Time Between Vasectomy and Vasectomy Reversal: Does It Really Matter?

Objective: To evaluate the impact of the time since vasectomy in the outcomes of vasectomy reversal

Methods: Using a prospectively maintained database, we identified men who underwent microsurgical vasectomy reversal by a single male fertility specialist from June 2016 to May 2023. We included men who had at least one postoperative semen analysis. The participants were divided into 3 groups based on the time since vasectomy: Group 1 less than 5 years, Group 2 between 5 and 10 years, and Group 3 more than 10 years. Baseline demographic and clinical characteristics, type of procedure performed, patency rates, and total postoperative motile sperm count (TMSC) were the variables compared among the groups.

Results: One hundred forty-four participants were included in the study, 41 in group 1, 61 in group 2 and 42 in group 3. The mean age of participants was significantly different among the groups, increasing as the time since vasectomy increased. The mean time since vasectomy was 4, 8 and 14 years for groups 1, 2 and 3 respectively (P<0.01). The baseline estradiol levels were higher in group 1 when compared to the other two groups. There were no other statistically significant differences between the groups regarding baseline characteristics (Table 1). Vasoepididymostomy was required in 13% of the participants in group 1, in 31% of group 2, and in 50% of group 3 (P<0.01). The overall patency rate was 93%, 93% and 81% for groups 1, 2 and 3 respectively (P=0.07), while the patency rate of patients who had bilateral vasovasostomy was 97%, 100% and 94% for groups 1, 2 and 3 respectively (P=0.29). The patency rate of bilateral vasoepididymostomies was 50% in groups 1 and 2, and 70% in group 3 (P=0.50). The median TMSC count was 29 million for group 1, 17 million for group 2 and 13 million for group 3 (P=0.19). The were no differences among the groups regarding the median TMSC for vasovasostomies or vasoepididymostomies. In addition, the median TMSC was not different regardless of the type of procedure performed.

Conclusion: Vasectomy reversal is a procedure with a high patency rate, regardless of the time of obstruction, but the longer the time since vasectomy, the greater the probability of the need for a vasoepididymostomy. Surgeons who perform vasectomy reversal should be able to perform vasoepididymostomy to achieve high success rates. In addition, the obstruction interval does not impact on the TMSC after vasectomy reversal.

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| Parameter | < 5 years | 5 - 10 years | > 10 years | p value |
| Number, n | 41 | 61 | 42 |  |
| Age, mean (SD) years | 37 (5) | 41 (7) | 46 (7) | <0.01 |
| Female age, mean (SD) years | 30 (6) | 31 (5) | 32 (4) | 0.27 |
| Testosterone (ng/dL), mean (SD) | 457 (152) | 411 (148) | 439 (148) | 0.2 |
| Estradiol (pg/mL), mean (SD) | 38 (17) | 29 (10) | 27 (8) | <0.01 |
| FSH (mUI/mL), median (IQR) | 4.4 (3.4, 6.7) | 4.1 (3.1, 5.6) | 2.8 (3.0, 5.6) | 0.68 |
| LH (mUI/mL), median (IQR) | 3.9 (2.6, 6.7) | 3.7 (2.8, 5.0) | 3.7 (2.7, 4.2) | 0.26 |
| Vasoepididymostomy (%) | 13% | 31% | 50% | <0.01 |
| Overall total progressive motile sperm count, median (IIQ) millions | 29 (4, 63) | 17 (8, 41) | 13 (3, 35) | 0.19 |
| Bilateral vasovasostomy total progressive motile sperm count, median (IIQ) millions | 30 (9, 59) | 16 (6, 46) | 13 (2, 54) | 0.29 |
| Bilateral vasoepididymostomy total progressive motile sperm count, median (IIQ) millions | 300 (300, 300) | 14 (8, 45) | 10 (2, 27) | 0.14 |

Table 1.