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REVIEW

Dysmenorrhoea

Lindeque BG, *MBChB, MMed, FCOG(SA), MDFRCOG, Professor and Head*

Department of Obstetrics and Gynaecology, University of Pretoria, Pretoria
Correspondence to: *Gerhard Lindeque, e-mail: gerhard.lindeque@up.ac.za*

Abstract

Dysmenorrhoea is a descriptive term for several conditions that cause menstrual pain. While various grades of menstrual pain occur commonly in the menstruating population, approximately 15% of this group of women experience sufficient pain and discomfort to report to healthcare services.

Dysmenorrhoea is classified as either primary or secondary, and consideration should be given to a third type, i.e. once-off, at the time of passing an endometrial cast.

Primary dysmenorrhoea is predominantly found in young women, is caused by prostaglandin activity, and responds well to oral contraceptive use, as well as nonsteroidal anti-inflammatory drug medication.

Secondary dysmenorrhoea, which can occur in any age group, and appears as a consequence of other serious conditions, is the main challenge. The most common other serious conditions include endometriosis, the use of intrauterine contraceptive devices, pelvic infections, uterine adenomyosis, sometimes fibroids, and ovarian cysts. Clearly, these conditions must be considered, diagnosed and treated to resolve the main complaint of dysmenorrhoea.

Keywords: primary and secondary dysmenorrhoea, endometriosis, pelvic infection, intrauterine contraceptive device

Introduction

The menstrual cycle, as experienced by women of reproductive age, i.e. approximately 16-45 years, may lead to severe symptomatology. It is safe to state that most women experience manageable, slight or even no discomfort or cramps during the menstrual bleeding phase of the cycle (60-70%).[1] Such cramps and pain do not lead to considerable disruption of their daily life activities. However, the grade of pain is intense in roughly 15% of seemingly healthy women in their reproductive years, and disrupts normal activities, including absenteeism from work or studies.[1,2] This does not include the even larger group of women who develop menstrual pain symptoms while harbouring causative disorders.

The concept of physiological processes that cause significant harm requires deeper analysis.

Classification

- Most current thought is that the broad concept of menstrual pain can be classified as follows:[3]
- *Menstrual pain:* Menstrual pain that does not disrupt the woman's lifestyle.
- *Dysmenorrhoea:* Disruption to the woman's lifestyle by primary dysmenorrhoea (the absence of causative pathology), secondary dysmenorrhoea (secondary to causative pathology), and membranous dysmenorrhoea (an acute single event with the passing of an endometrial cast).

Symptomatology

Dysmenorrhoea refers to cyclical cramp-like pain during menstrual bleeding, which is absent during other parts of the menstrual cycle. The pain is experienced in the lower abdomen and pelvis, and may be accompanied by a feeling of heaviness or distension in the pelvis. Lower back ache is present. Systemic symptoms may be present, and include nausea, vomiting, diarrhoea, headaches and dizziness.

Primary dysmenorrhoea

Most commonly encountered during adolescence and in the 20s, primary dysmenorrhoea is diagnosed on the basis of symptoms. Signs are not present. Risk factors for primary dysmenorrhoea include nulliparity, lack of contraceptive use, a family history and stress. In the past, the latter two risk factors led to the belief that these women were psychologically disturbed. However, this premise is not accepted any more. The pathophysiology has been established. The secretion of potent prostaglandins (especially PGF_2 alpha) from the endometrium in the premenstrual and menstrual phases leads to vasoconstriction and uterine contractions. This is true in ovulatory cycles, where the luteal phase is present and prominent. Some persons experience this very severely, and the description of primary dysmenorrhoea should be reserved for such women.

Based on the pathophysiology, treatment is aimed at symptomatic relief and the suppression of ovulation. Combined

oral contraceptives offer considerable health benefits, including less dysmenorrhoea, menstrual blood loss, acyclical bleeding and breast cysts, and in the long run, less ovarian and endometrial neoplasms.

Combined oral contraceptives should not be used by women:

- Aged 35 years and older with hypertension and/or a smoking history.
- With an own or family history of, or risk factors for, arterial or venous thrombotic disease.
- With undiagnosed abnormal uterine bleeding.
- With uninvestigated amenorrhoea.
- With liver and gall bladder disease, and migraines or galactorrhoea.

Risk factors for thrombotic disease other than an own or family history include hypertension, overweight, diabetes mellitus and cigarette smoking.

Combined oral contraceptives are a safe and successful therapeutic choice for the symptomatic relief of dysmenorrhoea. Modern practice suggests the use of combined pills with a low hormone content.[4,5]

The use of nonsteroidal anti-inflammatory drugs (NSAIDs) for the symptomatic relief of primary dysmenorrhoea is very popular, and has been widely studied. It is believed that ≥ 90% women experience relief from pain when NSAIDs are taken during the bleeding phase of the menstrual cycle.[6-8]

Surgical options for the management of primary dysmenorrhoea have not been proven useful, and should not be used. They include cervical dilatation and neurectomy procedures.

Secondary dysmenorrhoea

Secondary dysmenorrhoea is the most important aspect of the broad concept of menstrual pain. Several conditions can be either totally or partially present with dysmenorrhoea.

Typically, secondary dysmenorrhoea occurs in older women of reproductive age. The pain may be less cramp like and more constant or dull, may occur in the luteal phase, and actually improve during the bleeding phase, and may not respond predictably to the use of NSAIDs.

The most likely differential diagnoses are as follows.

The use of intrauterine contraceptive devices

If the dysmenorrhoea has its onset after the insertion of an intrauterine contraceptive device, then this should initially be presumed to be the cause. The patient should be managed as with primary dysmenorrhoea, i.e. with a prescription of NSAIDs. Clearly, an ectopic pregnancy and pelvic infection must be excluded.

