

Title: Evaluation of hormone levels of FSH, LH, prolactin and testosterone in patients with chronic renal failure before and after kidney transplantation and review of these changes on individual fertility

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Introduction: Chronic kidney failure is usually accompanied by some degree of endocrine and sexual dysfunction. It happens both in dialysis and transplant patients.

Aim: We wanted to assess the effect of kidney transplantation on normalization of sex hormone levels and fertility factors in patients with end stage renal disease.

Materials and methods: In a cross-sectional study, 25 patients with end stage renal disease who received kidney transplant were selected. The study was conducted at Imam Reza Hospital, Tabriz, Iran. Serum levels of LH, FSH, prolactin and testosterone were measured before transplantation and three and six months after transplantation. Semen analysis was done in male patients before and 6 months after transplantation. In addition, Mid-cycle ultrasonography was done in female patients before and 6 months after transplantation.

Results: Mean age of study patients was 41.6 ± 12.3 . Eleven patients (44.0%) were male and 14 patients (56.0%) were female. LH level was 60.3 ± 32.7 and 16.2 ± 14.0 mIU/ml before and 6 months after transplantation respectively ($p < 0.05$). FSH level was 63.0 ± 36.4 and 20.6 ± 26.9 mIU/ml before and 6 months after transplantation respectively ($p < 0.05$). Prolactin level was 13.6 ± 6.9 and 15.3 ± 7.3 ng/ml before and 6 months after transplantation respectively ($p > 0.05$).

Testosterone level in men was 2.8 ± 1.1 and 5.3 ± 1.7 ng/ml before and 6 months after transplantation respectively ($p < 0.05$). Sperm count in men and appearance of Graafian follicle in women were increased 6 months after transplantation ($p < 0.05$).

Conclusion: The results of this study suggest that renal transplantation could potentially normalize sex hormone status and sexual function in patients with end stage renal disease.

Key Words: Renal failure; Sex hormones; Sexual function; Transplantation