AB093. The effect of different strategies of vessel management on vasovasostomy

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Background: To study the effect of different strategies of vessel management on vasovasostomy.

Methods: Fifty 8-week-old male Sprague-Dawley rats were randomly divided into groups A, B, C, D and E. In group A all the vessels were preserved. In group B all vessels were ligated and cut. In group C only arteries were preserved. In all the groups above end to end anastomosis were performed and contralateral testis was removed. In group D only veins were preserved. Group E is the control group with vas deferens intact. All rats' testicles were measured the size before operations. After 4 weeks, the rats were raised with female rats with 1:1 in the same cage for 2 weeks and the number of pregnant rats were recorded. Then rats were sacrificed, dissected and testicles and vas deferens were collected and detect the patency.

Results: The patency rate was 90%, 80%, 90%, 80%, 100% and conception rate was 30%, 30%, 20%, 30%, 80% in groups A, B, C, D and E respectively. Preoperative testicular volume was 1.88667±0.11912, 1.176293±0.06971, 1.91651±0.1163, 1.82947±0.12312, 1.80818±0.149 cm^3 in groups A, B, C, D and E respectively and 6 weeks postoperative testicular volume was 1.21519±0.19, 1.20181±0.17, 1.27018±0.29, 1.23696±0.21, 1.78842±0.12 cm^3. Rate of testicular atrophy was 70%, 50%, 50%, 70%, 0% and rate of postoperative adhesion was 60%, 50%, 50%, 60%, 0% in groups A, B, C, D and E respectively. There was no significant difference in patency rate, conception rate, testicular atrophy and adhesion among the groups ($P>0.05$) while statistically significant to the control group ($P<0.05$). Logistic regression analysis showed postoperative adhesion increased the risk testicular atrophy. (OR =60.000000, $P<0.05$), while testicular atrophy was negatively correlated with pregnancy rate (OR =0.048128, $P<0.05$).

Conclusions: Devascularization does not affect the surgical outcomes of vasovasostomy (VV). Postoperative adhesion can increase the risk of testicular atrophy after vasovasostomy, then consequently affects the rate of pregnancy. Reduction in postoperative adhesion may play a role in vasovasostomy outcomes.

Keywords: Vasovasostomy (VV); Vas deferens blood vessels; Testicular atrophy; pregnancy rate; animal experiments

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