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TRIMESTER-SPECIFIC REFERENCE INTERVALS OF THYROID FUNCTION TESTING IN PREGNANT WOMEN FROM BASRAH, IRAQ USING ELECTRO-CHEMILUMINESCENT IMMUNOASSAY

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Background: Thyroid function test results of healthy pregnant women differ from those of healthy non-pregnant women. This study aimed to determine trimester-specific reference ranges for total tetraiodothyronine (T4), free T4, total triiodothyronin (T3) and thyroid stimulation hormone (TSH) using electrochemiluminescence techniques from apparently healthy pregnant women in Basrah.

Material & Methods: A cross sectional study was conducted between January 2014 and June 2015. The total enrolled pregnant women were 893. Clinical examination, estimation of free T4, total T4, total T3, TSH and anti-thyroid peroxidase (anti-TPO) using electrochemiluminescence technique done for each.

Results: Trimester specific normal range of TSH in μ U/mL was 0.04–3.77, 0.30–3.21 and 0.60–4.50 μ U/mL respectively, for each trimester. For FreeT4, the trimester specific reference range was 0.8–1.53, 0.7–1.20 and 0.7–1.20 ng/dL for each trimester, respectively. The reference range for total T4 for the first, second and third trimester was 7.31–15.00, 8.92–17.38 and 7.98–17.70 μ g/dL, respectively. Furthermore, last trimester specific reference range for total T3 was 0.90–2.51, 1.99–2.87 and 1.20–2.70 ng/mL, respectively.

Conclusion: Using this thyroid function study, we established for first time trimester-specific reference ranges for each thyroid function test and thyroid antibody status for the first time in Iraq. The reference ranges are different from all previous studies outside Iraq and the reference kit range from the method we used.

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