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COMPARISON OF STANDARD AND INVAGINATION MICROSCOPIC EPIDIDYMOVASOSTOMY TECHNIQUES FOR IDIOPATHIC EPIDIDYMAL OBSTRUCTION.

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Background: Largely because of its simplicity, invagination epididymovasostomy has been used as an alternative to the standard end-to-side, mucosal-to-mucosal epididymovasostomy in vasectomy reversal for the last 5 years. However, its role in the management of more complex cases obstructive azoospermia has not been established. We investigated the success of this technique in cases of idiopathic epididymal obstruction by comparing patency rates obtained with both the standard and invagination techniques in a consecutive series of infertility patients.

Objective: To compare epididymovasostomy patency rates achieved with 2 different surgical techniques performed by a single surgeon.

Design: Case-controlled, retrospective study of a consecutive series of men undergoing epididymovasostomy for idiopathic epididymal obstruction at a single institution.

Materials and methods: From a series of infertility patients who presented with idiopathic epididymal obstruction, we identified all men who underwent either the standard or invagination epididymovasostomy at the time of surgical exploration. Men with the diagnosis of congenital absence of the vas deferens were excluded from this analysis. Semen analyses were obtained initially at 6 weeks and then every 2 months in postoperative follow-up. Assessed outcomes included: time to patency postoperatively, patency rates (presence of spermatozoa in ejaculate), and functional patency rates (presence of motile spermatozoa in ejaculate).

Results A total of 35 men underwent exploration and epididymovasostomy with either unilateral or bilateral procedures by either anastomotic method. The mean age of patients, patency rates and time to patency are given in the table below. The invagination cohort demonstrated a trend toward higher patency rates, and significantly shorter time to patency ($P < 0.05$) compared to the standard cohort.

Techniques	Patient Number	Mean Age (years)	Patency Rate (%)	Functional Patency Rate (%)	Mean Time to Patency (weeks)	Follow-Up Range (months)
Invagination	25	37	19/25 (76%)	18/25 (72%)	13	4 - 24
Standard	10	38	6/10 (60%)	5/10 (50%)	20	4 - 15

Conclusion Similar to previous reports in cases of vasectomy reversal, our preliminary data on postoperative patency rates indicate that invagination epididymovasostomy provides equivalent, and possibly improved patency rates compared to standard epididymovasostomy in idiopathic obstructive azoospermia. In addition, mean time to sperm patency appears significantly shorter with the invagination method. We plan further follow-up in these patients to assess longer-term patency and pregnancy rates.