HHS Public Access

Author manuscript

J Am Acad Dermatol. Author manuscript; available in PMC 2021 July 20.

Published in final edited form as:

J Am Acad Dermatol. 2020 July ; 83(1): 260–261. doi:10.1016/j.jaad.2020.01.075.

Polycystic ovarian syndrome in patients with hair thinning

Sonya Prasad, BA[1,*], **Brianna De Souza, MD**[1,*], **Laura J. Burns, BS**[1], **Margaret Lippincott, MD**[2,3], **Maryanne M. Senna, MD**[1,2]

[1]Department of Dermatology, Massachusetts General Hospital, Boston, MA

[2]Harvard Medical School, Boston, MA

[3]Department of Reproductive Endocrinology, Massachusetts General Hospital, Boston, MA

Polycystic ovary syndrome (PCOS) is the most common endocrine disorder affecting women of reproductive age, involving pathways that produce metabolic, reproductive, cardiovascular and dermatologic effects. Diagnosis is based on the Endocrine Society Clinical Practice Guideline (ESCPG) and the 2003 Rotterdam criteria, which requires two of the following to establish a definitive diagnosis [1,2]:

1. Oligo- or anovulation
2. Hyperandrogenism (clinical or biochemical)
3. Polycystic ovarian morphology on transvaginal ultrasonography

A retrospective study found that hirsutism and acanthosis nigricans are the most reliable clinical markers of PCOS [3], yet there is sparse research on the prevalence of PCOS in patients presenting with a chief complaint of hair thinning. Since dermatologists are uniquely positioned to refer women with suspected PCOS to a specialist [4], this study aims to identify the factors leading to an eventual diagnosis of PCOS among female patients who presented to a specialty hair loss clinic. This study was conducted with institutional review board approval.

Between January 2017 and June 2019, 472 women were diagnosed with female pattern hair loss (FPHL) of whom 38 (8%) reported a known diagnosis of PCOS. An additional 15 women (3.2%) were referred to reproductive endocrine (RE) from hair loss clinic. The average age of those referred was 29 years, and most self-identified as Caucasian (n=12), while others identified as Hispanic (n=2) or Asian (n=1). Although other types of alopecia affecting women, including alopecia areata and lichen planopilaris, can be seen in patients with PCOS, FPHL specifically is reported as a clinical sign of hyperandrogenism associated with PCOS. We therefore focused on this more common hair loss presentation.

Corresponding author: Maryanne M. Senna, MD, 50 Staniford Street, Suite 200, Boston, MA 02114, 617-726-2914, msenna@partners.org.
*Denotes co-first authors

IRB approval: The Partners Healthcare Institutional Review Board Protocol #: 2019P001985

Conflicts of Interest: None to report.

Patients had an average Sinclair score of 2.1. Table 1 outlines the reasons for patient referrals from hair loss clinic to RE. Notably, most patients (n=11) reported irregular menses when not on any form of birth control. Four patients reported previously receiving an equivocal PCOS diagnosis but lacked a work up to evaluate for diagnostic criteria.

In reproductive endocrinology, 10 patients were confirmed to have oligo- or anovulation after review of menstrual cycle history and 11 patients had acanthosis nigricans, hirsutism, and/or acne. Most patients received a transvaginal ultrasound (n = 13), 77% of which were consistent with polycystic ovarian morphology (PCOM). Sex hormone binding globulin (SHBG), total testosterone, and free testosterone levels were checked in a minority of patients. Per the Endocrine Society Guidelines serum androgens are not necessary to establish a diagnosis of PCOS if clinical hyperandrogenism is present with the absence of virilization. In all cases of PCOS in the current study, serum hormone levels were not required for diagnosis. Overall, 12 patients (80%) received a diagnosis of PCOS, and 3 patients were considered for alternative diagnoses including hyperprolactinemia and early menopause. Limitations of this study included small sample population and retrospective methodology.

These results indicate that females presenting to dermatologists with alopecia should be considered for RE referral. This study confirms previous reports of hirsutism and acanthosis nigricans being the most reliable clinical markers of PCOS. Thirty-eight women (8%) presenting for hair thinning to our clinic had a known diagnosis of PCOS at the time of hair loss consultation. Taking a detailed menstrual history with subsequent RE referral and work up when indicated, led to a new diagnosis of PCOS in an additional 12 patients (2.5%) Given the important role of transvaginal ultrasound in diagnosing PCOS in our patient cohort, providers should take note of the utility of this tool upon referral to RE, particularly in patients with a history of irregular menses or other clinical signs of hyperandrogenism. . Notably, serum hormone values were not required in our patient population to meet PCOS diagnostic criteria. This of particular clinical importance, since many women are on hormonal contraception at the time of presentation, precluding accurate testing of these labs. Identification of PCOS is critical given that these women have a higher risk for metabolic syndrome, some malignancies and infertility [2]. Dermatologists treating FPHL patients are uniquely poised to aid in early diagnosis and enable pharmacologic interventions and lifestyle management.

Citations:

1. Rotterdam ESHRE/ASRM-Sponsored PCOS Consensus Workshop Group. Revised 2003 consensus on diagnostic criteria and long-term health risks related to polycystic ovary syndrome (PCOS). Hum Reprod. 2004;19(1):41–47. [PubMed: 14688154]
2. Legro RS, Arslanian SA, Ehrmann DA, Hoeger KM, Murad MH, Pasquali R, Welt CK. Diagnosis and treatment of polycystic ovary syndrome: An Endocrine Society clinical practice guideline. The Journal of Clinical Endocrinology & Metabolism. 2013;98(12):4565–92. [PubMed: 24151290]
3. Schmidt TH, Khanijow K, Cedars MI, Huddleston H, Pasch L, Wang ET, Lee J, Zane LT, Shinkai K. Cutaneous findings and systemic associations in women with polycystic ovary syndrome. JAMA dermatology. 2016 4 1;152(4):391–8. [PubMed: 26720591]
4. Sivayoganathan D, Maruthini D, Glanville JM, Balen AH. Full investigation of patients with polycystic ovary syndrome (PCOS) presenting to four different clinical specialties reveals

significant differences and undiagnosed morbidity. Hum Fertil (Camb). 2011;14(4):261–265. [PubMed: 22088131]

Table 1:

Clinical reasons for referral from hair loss clinic to reproductive endocrinology, resultant evaluation, and diagnosis of PCOS.

	Reason for referral from hair loss clinic to reproductive endocrinology	Criteria used in PCOS evaluation by reproductive endocrinology	Number given definitive PCOS diagnosis
Clinical Signs of Hyperandrogenism**	8	8	6
Biochemical Signs of Hyperandrogenism	1	1	1
Irregular Menses	11	10	8
Previous Equivocal PCOS Diagnosis	4		3

** Excluding alopecia diagnosis, other clinical signs included hirsutism, AN and acne