

# Serum anti-Müllerian hormone concentration in young women during the early period after a successful kidney transplantation

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## BACKGROUND

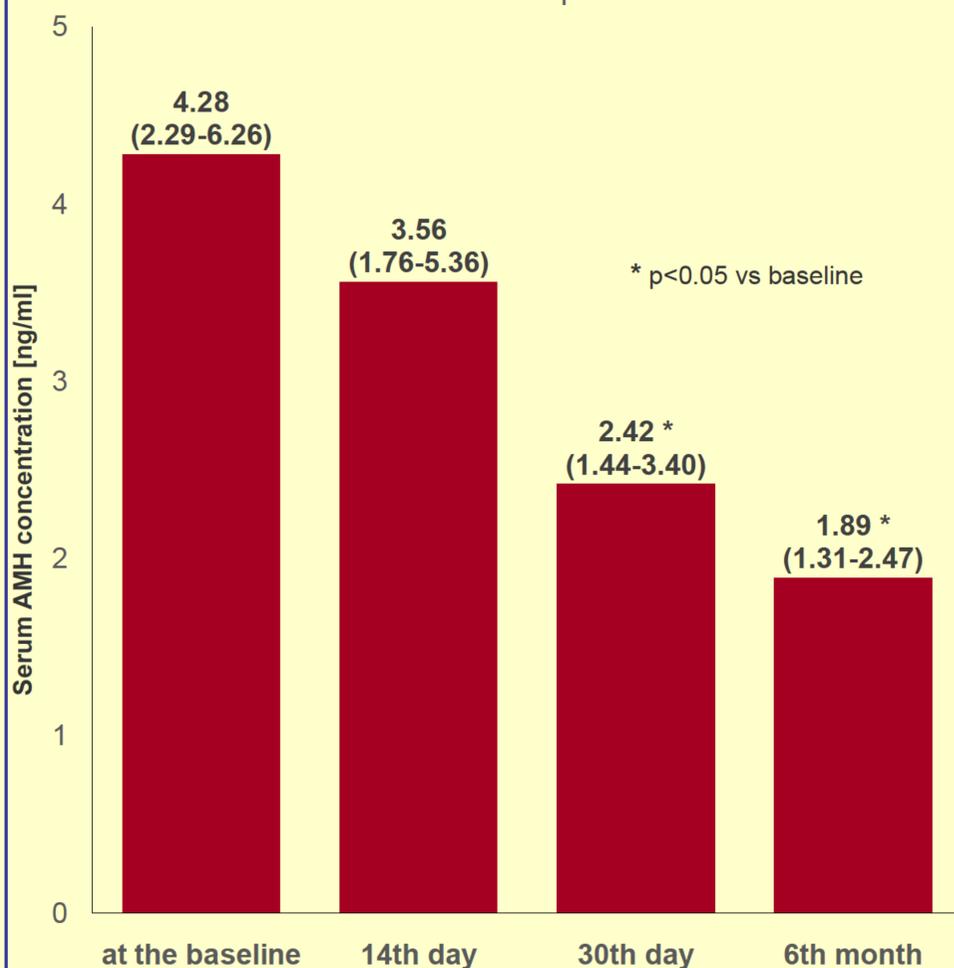
In women with chronic kidney disease (CKD) infertility frequently occurs. Anti - Müllerian hormone (AMH) is produced by the granulosa cells of primary, preantral and small antral follicles and acts as a paracrine factor inhibiting the excessive recruitment of primordial follicles. Low AMH serum concentration suggests ovarian follicles depletion. Until now it has been not determined the serum AMH concentration in women with CKD and in renal transplant recipients. The aim of the study was to evaluate concentration of serum AMH concentration in young women during the early period after a successful kidney transplantation (KT).

## METHODS

In 14 female patients undergoing a KT (aged 18 - 40 years) serum concentration of FSH, LH, estradiol and AMH (ELISA, Beckman Coulter Inc., USA) were determined four times: immediately before transplantation, in the 14<sup>th</sup> - and 30<sup>th</sup> - day and 6 months after KT. The control group (CG) consisted of 46 healthy women of similar age. The above mentioned hormonal assessment in CG were done only once. The results are presented as the mean and 95% CI.

## RESULTS

ANOVA Friedman  $p=0.007$



In 10 women after KT who completed the study serum LH concentration were significantly higher in patients before KT than in CG [17.8 (11.0-24.5) vs 7.3 (6.1-8.5) mIU/ml;  $p<0.001$ ]. Serum FSH, estradiol and AMH concentrations were similar in the above mentioned groups [4.8 (4.4-5.3) vs 5.8 (5.2-6.5) mIU/ml and 145.1 (67.3-222.9) vs 112.00 (78.9-145.1) pg/ml and 4.28 (2.29 - 6.26) vs 4.43 (3.49-5.36) ng/ml, respectively]. A significant decrease of serum LH and FSH concentration after successful KT were found. In contrast serum estradiol concentration did not change significantly. A significant decrease of serum AMH concentration from 4.28 (2.29 - 6.26) at baseline to 2.42 (1.44 - 3.40) at 30 days after transplantation and to 1.89 (1.31 - 2.47) ng/ml at 6 months after KT were found (ANOVA Friedman;  $p = 0.007$ ).

## CONCLUSIONS

1. In young healthy women and women undergoing hemodialysis serum AMH concentration did not differ significantly.
2. Successful kidney transplantation leads to decreased serum concentration of AMH.

