Family Practice Grand Rounds

Adolescent Pregnancy

Pauline J. Miller, MD, Jane Choquette, MSW, Patricia T. Kirkpatrick, RD,
L. E. (Bruno) Masters, MD, Richard Rowe, MD, and Walter Dean, MD
Des Moines, Iowa

DR. L. E. (BRUNO) MASTERS *(Director, Family Practice Residency Program)*: Adolescent pregnancy has its own unique set of medical, nutritional, and social problems. Based on the case history of a 13-year-old girl, we will explore a number of these issues.

DR. PAULINE MILLER *(Family practice resident)*: Cheryl, referred to the Family Care Center by Jane Choquette, MSW, of Iowa Lutheran Hospital, is a 13-year-old white girl who for a month before being seen had been experiencing abdominal pain with occasional nausea. She also had had a sore throat and tender glands for several days.

On examination, she was unable to pinpoint her pain and denied any vomiting or change in bladder or bowel habits. She had onset of menses approximately one year prior to this visit but could not recall the date of her last menstrual period or the regularity with which her periods occur.

Physical examination revealed a healthy appearing 13-year-old young woman. Her ears were clear; throat injected with no exudate; lungs clear; abdomen negative. Pelvic examination was within normal limits except for a uterus enlarged to eight to ten-week size; subsequent pregnancy test was positive.

MS. JANE CHOQUETTE *(Medical social worker, Department Head of Social Services)*: Cheryl has had a troubled, problem-producing childhood. Kathy, her 15-year-old sister, has rapidly progressive glomerulonephritis. (She is an outpatient of this hospital's renal dialysis unit.) Her father, a 40-year-old carpenter, is extremely self-conscious and passive and has had difficulty coping with and meeting the special needs of both his daughters. Cheryl's mother left the family 12 years ago and now lives in California. She has infrequent contact with her daughters, and then only when it is initiated by Cheryl. During these contacts, Cheryl gets the message that her mother would like her to move to California; however, Mom never has taken any affirmative action in this direction. The result is Cheryl's feelings of ambivalence toward the woman.

Three years before Kathy's illness was diagnosed, the father felt his

From the Family Practice Residency Program, the Department of Social Services, and the Family Care Center Model Office for the Family Practice Residency Program, Iowa Lutheran Hospital, Des Moines, Iowa. Requests for reprints should be addressed to Dr. Pauline J. Miller, Iowa Lutheran Hospital, Family Practice Residency, 840 East University Avenue, Des Moines, IA 50316.

relationship with Cheryl to be deteriorating. He felt unable to control her excessive acting out behavior which resulted in his constant feelings of anger and frustration. Eventually, when Cheryl was nine years old, both she and Kathy were placed in a foster home.

This first foster home proved to be extremely unsatisfactory with some suspicion being raised that the foster father molested Cheryl. It was during the second, more acceptable foster home placement that Kathy became ill. At that time, Kathy and her father initiated action to have the girls return home. This they did in 1975.

Kathy's illness was diagnosed in 1974 as chronic renal failure and she underwent two unsuccessful kidney transplants in 1975. Throughout her one-year hospitalization, both her father and foster mother shared in her care. During this time and after Kathy's return home, Cheryl's psychological and emotional needs were not always met. Consequently, a dichotomy of feelings has developed within her: she feels anger and hostility toward Kathy, while at the same time she feels responsible for and guilty for not saving her life. She believes herself to be an eligible kidney donor, but feels her age has worked against her selection.

As a result of the tremendous stress Cheryl felt this past year, she has begun acting out much more frequently. She has become irresponsible at home and unable to follow through on simple tasks; she has begun shoplifting, stealing money from Kathy and her father, and running away from home. Understandably, her father has been at a loss concerning what to do. Upon seeking help from this hospital's social service department, he was referred to Lutheran Social Services for evaluation and a possible group home placement for Cheryl. It was during this time that the social service staff learned of Cheryl's "illness" and subsequently, her pregnancy.

