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Primary Dysmenorrhea: A Questionable Diagnosis in the Modern Era

Elliot M. Levine[1,*], Carlos M. Fernandez[2]

[1]Rosalind Franklin University, Obstetrics and Gynecology, United States

[2]Advocate Illinois Masonic Medical Center, Obstetrics and Gynecology, Chicago, United States

*Correspondence should be addressed to Elliot M. Levine, elliot.levine@rosalindfranklin.edu

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Abstract

The term "Primary Dysmenorrhea" may no longer adequately describe a patient's diagnosis, given the capabilities of modern imaging technology to detect possible deep infiltrating endometriosis. Laparoscopy alone may not be sufficient for diagnosing endometriosis. Considering the availability of specific therapeutic interventions tailored for endometriosis, there is a compelling case for pursuing a more targeted diagnostic approach. Labeling a symptomatic adolescent solely with "Primary Dysmenorrhea" may overlook the possibility of underlying endometriosis and limit the effectiveness of treatment strategies. Therefore, a collaborative approach that integrates specialty knowledge with diagnostic imaging can yield more precise diagnoses and optimize patient outcomes for symptomatic dysmenorrhea.

Keywords: Primary dysmenorrhea, Endometriosis, Deep endometriosis, Diagnosis, Sonography, Diagnostic laparoscopy

Condensation

Currently available sonography may logically cause the diagnosis of Primary Dysmenorrhea to be replaced by Suspected Endometriosis, in the absence of histologic confirmation.

Editorial

Primary Dysmenorrhea (PD) is defined as cyclic pelvic cramping pain coinciding with menstrual bleeding, without an identifiable underlying cause. However, the most commonly identified cause of this symptom is endometriosis, [1] which, if diagnosed, would negate the diagnosis of PD. It often presents at the initiation of regular menstruation by teenagers and young women, which is why this diagnosis is so commonly found within the adolescent medical literature [2]. Endometriosis can present in three forms: superficial peritoneal, ovarian cystic, or deep infiltrating endometriosis (DIE). Superficial peritoneal endometriosis can typically be seen via laparoscopy and confirmed histologically via biopsy. However, ovarian cystic and DIE often require a sonographic diagnostic approach, as DIE exists ≥ 5 mm beneath the peritoneal surface and is not always visible with laparoscopy. This traditional "gold standard" for diagnosing endometriosis has been challenged by overwhelming evidence suggesting it may not be as definitive as previously thought [3].

The exact prevalence of endometriosis, including its subtype deep infiltrating endometriosis (DIE), is currently unknown, as is its frequency among patients experiencing pain from dysmenorrhea [4]. Although laparoscopy is commonly used for the definitive diagnosis and surgical excision of endometriosis, it may not always successfully visualize endometriotic lesions, particularly for DIE. Superficial endometriosis is more often operatively visualized during laparoscopy but interobserver variability and the experience level of the surgeon can significantly impact diagnostic accuracy [5,6]. As such, three-dimensional transvaginal sonography (3DTVS) has emerged as the preferred imaging modality for the precise diagnosis of DIE [7,8]. Histological confirmation of superficial and ovarian cystic endometriotic lesions is typically achieved through tissue biopsy. However, such histologic confirmation may not be feasible when lesions are not visible during laparoscopy, as the characteristic "powder burn" lesions may be absent in patients with only DIE, in the absence of superficial or ovarian

cystic endometriosis. Endometriosis is traditionally confirmed histologically by the presence of endometrial glands and stroma outside of the uterus.

PD is somewhat unique as it is classified as a disease despite lacking a definitive organic cause. This symptom commonly affects menstruating women, with varying degrees of severity. Some women experience more intense menstrual cramping, which can be accompanied by headaches, nausea, vomiting, fatigue, and body aches. When these symptoms are severe with no identified underlying cause, such as endometriosis, it is termed a disease. Failure to establish a definitive and treatable diagnosis can result in delay of diagnosis and treatment, leading to prolonged unnecessary suffering, and resultant distrust of the medical profession [9]. Typically, diseases are understood to be caused by pathogens, metabolic dysfunctions, autoimmune processes, or similar physiological bases. PD, classified as a disease according to ICD-10 (N80.1-9), does not fit these conventional criteria.

In a single-center series of 100 cases of suspected DIE in symptomatic women who were all sonographically examined, confirmation of DIE was achieved in 92 (92%) of surgically explored cases. Interestingly, in 34% of those cases, no associated superficial endometriosis was found at surgical exploration [10]. This subset of adult patients, all with histologically confirmed DIE, highlights that laparoscopy alone was insufficient to identify or diagnose this condition. The variation in the percentage of DIE cases without associated superficial endometriosis in different reports may be attributed to the reliance on the operator's expertise in interpreting sonographic descriptors of DIE.

