

Result(s): The highest prevalence of abnormal BMD (osteopenia and osteoporosis) was found in patients with hyperthyroidism (80%), followed by primary hypothyroidism (52%) and finally by simple nodular disease (33%). A normal BMD was more likely in those less than 45 years of age, premenopausal and those with simple nodule, and there was a statistically significant association of an underlying diagnosis of hyperthyroidism, age >45, and postmenopausal state with a low BMD state. Patients with hyperthyroidism had significantly higher rates of osteoporosis 46.6 % and osteopenia 33.3%, with only 20% had shown a normal BMD. Patients with primary hypothyroidism had a normal BMD only in 47% of cases, while 53% had a low abnormal BMD, with 41.5% demonstrating frank osteoporosis and 11.3% having osteopenia. Patients with simple thyroid nodule had significantly higher rates of normal BMD with 66%, while 33.3% had osteopenia with none having osteoporosis. While the current thyroid state of the patient did not show an association with abnormal BMD in both primary hyperthyroidism and primary hypothyroidism, there was a statistically significant association of osteopenia and subclinical hyperthyroid state in patients with thyroid nodules. Patients with hypothyroidism and abnormal BMD were more likely to be >45 years of age, postmenopausal, and used a higher dose of LT4*. This risk was not related to the duration of LT4 treatment or the TSH value. The duration of hyperthyroidism was significantly longer in patients with hyperthyroidism and low BMD compared to those with normal BMD (6 years compared to 1 year), while the duration of hypothyroidism treatment with levothyroxine in patients with primary hypothyroidism was similar (7 years) in both normal and low BMD groups.

Conclusion(s): Primary hyperthyroidism carries the highest risk for low BMD among thyroid disorders, especially in postmenopausal women and long duration of disease. Patients with simple thyroid nodule have increased risk of osteopenia if their TSH is in the subclinical hyperthyroid state. Primary hypothyroid patients have an increased risk of osteoporosis and osteopenia especially in those above the age of 45, postmenopausal, and those requiring high doses of thyroxine. Bone status was not related to the thyroid state in primary hyperthyroidism and primary hypothyroidism.

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CATEGORY: REPRODUCTIVE ENDOCRINOLOGY

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Effect of Weight Loss Due to Sleeve Gastrectomy on Polycystic Ovary Syndrome in a Morbidly Obese Pre-Menopausal Female



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Introduction: Polycystic ovary syndrome is a common endocrine disorder of women in reproductive age affecting about 8% of women overall. Weight loss remains the cornerstone of any management plan as it not only improves metabolic risk but also restores ovulatory cycles. Weight loss remains the cornerstone of any management plan as it not only improves metabolic risk but also restores ovulatory cycles. However robust data is not available on

benefits from the most commonly performed bariatric procedure i.e. sleeve gastrectomy.

Material(s) and Method(s): In this longitudinal prospective non-randomized evaluation 30 premenopausal morbidly obese women were screened for polycystic ovary syndrome as per Rotterdam criteria. Patients with polycystic ovary syndrome then underwent laparoscopic sleeve gastrectomy. Biochemical, clinical and radiological effect of surgery was assessed at 06 months and 12 months after surgery. The primary outcome was the change in free testosterone level at 6 months and 12 months post surgery. Secondary outcome measures were change in total testosterone level, fasting insulin levels, HOMAIR [Homeostatic model assessment (HOMA) is a method for assessing β -cell function and insulin resistance (IR)], fasting plasma glucose level, lipid profile, blood pressure, hirsutism score and ovarian volume. Paired t test was used to assess the change in biochemical parameters, hirsutism score and ovarian volume due to surgery at 6 months and 12 months. Effect size was assessed to determine the magnitude of change.

Result(s): Surgery resulted in weight loss of 29.25 15.42 kg which was associated with decrease in total testosterone 58.78 17.83 ng/dl to 37.01 7.91 (p = 0.000), free testosterone 1.20(0.39) to 0.53(0.12) ng/dl(p = 0.000), fasting plasma glucose 128.90(42.18) to 93.00(7.83) mg/dl(p = 0.012), fasting insulin 23.72(14.23) to 8.58(2.40) IU/mL (p=0.003), HbA1c 6.95(1.02) to 5.60(0.51) % (p = 0.000), diastolic blood pressure 85.20(8.55) to 74.10(4.86) mm of Hg (p = 0.000), systolic blood pressure 143.80(14.44) to 116.80(9.05) mm of Hg (p = 0.000), hirsutism score 10.20(4.61) to 7.10(2.77) (p = 0.001), ovarian volume 11.20(2.53) to 7.90(1.60) ml (p = 0.000), total cholesterol 201.40(19.65) to 142.40(8.11) mg/dl (p = 0.000), triglyceride 156.80(50.24) to 101.10(23.91) mg/dl (p = 0.001) and LDL cholesterol 122.70(17.62) to 66.90(8.83) mg/dl (p = 0.000). HDL cholesterol increased from 47.34(11.53) to 55.28(6.49) mg/dl (p = 0.015). Surgery restored menstrual cycles, hyperandrogenemia by six months following the operation. There was marked lessening of hirsutism and decrease in ovarian volume by twelve months.

