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“The Knitting Lesson” (ca 1860) by Jean Francois Millet (1814—1875). Renowned for his peasant paintings, Millet in this painting illustrates the cycles of life and the passing on of skills from one generation to another. One of the major tasks of pediatricians is to teach parents and children skills to promote health. May we do it as gently and lovingly as this mother teaches her daughter knitting. (From the Museum of Fine Arts, Boston, Massachusetts.)

ANSWER KEY


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Menstrual Disorders in the Adolescent: Dysmenorrhea and Dysfunctional Uterine Bleeding
Margaret M. Polaneczky, MD* and Gail B. Slap, MD†

This is the second part of a two-part article about menstrual disorders in the adolescent. The first part, on amenorrhea, appeared in the February 1992 issue of Pediatrics in Review. R.J.H.

FOCUS QUESTIONS
1. What is the cause of the symptoms of primary dysmenorrhea?
2. What are the best treatments for primary dysmenorrhea?
3. What conditions must be excluded before a diagnosis of dysfunctional uterine bleeding is made?
4. What steps are involved in the management of dysfunctional uterine bleeding?

Dysmenorrhea
Dysmenorrhea, or painful menstruation, is the most common gynecologic problem that occurs during adolescence. It is estimated that 75% of menstruating women experience dysmenorrhea, making it the leading cause of school and work absenteeism among young women.

Primary dysmenorrhea is defined as painful menses with no identifiable pelvic pathology. Secondary dysmenorrhea refers to painful menses resulting from a pelvic abnormality, such as endometriosis or fibroids. This is an important distinction because treatment is based on the cause of the dysmenorrhea.

Evaluation of the adolescent who has dysmenorrhea begins with questioning about the timing, character, and location of the pain as well as the presence of associated systemic symptoms. A history of pelvic infection, menorrhagia, or intermenstrual bleeding suggests that the dysmenorrhea is secondary to pelvic pathology. Pelvic pain at times other than menstruation (eg, mid-cycle, during intercourse, with defecation) may indicate endometriosis. The onset of dysmenorrhea soon after menarche with rapid worsening over several cycles suggests an outlet obstruction, which may result from a partially imperforate hymen or uterine malformation.

A pelvic examination should be performed before initiating treatment for dysmenorrhea. Abnormal uterine size, position, or shape suggest uterine malformation rather than fibroids, which are uncommon during adolescence. Cervical cultures for gonorrhea and chlamydia should be performed because chronic pelvic inflammatory disease (PID) may appear as dysmenorrhea. Rectovaginal examination is especially important and may reveal tender uterosacral nodularity, fixed uterine retrodisplacement, or adnexal masses in the patient who has endometriosis. The presence of a vaginal or pelvic mass may indicate a genital tract malformation. Blockage of the menstrual effluent from a blind uterine horn can lead to progressive distension of the hemiuterus and upper vagina from retained menstrual products (hematomata or hematocolpos). Surgery is required to relieve the progressive

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The questions for the PIR quiz are located at the end of each article in this issue. Each question has a SINGLE BEST ANSWER. To obtain credit, record your answers on the PIR Quiz Card found in the January issue, and return the card to the Academy. (PREP group participants will receive the PIR Quiz Card and Self-Assessment Credit Reply Sheet under separate cover.) To receive CME credit on the 1992 annual credit summary, you must be enrolled in PREP or subscribe to Pediatrics in Review and return the PIR Quiz Card by February 28, 1993. PIR Quiz Cards received after this deadline will be recorded in the year it is received; with cards from the 1992 PIR journals, accepted through December 31, 1994.

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The correct answers to the questions in this issue appear on the inside front cover.

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PIR QUIZ

1. Each of the following statements about the treatment of primary dysmenorrhea is true except:
   A. The use of oral contraceptives is effective in more than 90% of cases.
   B. The maximal effect of oral contraceptives may not be seen for several months.
   C. Prostaglandin synthetase inhibitors work by blocking the production of prostaglandins within the endometrium.
   D. Aspirin works by blocking the hormonal stimulation for prostaglandin production and is the drug of choice.
   E. Failure of medical treatment warrants the consideration of psychological factors or diagnostic laparoscopy.

2. Each of the following is a true statement about dysmenorrhea except:
   A. Most of the symptoms of primary dysmenorrhea can be explained by the action of uterine prostaglandins.
   B. Pelvic pain at times other than during menstruation may indicate endometriosis.
   C. The onset of dysmenorrhea soon after menarche with rapid worsening over several cycles suggests a build-up of prostaglandin F2 alpha, a potent uterine prostaglandin.

3. The differential diagnosis of dysfunctional uterine bleeding should include which of the following diagnoses:
   A. Pelvic inflammatory disease.
   B. Blood dyscrasias.
   C. Endocrinopathies (hyperthyroidism).
   D. Tubal pregnancy or threatened abortion.
   E. All of the above.

