasectomy, number of previous offspring, occurrence of sperm during vasovasostomy, and type of vasectomy are collected and recorded. From the vasectomy group, patients information regarding the surgery is collected either from medical status of via telephone. Patients without phone number or could not be contacted were classified as lost to follow up.

## 3. Results and Discussion

In this study there were 31 patients with secondary infertility with history of vasectomy with patients' and spouse mean age were  $51.42 \pm 7.0$  years old and  $31.67 \pm 10.24$  years old, respectively. More than 41.9% of patients already had more than 2 children before undergone the treatment. Among the 31 patients with a history of vasectomy, 19 patients (61%) underwent vasectomy reversal, 6 patients (19,5%)

Variables	Values
Patients' Age (years old)	51.42 ± 7.0
Spouse's Age (years old)	31.67 ± 10.24
Duration from Vasectomy to Vasovasostomy (years)	11.89 ± 6.75
Number of Children	
0	1(3.2%)
1	2(6.5%)
2	13(41.9%)
3	6(19.4%)
4	2(6.5%)
5	4(12.9%)
6	1(3.2%)
No Data	2(6.2%)
Sperm Found During Vasovasostomy	
Yes	19(100%)
No	0(0%)

TABLE 1: Patients Characteristics.

History of Vasectomy	N	%
PESA/TESE	6	19,5
Lost To Follow Up	6	19,5
Vasectomy Reversal	19	61,0
Spermatozoa	13	68,5
Azoospermia	1	5,0
Lost To Follow Up	5	26,5

TABLE 2: Results of Infertility Patients Based on Procedures.

examined PESA / TESE and 6 patients (19,5%) lost follow-up. Of the 19 patients who underwent vasectomy reversal, 13 patients (68,5%) with spermatozoa (+), 1 patient (5%) with azoospermia and 5 patients (26,5%) lost follow-up. Patient who underwent PESA/TESE procedure were mostly referred by obstetrician while patients who underwent vasovasostomy were commonly came to urologist.

From the study results, it was known that the success rate of vasectomy reversal procedures were quite high with only 1 out of 14 patients were still azoospermia after the procedure means the success rate in complete follow up group was around 92.8%. Sperm were found during reversal vasectomy procedure in all of the patients (100%). The overall success rate of vasectomy reversal evaluate based on semen analysis in this study was around 68.5%. This result was good if in term of number of procedure done per year. Since 2011 to 2015 there were only 19 patients underwent vasectomy reversal, means there were around 4 procedures done per year. Wood et al said that surgeon with less than 6 vasectomy reversal procedures per year had success rate around 56%. However, surgeon with more than 15 vasectomy reversal procedures per

year had very good success rate with around 87% patients succeed the procedures [11]. In average, surgeon performed around 10 vasectomy reversal per year [12]. There is still a huge room for improvement.

Our study evaluates the success rate of vasectomy reversal based on semen analysis alone. In next study we could evaluate the success rate of pregnancy using Silber grade. In Silber grade, the vassal fluid sperm characteristics are classified into 5 grades with the first grade is the best one in term of patency and pregnancy rates [13]. In our study, we did not elaborate the Silber grade, we only classified the semen analysis into sperm were found and completely no sperm were found (Silber grade 5). We did not classify whether the sperm morphology and motility were normal or not (Silber grade 1 to 4). This is important because each grade has different patency and pregnancy rates. This could be used in the next study in the following year.

However, there were 5 patients lost to follow up. There were some suggestions in term of patients lost to follow up. Firstly, there were missing in patients' phone number. This might be caused due to inappropriate medical recording as well as patient did not put their phone number on the medical record. Patient who could afford for vasovasostomy should be capable in buying cellular phone. Second, patient did not come to follow up because they had already been succeed in having off spring. Third, patients might come to another clinic. This circumstances quite unfortunate since the cost to perform the procedure was expensive. Previous study said that the rate of lost to follow up in patients who underwent vasovasostomy was as much as 1 fifth of total patients.

## 4. Conclusion

Double layer microscopic technique gives satisfactory results in term of the vas defrens patency in vase of vasectomy reversal. But It is remain question for the urologist what caused the patient does not controls. The cost for the surgical procedure is expensive and need sustainable management.

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