

**ABSTRACT**

**Analysis of Anti Mullerian Hormone (AMH) Levels in Urine and Blood in Polycystic Ovary Syndrome (PCOS) Patients**

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**Background:** Polycystic ovary syndrome (PCOS) is a heterogeneous endocrine disorder and is one of the most common causes of infertility that focuses on ovarian disorders. PCOS was diagnosed with two of the three Rotterdam criteria. AMH levels can reflect the number of follicles antral, so AMH levels are used as a diagnosis of PCOS patients. The weakness of the current AMH examination is that it is invasive and requires hospital facilities and health staff. So that other alternative needs are one of them using urine biological samples.

**Objective:** To determine AMH levels in urine and how they relate to AMH levels in the blood as PCOS parameters.

**Materials and Methods:** This study used blood and urine samples in 13 PCOS patients. The sampling technique used is Probability Purposive Sampling. The inclusion criteria namely age 22-40 years, have two ovaries and patients with PCOS disorders based on Rotterdam. Exclusion criteria were patients with renal impairment, a history of ovarian surgery and ovarian induction in the past 6 months. Informed consent was approved by the Ethics Committee of the Faculty of Medicine, Airlangga University. No.79/EC/KEPK/FKUA/2019. AMH levels were analyzed using ELISA.

**Results:** AMH levels in blood were obtained at  $7.18 \pm 2.83$  ng / mL, while AMH levels in urine were obtained at  $0.49 \pm 0.53$ . Based on the phenotype criteria the highest blood AMH level is phenotype A (OA + / HA + / PCOM +) of  $10.20 \pm 1.35$  and at the highest urine AMH level in phenotype D (OA + / HA- / PCOM +) of  $0.56 \pm 0, 22$ . Spearman's rho statistical test (r) 0.041 ( $p = 0.894$ ;  $p > 0.05$ ). It can be concluded that there is no correlation between AMH in blood with AMH in urine at ( $p = 0.05$ ).

**Conclusion:** AMH levels in urine are not directly proportional to AMH levels in the blood and AMH in urine cannot be used to diagnose in PCOS patients.

**Keywords:** PCOS, AMH, Urine and Blood