4. Each of the following statements about dysfunctional uterine bleeding is true except:
   A. It commonly presents within 2 years of menarche.
   B. It usually is associated with anovulation.
   C. Endometrial biopsy often is recommended for adolescents.
   D. Management depends on the severity of the bleeding and the hemoglobin level.
   E. The first menses following hormonal therapy for dysfunctional uterine bleeding usually is heavy.
ABSTRACT

Acute Infectious Bloody Diarrhea


Acute bloody diarrhea, with or without vomiting and fever, commonly is associated with pathogenic bacteria in pediatric patients. This dysenteric process commonly has been associated with Salmonella, Shigella, and Campylobacter sp. Aeromonas recently has been implicated as a causative agent of bloody diarrhea. In one study of patients with Aeromonas-positive diarrhea, 30% had blood in their stools, 37% had vomiting, and 31% had fever.

Diarrhea due to Salmonella, Shigella, and Campylobacter is usually self-limiting, with most patients showing significant improvement a few days after the onset of illness. Often, the patient’s symptoms have resolved by the time that stool cultures are positive. Untreated Aeromonas shows a similar course, and more than 90% of patients improve within 10 days.

In the case of a child who has bloody diarrhea, the workup initially should include a stool sample for confirmation of blood by a guaiac test, assessment of the presence of polymorphonuclear cells, and laboratory culture. Although a stool sample is preferable for these three tests, several well-saturated rectal swabs can be utilized.

Comment: It is important for the clinician to be aware that more than 50% of children who have bloody diarrhea upon initial examination will have a bacterial pathogen cultured from their stools. However, only 30% of children who have bacterial pathogens in their stool have bloody stools. Thus, bloody stools have a high predictive value for a bacterial pathogen, but a low sensitivity. In contrast, polymorphonuclear cells have a high sensitivity (>80%) and predictive value (60%) with regard to stool bacterial pathogens.

It is worth noting that Campylobacter has rapidly equalled both Shigella and Salmonella as a major cause of bacterial diarrhea. If more widely recognized as a pathogen and cultured appropriately, Aeromonas might become as prominent.

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venous immunoglobulin as a preterm infant. There appears to be no diminished effect on the immune response.

As with all immunizations, the risks and benefits must be thoroughly explained to the parents or guardians of the child, and this explanation should be documented in the patient’s medical record. It is helpful to keep a running flow sheet in a centralized location of the medical records for the premature nursery, so that immunization status can be determined easily both during and after hospitalization.

REFERENCES


15. Which one of the following is a valid indication for modifying the recommended immunization schedule for infants and children?

A. The infant was born 6 weeks prematurely.
B. The infant developed a fever of 38.9°C (102°F) after the first dose of the diphtheria-tetanus toxoids-pertussis vaccine.
C. A measles epidemic is occurring in the school district where a 6-month-old infant resides.
D. The infant is due for the second administration of the diphtheria-tetanus toxoids-pertussis and oral poliovirus vaccines.
E. The infant’s older sister, who resides in the home, is pregnant.

16. Each of the following are true statements about pertussis vaccine except:

A. Booster doses are not given to adults because of reports about excessive reactions.
B. A new vaccine that does not contain whole killed organisms is awaiting licensure.
C. It is best to defer the administration of vaccine to infants who have a neurological condition that is progressive.
D. The primary series of immunizations should protect all children from disease caused by community exposure.
E. It is best to defer the administration of vaccine to children who have a past history of febrile seizures.

17. Children in which one of the following situations should not receive the indicated live virus vaccine?

A. Measles-mumps-rubella vaccine for the child who has the symptomatic acquired immunodeficiency syndrome.
B. Poliovirus vaccine for a child whose parent is receiving chemotherapy for cancer.
C. Measles-mumps-rubella vaccine for a child who has asthma and is taking moderate-dose steroids.
D. Measles-mumps-rubella vaccine for the child who has leukemia that is in remission, and who has been off therapy for 2 years.
E. Poliovirus vaccine for a child whose mother is pregnant.

18. Which one of the following statements about influenza vaccine is false?

A. The composition of the vaccine changes each year.
B. The vaccine should not be given to children receiving long-term therapy with aspirin.
C. Two doses should be given to children younger than 9 years.
D. The vaccine can be given at the same time as measles-mumps-rubella vaccine, but in different sites.
E. The vaccine is recommended for children who have chronic pulmonary disorders.

19. Which of the following statements about measles-mumps-rubella vaccine is incorrect?

A. Should be used rather than monovalent measles vaccine for measles booster shots.
B. Should not be given to pregnant women because of the possibility of causing congenital rubella.
C. May be given to a person who is exposed currently to rubella.
D. Can be administrated to an immunocompromised patient without simultaneous immune globulin.
E. Contains small amounts of penicillin.