It should be noted here that this family has a history of giving birth out of wedlock. Cheryl's mother gave birth 17 years ago to Sue, who is unmarried and also lives in California. Last year, when Cheryl and Kathy were in California to visit, Sue had a baby. Cheryl's reaction was that it was "neat" to have a new baby in the house.

At the present time, Cheryl is living with a family whom she met through a friend at school. She and the woman seem to meet each other's needs, but in an unhealthy way. The home has been investigated and evaluated as an unsuitable foster home for Cheryl. As it now stands, efforts are being made to place Cheryl in a healthy foster home environment.

MS. PATRICIA KIRKPATRICK *(Clinical Nutritionist)*: Cheryl's nutritional history reveals that she frequently skips meals – sometimes breakfast and dinner. Instead she eats high-fat, high-calorie junk food. At this time, however, her diet does include adequate protein and carbohydrate but is deficient in the vitamins and minerals provided by fruits and vegetables.

DR. MILLER: These highlights of Cheryl's history having been presented, discussion will now focus on research of the medical, social, and nutritional implications of adolescent pregnancy.

Medically, several significant facts pertinent to adolescent pregnancy (vs adult pregnancy) are obvious in the available material: adolescent women have smaller, more immature pelves; pregnancy-induced hypertension and preeclampsia are more common; and a second pregnancy often recurs within 18 months.

A study of ten pelvic measurements conducted on 282 pregnant women equal to or less than 16 years of age revealed these adolescents to have smaller values for one half of the ten measurements than women 17 years and older.[1] In addition, this researcher found the frequency of pelvic contracture to be significantly greater in adolescents in the following areas: inner spines of the mid-plane; AP of the mid-plane; and AP of the outlet. His conclusion is that growth of the female pelvis is not complete by the 16th year. This fact is supported by other studies[2,3] which further suggest that pelvic growth and remodeling is not complete for at least 18 months after menarche. This fact, however, does not preclude vaginal delivery, but must be considered along with fetal size, contraction quality, and the progression of labor.[1]

Much has been written on the complications of adolescent pregnancy. Grant and Heald, in 1972, reviewed many of these articles to find the most consistent complications to be premature births (less than 2,500 gm) and toxemia. Following this review, a retrospective study comparing primigravidas less than 15 years old and primigravidas between 19 and 25 years old revealed no significant difference in occurrence of asymptomatic bacteremia, pyelonephritis, third trimester bleeding, hyaline membrane disease, cesarean-section rate, etc.[4] There were insignificant differences in the numbers of cephalopelvic disproportions and duration of pregnancies. Significantly, their pregnant adolescents were found to have a likelihood of increased pelvic inlet contracture and pregnancy-induced hypertension, a greater occurrence of preeclampsia, and greater numbers of reoccurring pregnancies within 18 months.

To prevent complications, three important things to remember during prenatal care of the adolescent are manual pelvimetry during the initial examination, a roll-over test after the 20th week, and observation for a 20 mm Hg rise in the diastolic blood pressure, which may be indicative of developing hypertensive disease.

Should hypertension develop, the following in-hospital program has proven to be effective therapy: regular diet (no salt restriction), ambulation ad lib, blood pressure measurement q.i.d., weight and urine protein three times weekly, creatinine clearance weekly, and serial ultrasound to monitor fetal growth. Use no sedatives or antihypertensives. Of the women who have followed this program through delivery, the perinatal mortality rate was 9 per 1,000. The 26 women who left the program had a perinatal mortality rate of 154 per 1,000.[5]

MS. CHOQUETTE: Iowa's birth statistics tell an interesting and surprising story. Of the 3,343 live births last year, the greatest number of mothers were between the ages of 15 and 20; one out of every 12 births was to an unwed woman. Of the infants born to school-age girls in the United States, 15 percent placed their children for adoption, meaning that 85 percent chose, as single parents, to raise their children. Ironically, it is the very young who are keeping their children and who lack the experience and resources to rear a child alone.[6] All of these numbers seem to be increasing.

