accessibility to osteoporosis care while maintaining quality. At our Osteoporosis Centre, we have implemented a group counseling model for this purpose: the Patient-Centred Educonsult Program for Osteoporosis (PEP-OP). Each two-hour PEP-OP session - co-facilitated by an osteoporosis physician and a nurse - provides up to 10 patients (the equivalent to 3–5 half-day physician clinics under the TC model) with a combined consultative and educational experience consisting of an individualized fracture risk assessment and extensive review of medications available to lower fracture risk. Patients are then encouraged to make an informed, autonomous decision about osteoporosis treatment initiation. Although the PEP-OP can accommodate a greater patient volume than the TC, and we have previously reported that the PEP-OP results in high patient satisfaction, it is not known whether PEP-OP produce similar results compared to TC in terms of treatment decisions. In this cohort study, we compared decisions to initiate osteoporosis therapy in PEP-OP (N=100) and TC (N=43) attendees. Ten-year risk of major osteoporotic fracture was estimated for each participant using the FRAX calculator, and participants were stratified based on whether their ten-year risk was ≥20% or <20%. Proportion of participants in each risk category who decided to initiate treatment were compared between the PEP-OP and TC groups. PEP-OP and TC groups were comparable in terms of age (63.3 vs 64.9 years), BMI (24.4 vs 24.9 kg/m^2), previous fragility fractures (35 vs 25%), parental hip fractures (19 vs 23%), lumbar neck T-score (-2.5 vs -2.3), femoral neck T-score (-2.1 vs -2.1) and average FRAX estimate (13.1 vs 13.3%). The proportion of participants at high ten-year risk of major osteoporotic fracture (≥20%) who decided to initiate treatment was similar in both the PEP-OP (7/16, 44%) and TC (5/10, 50%) groups, according to the Chi Square Test (p=0.76). Among those with FRAX estimate of <20%, a similar proportion of patients in the PEP-OP (15/84, 18%) and TC (4/33, 12%) groups chose to undergo treatment (X^2, p=0.45). In summary, decisions to initiate pharmacologic therapy were similar for the PEP-OP and the TC. Considering that the PEP-OP is acceptable to patients and is more efficient than the TC, this care model should be considered by other centers wishing to improve access to high-quality osteoporosis care.

Reproductive Endocrinology

CLINICAL STUDIES IN FEMALE REPRODUCTION II

Loss of Antimullerian Hormone Immunoreactivity Due to a Homozygous AMH Gene Mutation Rs10417628 in a Woman with Classical Polycystic Ovary Syndrome

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Anti-Müllerian hormone (AMH), an inhibitor of primordial/small antral follicle development and Leydig cell androgen synthesis in mice, could exaggerate the polycystic ovary syndrome (PCOS) phenotype, given reports of PCOS-specific AMH loss-of-function mutations (1–3). This report describes a normal-weight PCOS woman with severely reduced AMH levels (index PCOS woman). It examines the molecular basis for her reduced serum AMH levels and also compares her endocrine characteristics to similar-weight PCOS women with detectable AMH. Twenty normo-androgenic ovulatory (control) and 13 age- and body mass index-matched PCOS women (19–35 years; 19–25 kg/m^2) underwent transvaginal sonography and serum hormone measures. Wilcoxon rank-sum test compared clinical features of control and PCOS women with detectable AMH, which were then individually ranked by magnitude in all PCOS women. DNA analysis was performed by PCR amplification with direct gene sequencing. The identified mutation was introduced in hAMH-expression plasmids for functional analysis of AMH processing in HEK293 cells by Western blot and ELISA (pico-AMH assay, Ansh Labs, Webster, TX), and for bioactivity in KK-1/AMHR2 cells using a luciferase reporter. Unpaired t-test compared AMH-induced luciferase activity between wild type and mutant AMH. A homozygous AMH gene mutation rs10417628 involving a single base pair substitution in exon 5 (NG_012190.1:g.7705C>T, p.(Ala515Val)) was identified in the index PCOS woman. PCOS women with detectable AMH had higher serum AMH (10.82 [6.74–13.40] ng/mL, Median [IQR]), total/free testosterone (T) (total T: 55.5 [49.5–62.5] ng/dL; fT: 5.65 [4.75–6.6] pg/mL) levels and greater total antral follicle numbers (AFNs) (46 [39–59] follicles) than controls (AMH: 4.03 [2.47–6.11] ng/ml; total T: 30 [24.5–34.5] ng/dL; fT: 2.2 [1.8–2.45] pg/mL; AFNs 16 [14.5–21.5] follicles, P<0.05, all values), along with a trend toward LH hypersecretion (P=0.06). The index PCOS woman with the lowest AMH levels (0.1 ng/ml) did not have the highest serum total T/fT (total T: 89 ng/dL; fT: 7 pg/mL,) or LH levels nor the greatest AFN (43 follicles). In vitro analysis of cells expressing hAMH-^{515}Val or hAMH-^{515}Ala showed that hAMH^{515}-Val, in contrast to hAMH^{515}-Ala, was undetectable and severely reduced in the pico-AMH assay in cell lysates and supernatants, respectively. AMH protein processing and AMH-induced luciferase activity, however, did not differ between hAMH^{515}Val and hAMH^{515}Ala. Thus, homozygous *AMH* mutation rs10417628 in a PCOS woman can impair serum AMH immunoreactivity without affecting AMH bioactivity, perhaps because of conformational changes from the mutation that only interfere with its immunodetection but not its function. **References**: 1. Teixeira J, et al. Endocrinology 1999;140:4732 2. Gorsic LK et al. JCEM 2019;104:2855 3. Broekmans FJ, et al. Trends Endocrinol Metab 2008;19:340

Thyroid

BENIGN THYROID DISEASE AND HEALTH DISPARITIES IN THYROID I

Evaluation of the Siemens Thyroid Stimulating Immunoglobulin (TSI) Assay for Diagnosis and Prognosis of Graves' Disease

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