



## Effect of the duration and presence of proteinuria on parameters of ovarian reserve in patients with chronic kidney disease stages 3-4.

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**THE AIM OF THE STUDY** was to assess the effect of the duration of CKD and presence or absence of proteinuria on ovarian reserve parameters in patients with chronic kidney disease stages 3-4.

### MATERIALS AND METHODS:

The examination included 24 patients ages 23 to 45, all with chronic kidney disease stages 3-4.

The examined parameters of ovarian reserve included: transvaginal ultrasonography (to assess AFC and ovarian volume), serum AMH, FSH and E<sub>2</sub> assessed in early follicular phase of menstrual cycle.

All patients included to the study had been diagnosed with CKD (kidney damage or dysfunction) and had decreased GFR- below 60 ml/min/1.73 m<sup>2</sup> for at least 3 months:

- moderate reduction in GFR (30-59 ml/min/1.73 m<sup>2</sup>)- stage 3 of CKD,
- severe reduction in GFR (15-29 ml/min/1.73 m<sup>2</sup>)- stage 4 of CKD.

Parameters of ovarian reserve were assessed in patients with chronic kidney disease stages 3-4 depending on the duration of the disease (less or longer than 10 years) and depending on the presence or absence of proteinuria.

### RESULTS:

Parameters of ovarian reserve: ovarian volume, AFC, AMH, FSH; estradiol (E<sub>2</sub>) in patients with chronic kidney disease depending on the duration of the disease.

Parameter of ovarian reserve		≤ 10 years of CKD			> 10 years of CKD			P
		x ± SD	M <sub>e</sub>	min- max	x ± SD	M <sub>e</sub>	min- max	
Ovarian volume	Right ovary (cm <sup>3</sup> )	3.70±2.06	3.32	1.80-9.70	3.56±1.59	3.32	1.64-6.73	0.854
	Left ovary (cm <sup>3</sup> )	4.82±3.40	3.89	1.56-13.30	2.95±1.32	2.57	1.17-6.00	0.089
Antral follicle count (AFC)	Right ovary (n)	4.33±1.50	4.00	3.00-7.00	3.58±1.38	3.00	2.00-6.00	0.215
	Left ovary (n)	3.58±1.44	4.00	1.00-6.00	3.75±1.54	3.50	2.00-7.00	0.787
AMH (ng/mL)		1.31±0.46	1.28	0.63-2.24	1.18±0.83	1.01	0.02-2.79	0.220
FSH (IU/L)		8.70±3.35	8.71	5.92-18.7	7.65±3.51	7.18	3.63-14.70	0.456
E <sub>2</sub> (pg/mL)		68.93±52.08	61.63	7.53-214.18	140.77±115.67	99.50	43.43-461.70	0.024

Hormonal parameters of ovarian reserve: AMH, FSH; estradiol (E<sub>2</sub>) in patients with CKD depending on the presence or absence of proteinuria

Parameter of ovarian reserve	CKD with proteinuria			CKD without proteinuria			P
	x ± SD	M <sub>e</sub>	min- max	x ± SD	M <sub>e</sub>	min- max	
AMH (ng/mL)	1.28±0.77	1.31	0.02-2.79	1.18±0.51	1.08	0.46-2.16	0.711
FSH (IU/L)	8.52±3.39	7.68	5.03-18.70	7.70±3.53	7.45	3.63-14.70	0.574
E <sub>2</sub> (pg/mL)	111.23±115.75	70.65	7.53-461.70	95.91±60.04	78.25	33.20-233.70	0.706

### CONCLUSIONS:

1. Ovarian reserve (ovarian volume, AFC, AMH, FSH and E<sub>2</sub>) is not dependent on the duration of CKD.
2. Hormonal parameters of ovarian reserve: AMH, FSH, E<sub>2</sub> are not dependent on the presence or absence of proteinuria in patients with CKD.