

## **Higher testosterone/luteinizing hormone ratio predicts the success of sperm retrieval from adult male Klinefelter patients**

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Microsurgical testicular sperm extraction provides an opportunity to treat infertility in Klinefelter patients. The objective of the present study was to identify predictive factors for the success of microsurgical testicular sperm extraction from adult Klinefelter patients. Thirty-eight adult patients with non-mosaic Klinefelter syndrome were analyzed for a history of cryptorchidism, age, testicular volumes, and serum levels of LH, FSH, prolactin, testosterone (T) and estradiol (E2) at the time of surgery. Seven men with normal spermatogenesis were used as control. Compared to control (mean  $\pm$  SE,  $19.0 \pm 1.9$  ng/DL), Klinefelter patients had significant lower serum T level ( $13.6 \pm 2.0$  ng/DL). Klinefelter patients also had higher FSH level ( $23.3 \pm 2.1$  IU vs. control  $7.0 \pm 1.3$  IU) and E2/T ( $11.1 \pm 2.3$  vs. control  $8.3 \pm 2.5$ ), and lower T/LH ratio ( $2.1 \pm 0.2$  vs. control  $3.73 \pm 1.0$ ). Prolactin levels of Klinefelter patients did not significantly change when compared to control. Higher T/LH ratio is associated with higher success rate of testicular sperm extraction. No association between serum levels of FSH, prolactin and estradiol as well as testicular volumes and success rate of testicular sperm extraction.