Endometriosis

This is the most important differential diagnosis, made more difficult by a paucity of indicative clinical signs and symptoms, and no reliable ultrasound findings. Endometriosis is a pelvic pain disease, so pain is not confined to the bleeding phase of the menstrual cycle. It affects women of all reproductive ages. Dysmenorrhoea may be the first symptom, or it may be part of a pain complex. The clinical finding of endometriotic nodules in the pouch of Douglas, or of ovarian masses with the ultrasonic appearance of blood-filled cysts, may assist in suspecting endometriosis as the core diagnosis. The final diagnosis of endometriosis is made on the histology of a biopsy taken of suspicious nodules, usually taken at laparoscopy. This result outlines the management plan. A woman with late-onset atypical dysmenorrhoea or who is non-responsive to NSAIDs should be regarded as a woman with endometriosis, until proven otherwise, and referred for laparoscopy, and if endometriosis is detected, for treatment.[9]

Pelvic infection

Pelvic infection includes all sexually transmitted infections. The most common organism in these modern times is *Chlamydia,* but viral and bacterial diseases are also diagnosed regularly. Women with pelvic infection may not have fever (they may have experienced fever long ago), may not have abnormal uterine bleeding, and may not have acute peritonitis. However, almost all cases will suffer pelvic discomfort at other times than the bleeding phase of the menstrual cycle; will have uterine, cervical and adnexal tenderness, and may have a bothersome vaginal discharge. It is fair practice, when pelvic infection is suspected, to initiate treatment with doxycycline, or to follow any available syndromic protocol for vaginitis and cervicitis.

Adenomyosis

Adenomyosis is a disorder of late reproductive age, occurring in parous women who often also experience heavy menstruation, together with dysmenorrhoea. The pathophysiology is that functional endometrial glands are found within the uterine musculature. Whether the glands are trapped due to muscle growth, or whether the glands invade the myometrium, is hard to prove. The uterus often appears bulky on examination. Medical treatment is usually unsuccessful in relieving symptoms, and these women are frequently offered a hysterectomy.

Fibroids

Fibroids are listed here because submucosal fibroids, in particular, may cause dysmenorrhoea. Intramural and subserosal fibroids are usually remarkably asymptomatic. The management of diagnosed fibroids is achieved by following the standardised guidelines.

Ovarian cysts

Ovarian cysts may be functional or neoplastic, and can be associated with dysmenorrhoea in both scenarios. They are suspected on clinical examination, and confirmed on ultrasound investigation, in particular with the use of transvaginal ultrasound probes. Once again, standardised guidelines are available for the medical and surgical management of cysts.

Membranous dysmenorrhoea

Uncommonly, a woman may present with an acute onset of dysmenorrhoea, as a once-off or first-time event. In these cases, and in addition to the differential diagnosis previously described, consideration should be given to passing an endometrial cast through the undilated cervix.[3] Such casts do not only relate to ectopic pregnancies, but are often found in ovulatory cycles with a prolonged luteal phase.

Alternative remedies

As menstrual pain disorders are common and present over several years, other remedies have been reported to have been used for primary dysmenorrhoea, in particular. While they do not claim to be as effective as the recommended use of combined oral contraceptives and NSAIDs, many women try these products as well, or in place of prescription treatment. This group of treatment includes herbal medication,[10] coffee[11] and phytoproducts.[12]

References

1. Burnett MA, Anlao V, Black A, et al. Prevalence of primary dysmenorrhoea in Canada. J Obstet Gynecol Can. 2005;27:754-770.
2. Harlow SD, Park MA. A longitudinal study of risk factors for the occurrence, duration and severity of menstrual cramps in a cohort of college women. Br J Obstet Gynaecol. 1996;103(11):1134-1142.
3. Silberstein T. Complications of menstruation. In: De Cherney AH, Nathan L, editors. Current obstetric and gynecologic diagnosis and treatment. 9th ed. New York: Lange, 2003; p. 625-626.
4. Perez-Campos E. Ethinylestradiol/Dienogest in oral contraception. Drugs. 2010;10(6):681-690.
5. Anthuber S, Schramm GAK, Heskamp ML. Six month evaluation of the benefits of low dose combined oral contraceptive chlormadinone acetate2mg/ethinylestradiol 0.03mg in young women. Clin Drug Invest. 2010;30(4): 211-221.
6. Marjoribanks J, Proctor M, Farquhar C, et al. Nonsteroidal anti-inflammatory drugs for dysmenorrhoea. [Cohrane review]. In: The Cochrane Library, Issue 1, 2010. Oxford: Update Software.
7. Peacock A, Alvi NS, Mushtaq T. Period problems: disorders of menstruation in adolescents. Arch Dis Child. 2012;97(6):554-560.
8. Rainsford KD. Ibuprofen: from invention to OTC therapeutic mainstay. Int J Clin Pract Suppl. 2013(178):9-20.
9. Duffy JM, Arambage K, Correa FJ, et al. Laparoscopic surgery for endometriosis. [Cochrane review]. In: The Cochrane Library, Issue 4, 2014.
10. Mirabi P, Alamolhoda SH, Esmaeilzadeh S, et al. Effect of medicinal herbs on primary dysmenorrhoea: a systematic review. Iran J Pharm Res. 2014;13(3):757-767.
11. Palmer H, Graham G, Willaims K, et al. A risk-benefit assessment of paracetamol (acetaminophen) combined with caffeine. Pain Med. 2010;11(6):951-966.
12. Rehman H, Begum W, Anjum F, et al. Effect or rhubarb (Rheum emodi) in primary dysmenorrhoea: a single-blind randomized control trial. J Complement Integr Med. 2015;12(1):61-70.