Adolescence is one of life's most difficult periods – successfully grow-

ing psychologically and socially can be at times overwhelming. This growth involves the completion of several major tasks within a relatively short time: the adolescent must (1) integrate his/her physical, social, and psychological growth, (2) develop, refine, and master a new identity, (3) lay the foundation for long-term interpersonal relationships, and (4) develop patterns of work behavior consistent with adult career expectations.[7] While pursuing these tasks, the adolescent constantly is battling feelings of ambivalence and anxiety about these changes and their implications in family and peer relationships.

During this growth period, the adolescent's defense mechanisms afford him/her some protection. One of the most commonly used by those in early adolescence is defensive denial.[8] Obviously, this mechanism may produce positive results, or as with Cheryl, the results may be detrimental. Psychological testing confirms the fact that Cheryl uses a great deal of denial, especially in the area of sexuality.

Most pregnant adolescents seem to come from environments in which there is a great deal of conflict; usually there is a disturbed parent-child relationship with the child feeling little love and security, or a tortuous relationship between the parents. Many of the girls are acting out their anxiety through hostility, rebellion, and anger. Occasionally, by becoming pregnant, a young girl is fulfilling the parental prophecy she has been hearing: "Stay the way you are and you are going to get pregnant."

Researchers in trying to determine which adolescents become pregnant are steering away from socioeconomic factors and giving more consideration to psychosocial factors. Factors that might predispose a young girl to risk unwanted pregnancy are hostility between the parents, seductive father/daughter relationship, lack of appropriate mother figure, and/or a girl's alienation from her mother.[9] Several of these factors are descriptive of Cheryl's situation: there is great tension between her parents; for a number of years she had no mother model with which to identify; she has traveled from one mother figure to another, with the present model being an unhealthy one; she behaves seductively toward males, especially her father. Each of these factors should serve as a warning and alert parents and professionals to a child's special psychosocial needs.

MS. KIRKPATRICK: The nutritional needs of the adolescent female are the highest of any female age group and, based on state surveys and studies, the nutritional intake of the adolescent female is the poorest of any female age group.[10] Needless to say, a pregnancy during this period of life only magnifies the deficiencies.

A pregnant teenager has increased caloric requirements (2,400 plus 300 calories/day for pregnancy needs) plus a need for increased daily intake of calcium (1,600 mg/day), iron (30 to 60 mg/day), and protein (an additional 30 mg/day). Dickens and associates discovered that 25 of 100 teenagers from prenatal and teenage OB clinics had anemia[11] (hemoglobin less than 10 gm/100 ml), and that all of those who develop preeclampsia have low caloric intake, borderline levels of protein intake, and low circulating levels of vitamin B_6. The most successful way of insuring adequate calcium and iron intake is to plan them into the diet via iron and vitamin supplements.

Routine adolescent prenatal care should include obtaining a dietary history and dietary counseling. As pica is more common to teenage pregnancies, this history and counseling is especially important.

Regardless of the supplements given, there is no substitute for a good diet. Throughout the pregnancy, physicians and mothers-to-be must guard against that false sense of security so easy to feel when supplementing daily intake.

MS. CHOQUETTE: Medically and nutritionally, it seems that the focus in this case is the pregnancy. From the viewpoint of the social worker, the pregnancy is secondary to, and perhaps symptomatic of, the multitude of other problems Cheryl faces.

DR. RICHARD ROWE *(Family practice resident):* What happens to pregnant teenagers who still are in school?

MS. CHOQUETTE: The school system encourages these girls either to attend an alternative school or drop out altogether. It is interesting to note that school personnel are the first people Cheryl told of her pregnancy — it gave her a valid excuse for not attending.

DR. ROWE: Do all states provide alternative schools?

MS. CHOQUETTE: No, approximately one third of the nation's school systems provide resources for pregnant girls.

DR. ROWE: But the school does have the option of not allowing them to continue?

MS. CHOQUETTE: By law, every young person is entitled to an educational experience; however, the quality of that experience is beyond the control of the law. The options available to the pregnant schoolgirl, therefore, may or may not be conducive to her ongoing participation in an educational program.