Conclusion(s): PCOS affect close to 1/3rd premenopausal woman with morbid obesity which can potentially completely resolve with laparoscopic sleeve gastrectomy. The benefits of the surgery are wide ranging as it effectively ameliorates metabolic and hyperendogenic manifestation of this disorder and should be offered to all the eligible patients.

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Practice Patterns of Diagnosis and Management of Polycystic Ovary Syndrome: A Survey of Physicians from the Middle East and Africa



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Background: Background: Studies from several regions examined the approach to diagnosis and management of the polycystic ovary syndrome (PCOS). Limited similar data are available from the Middle East and Africa (MEA). Objective: An online survey consisting of a simple questionnaire to understand current practice for diagnosis and management of PCOS by specialists across the MEA region.

Material(s) and Method(s): A previously established questionnaire was used. It consisted of 25 questions grouped to capture information on a) the characteristics of the respondents, b) patients with PCOS seen by respondents, c) the diagnostic criteria, d) biochemical parameters for differential diagnosis of hyperandrogenism, e) long-term concerns, and, finally f) management choices.

Result(s): A total of 190 questionnaires (ESE) were available for final analysis; 59.5% and 17.4% of the respondents were endocrinologists and gynecologists, respectively; 73.7% were established, physicians. Concerning the diagnostic criteria, respondents were most likely to select menstrual irregularity as the most frequent criteria used for the diagnosis of PCOS (90.5%), although very high rates were achieved for the use of hirsutism (75.7%) and biochemical hyperandrogenism (71.4%). The most frequent biochemical parameters used for the differential diagnosis of hyperandrogenism were dehydroepiandrosterone (52.4%) or total testosterone (45.4%). Obesity and type 2 diabetes were the principal long-term concerns for PCOS (45.1%), followed by infertility (29.9%). The most common treatments for patients with PCOS were metformin (43.8%), lifestyle modification (27.0%), and oral contraceptives (18.9%). Treatments of infertility include metformin alone, clomiphene citrate alone, or their combination prescribed by 23.1%, 9.9%, or 52.7%, respectively, whereas only 3.8% contemplated ovulation induction.

Conclusion(s): This survey provides a baseline for the perspective in diagnosing and treating PCOS in the MEA region. Some deviation is observed from mainline recommended practices. More education on PCOS diagnostic criteria and treatment of PCOS is in line with the recently published evidence international guideline.

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Newly Diagnosed Thyroid Dysfunction Presented as Female Sexual Dysfunction: The First Study from Basrah, Iraq



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Background: Overt and subclinical thyroid dysfunction may present as female sexual dysfunction (FSD) due to their hormonal effect on consecutive psychiatric disorders. Our objective was to evaluate the impact of thyroid dysfunction on FSD in reproductive-aged married premenopausal women in Basrah- Iraq.

Material(s) and Method(s): We evaluated 673 reproductive-aged women with different sexually-related complaints in FDEMC. There were 229 women who fulfilled the criteria of FSD diagnosis for more than six months, excluding any women with any condition, medication, or intervention that might disturb the sexual function at any level. The 229 women were tested by a cascade of hormonal investigations, including free thyroxine (FT4), thyrotropin-stimulating hormone (TSH), total testosterone (TT) with sex hormone-binding globulin (SHBG), calculated free testosterone (cFT), estradiol (E2), and prolactin (PRL).

We had diagnosed 42 women with different thyroid dysfunction and considered them as (case group), versus 187 women with normal thyroid function and considered as (control group).

We used the Arabic Version of Female Sexual Function Index-Arabic version (ArFSFI) Scoring, which contains 19 questions in six different sexual domains (desire, arousal, lubrication, orgasm, satisfaction, and pain). A total score of <26.55 points suggested FSD. The domains' cut-off points were (desire=4.28, arousal=5.08, lubrication=5.45, orgasm=5.05, satisfaction=5.04, and pain=5.51). We used an independent sample t-test to study different FSFI domain scores, biochemical parameters, and some personal-related characteristics between women in both groups. Subgroup analysis in the thyroid dysfunction group was done from autoimmunity and thyroid hormone levels.

Result(s): The prevalence of subclinical thyroid dysfunction in FSD was 8.30%, compared to 10.04% for overt thyroid dysfunction. The enrolled women in both groups were nearly matched in their age, weight, parity, duration of the marriage, and FSD. All the 229 women across the two groups described severely reduced FSFI scores, markedly around the third of the cut-off values for all scores. The PRL, TT, SHBG, cFT, and E2 levels did not significantly differ in both groups.

Thyroid autoimmunity status did not affect the sexual domains scores levels between women with autoimmune thyroid dysfunction and those without.

The pattern extended to include all the studied hormones, except E2. There were normal levels of E2 for both groups, yet, women with autoimmune thyroid dysfunction had significantly higher reference E2 than women with non-autoimmune thyroid dysfunction. The pattern of nonsignificant association did not change during further subgroup analysis between women with autoimmune hypothyroidism and hyperthyroidism.

Conclusion(s): Although we get markedly reduced FSFI scores for all domains, it was not significantly different in women with any form of thyroid dysfunction compared to the control group. We could not verify any causal hormonal relationship.

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Premature Ovarian Insufficiency: Epidemiology, Aetiopathology, and Diagnostic Evaluation at Sultan Qaboos University Hospital



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