Dysmenorrhea and its potentially underlying endometriosis significantly impact the personal, social, and professional lives of women, often leading to absenteeism from school or work and potentially causing future infertility and chronic pelvic pain [1]. Endometriosis may initially present with dysmenorrhea without any apparent clinical evidence (e.g., adnexal tenderness or palpable cystic lesions), resulting in a diagnosis of PD. However, a detailed laparoscopic and sonographic assessment in these cases could reveal a different diagnosis. This does not imply that adolescents should always undergo these invasive procedures; rather, it suggests that treatment for presumptive endometriosis should be considered, or further diagnostic measures taken.

While transvaginal sonography may be uncomfortable for a virginal young woman, this must be weighed against the potential for continued menstrual suffering without effective treatment. There is currently insufficient documentation to confirm that adolescents with PD will later be diagnosed with endometriosis as adults, although this is a plausible scenario and warrants further investigation [11]. Nonetheless, such a circumstance is plausible, and exploration of the possibility of this is warranted, as has been suggested by multiple authors [11-13]. It is important to recognize that even if standard two-dimensional transvaginal sonography (2DTVS) is performed, evidence of DIE may not be evident, highlighting the importance of 3DTVS for comprehensive sonographic evaluation [7].

Comprehensive diagnostic identification of possible endometriosis requires both sonographic and laparoscopic assessment to definitively rule out its presence. Without such verification, a diagnosis of PD will always be suspect. However, a diagnosis of "presumptive endometriosis" in that clinical setting may be justified, so that appropriate treatment is provided to prevent clinical progression, infertility, and chronic pelvic pain, which can often occur. While non-steroidal anti-inflammatory drugs (NSAIDs) and oral contraceptives can offer relief of dysmenorrhea, adequate work-up seems necessary to prevent these common sequelae of endometriosis from occurring. Specific endocrinological therapy may be considered when there is evidence of endometriosis, with further treatment potentially warranted.

Conflicts of Interest

The authors deny any conflicts of interest.

References

1. ACOG Committee Opinion No. 760: Dysmenorrhea and Endometriosis in the Adolescent. Obstet Gynecol. 2018 Dec;132(6):e249-58.

2. Hewitt G. Dysmenorrhea and Endometriosis: Diagnosis and Management in Adolescents. Clin Obstet Gynecol. 2020 Sep;63(3):536-43.

3. Chen-Dixon K, Uzuner C, Mak J, Condous G. Effectiveness of ultrasound for endometriosis diagnosis. Curr Opin Obstet Gynecol. 2022 Oct 1;34(5):324-31.

4. Christ JP, Yu O, Schulze-Rath R, Grafton J, Hansen K, Reed SD. Incidence, prevalence, and trends in endometriosis diagnosis: a United States population-based study from 2006 to 2015. Am J Obstet Gynecol. 2021 Nov;225(5):500.e1-500.e9.

5. Fernando S, Soh PQ, Cooper M, Evans S, Reid G, Tsaltas J, et al. Reliability of visual diagnosis of endometriosis. J Minim Invasive Gynecol. 2013 Nov-Dec;20(6):783-9.

6. As-Sanie S. Is a picture worth a thousand biopsies? Challenges in the diagnosis of endometriosis. J Minim Invasive Gynecol. 2013 Nov-Dec;20(6):733-4.

7. Guerriero S, Saba L, Ajossa S, Peddes C, Angiolucci M, Perniciano M, et al. Three-dimensional ultrasonography in the diagnosis of deep endometriosis. Hum Reprod. 2014 Jun;29(6):1189-98.

8. Goncalves MO, Siufi Neto J, Andres MP, Siufi D, de Mattos LA, Abrao MS. Systematic evaluation of endometriosis by transvaginal ultrasound can accurately replace diagnostic

laparoscopy, mainly for deep and ovarian endometriosis. Hum Reprod. 2021 May 17;36(6):1492-500.

9. Agarwal SK, Chapron C, Giudice LC, Laufer MR, Leyland N, Missmer SA, et al. Clinical diagnosis of endometriosis: a call to action. Am J Obstet Gynecol. 2019 Apr;220(4):354.e1-354.e12.

10. Fernandez CM, Levine EM, Shashoua A, Tam MT, Diaz L. The expanding role of sonography for the diagnosis of deep infiltrating endometriosis: Results of a large case series. Int J Gynaecol Obstet. 2024 Jul;166(1):326-32.

11. Martire FG, Piccione E, Exacoustos C, Zupi E. Endometriosis and Adolescence: The Impact of Dysmenorrhea. J Clin Med. 2023 Aug 29;12(17):5624.

12. Kho KA, Shields JK. Diagnosis and Management of Primary Dysmenorrhea. JAMA. 2020 Jan 21;323(3):268-9.

13. Ferries-Rowe E, Corey E, Archer JS. Primary Dysmenorrhea: Diagnosis and Therapy. Obstet Gynecol. 2020 Nov;136(5):1047-58.