Journal of Andrology, Vol 7, Issue 5 271-276, Copyright © 1986 by The American Society of Andrology

JOURNAL ARTICLE

# Repair of experimental varicoceles in the rat. Long-term effects on testicular blood flow and temperature and cauda epididymidal sperm concentration and motility

G. S. Hurt, S. S. Howards and T. T. Turner

The effects of varicocele and varicocele repair on testicular blood flow, temperature, sperm counts, and sperm motility were assessed in adult male rats. The duration of the experimental varicocele and the varicocele repair were three and two times as long, respectively, as that studied previously. Varicoceles were created by partial ligation of the left renal vein and repairs were accomplished by high ligation of the left spermatic vein. Testicular blood flow was determined by using the radiolabeled microsphere technique. Testicular temperature was taken via needle probe thermometer. Sperm samples were obtained by micropuncture of the cauda epididymidis, and were counted on a hemacytometer and observed for motility under the light microscope. Varicoceles were studied 100 days after their creation. Repairs were performed on varicoceles that had lasted 100 days and the animals were studied 60 days after repair. Mean testicular blood flow (ml/100 g tissue/min) was significantly increased (P less than 0.05) in animals with varicocele (left testis (LT) = 42.2 +/- 1.1, right testis (RT) = 39.1 +/- 1.2) when compared with normal controls (LT = 29.3 +/- 1.6, RT = 29.6 +/- 1.7), animals with varicocele repair (LT = 30.7 +/- 1.3, RT = 30.0 +/- 1.6), or sham-operated animals (LT = 29.7 +/- 1.4, RT = 31.1 +/- 1.4).(ABSTRACT TRUNCATED AT 250 WORDS)