DR. WALTER DEAN *(Family practice resident):* How significant are homes for unwed mothers and what seems to be the prevailing attitude about placing the babies for adoption?

MS. CHOQUETTE: Because of the trend to provide unwed mothers with support systems from within their communities, many of these facilities either have closed or now provide different services. Within these institutions, in the community and in the schools, the overwhelming pressure is for expectant mothers to keep their babies. As a matter of fact, public health nurses report that within the schools, pregnant girls are seen by their peers as heroes.

For the first time, Cheryl received the support of her peers and even her father who said he did not see adoption as a viable alternative. He expressed fear that no one could love a baby that was not their natural child.

DR. ROWE: Is the incidence of child abuse higher among unwed, teenage mothers?

MS. CHOQUETTE: Those statistics are not before me. Factors contributing to child abuse include stress within the family, lack of needed community resources, and isolation from people outside the family. It is possible that these mothers are more prone to abusing their children; however, it seems more probable that child neglect would be a greater problem.

DR. MILLER: Are there any further questions or comments?

DR. MASTERS: Yes, two comments. In future-oriented counseling, one must remember that repeat pregnancy is one of the most common complications of adolescent pregnancy. It is the physician's responsibility to counsel and educate the

young woman as best as he or she is able.

Another important and often neglected person involved in this situation is the father-to-be. Frequently his needs simply are ignored.

MS. CHOQUETTE: Interestingly, the young father in this case is a nonentity.

DR. MASTERS: To whom?

MS. CHOQUETTE: To Cheryl. She has not mentioned him once — to her he does not exist.

I would like to make two additional comments. First, this team of professionals working with Cheryl has been through an interesting process; we all have had to face directly our individual feelings about adolescent pregnancies and acceptable alternatives for the young mother-to-be and to arrive at a satisfactory resolution. It is hoped that this process will continue as we have further experience and refine our ideas and approaches.

Secondly, Cheryl initially decided to have the baby and keep it. Her father then took her to Planned Parenthood where, after learning more about pregnancy and its potential complications, she decided to have an abortion. Her preabortion evaluation, during which she reported having had some bleeding the preceding week, revealed a normal size uterus and a negative pregnancy test. She was diagnosed as having had a spontaneous abortion.

With such an active denial mechanism, this abortion may set up future problems such as her denial of this pregnancy. She recently has begun taking an oral contraceptive; however because of her lack of responsibility it is unlikely she will do so regularly. It is important to maintain an ongoing contact with her both to assess and work with her psychosocial problems and to discourage, in the best possible way, the possibility of a second pregnancy.

References

1. Alman J: X-ray pelvimetry of the pregnant adolescent and pelvic size and frequency of contraction. Obstet Gynecol 48:281, 1976
2. Greulich WW, Thomas H: The growth and development of the pelvis of individual girls before, during and after puberty. Yale J Biol Med 17:91, 1944
3. Coleman WH: Sex differences in the growth of the human pelvis. Am J Phys Anthropol 31:125, 1969
4. Grant JA, Heald F: Complications of adolescent pregnancy: Survey of the literature. Clin Pediatr 1:567, 1972
5. Hauth JC, Cunningham FG, Whalley PJ: Management of pregnancy-induced hypertension in the nullipara. Obstet Gynecol 48:253, 1976
6. Howard M: Pregnant school-age girls. J Sch Health 41:361, 1971
7. Lamers WJ: After office hours: Understanding the teenager. Obstet Gynecol 33:131, 1969
8. Hatcher SL: Understanding adolescent pregnancy and abortion. Primary Care 3:407, 1976
9. Abernethy V: Prevention of unwanted pregnancy among teenagers. Primary Care 3:399, 1976
10. The Nutrition Program, Department of Health, Education, and Welfare: Highlights from the ten-state nutrition survey (1968-1970). Nutrition Today 7(4):4, 1972
11. Dickens HO, Mudd EH, Garcia CR, et al: One hundred pregnant adolescents: Treatment approaches in a university hospital. Am J Public Health 63:794, 1973