Virtual Mentor
American Medical Association Journal of Ethics

September 2007, Volume 9, Number 9: 595-659.
The Parental-Fetal Disconnect

From the Editor

Perinatal Ethics **597**
Dana Marie Roque

Educating for Professionalism

Clinical Cases
Pregnant Women and Cervical Cancer: Balancing Best Interests of Mother and Fetus **600**
Commentary by Watson A. Bowes Jr.

Assisted Reproduction and *Primum Non Nocere* **605**
Commentary by Marta Kolthoff

Pregnant Women Who Smoke: A Challenge to the Patient-Physician Relationship **611**
Commentary by Jennifer Hernandez and Scott Roberts

Journal Discussion
Should Women with Transplanted Organs Be Discouraged from Becoming Pregnant? **615**
Kalmalkumar P. Kolappa and David A. Gerber

Clinical Pearl
Preeclampsia: A Perturbation of the Maternal-Fetal Balance? **620**
Arun Jeyabalan

Law, Policy, and Society

Health Law
Is it Time to Revisit Prenatal HIV Testing Laws? **625**
Daniel Zank

Policy Forum
A Match Made in Heaven: Posthumous Fatherhood and Postmenopausal Motherhood **630**
Senait Fisseha

Medicine and Society
Is Restricting Access to Assisted Reproductive Technology an Infringement of Reproductive Rights? **635**
Andrew M. Courtwright and Mia Wechsler Doron

Art, History, and Narrative

Medical Narrative
A Doctor's Journey Back to Practice **641**
Catherine Green

Op-Ed and Correspondence

Op-Ed
Gamete Donation, Identity, and the Offsprings' Right to Know **644**
Lucy Frith

Resources

Suggested Readings and Resources **649**
About the Contributors **658**

Upcoming Issues of *Virtual Mentor*

October: Medicine, Ethics and War
November: Ethical Issues in Radiology
December: Public Health and Physicians as Agents of the State

Virtual Mentor
American Medical Association Journal of Ethics
September 2007, Volume 9, Number 9: 597-599.

From the Editor
Perinatal Ethics

Somewhere a young woman gasps—half in horror, half in disbelief—as she learns that she will soon become a mother; elsewhere, at the same moment, a man sheds a silent tear of joy as he discovers that he will soon become a father. In some countries, employers offer incentives in the form of housing or loans to families who limit household size through birth control; in others, governments reward large families with subsidies [1]. In agrarian societies, children have tangible economic value; in industrialized societies, they are—as one author describes—"economically worthless but emotionally priceless" [2].

Parenthood embodies the paradox of being common to all cultures, yet evoking unique responses. The relationship between a parent and child can be among the most intense of human experiences. Its sanctity is revered as the subject of Rudyard Kipling's "Mother-O-Mine"; the tragedy of its loss is reflected in such renowned works as Edvard Munch's "The Sick Child" [3] and Edvard Grieg's "Ballade in G minor," which was written in 1875 following the death of his only child and both of his parents [4]. Undoubtedly, the intimacy of this bond is emotionally provocative and often convolutes ethical decision-making processes in medicine. And whereas in most instances a physician's responsibility is to one patient at a time, in the perinatal period the doctor must be simultaneously and equally concerned with the welfare of two.

We thus devote the September 2007 issue of *Virtual Mentor* to the parental-fetal disconnect. While traditionally conceptualized in the form of a "connection," in medicine and law this relationship has increasingly come to be viewed as one of duality rather than unity [5], and one of bi- rather than uni-directionality. Indeed, there are scenarios in which parents, by actions or biologic circumstances, may exert adverse effects on the fetus. As part of the clinical cases section, Jennifer Hernandez and Scott Roberts elaborate upon the justness of informed refusal in instances of maternal substance use and the societal tendency to hold mothers to what may be considered supererogatory moral standards. Watson A. Bowes Jr. then invokes the principle of autonomy in his discussion of therapeutic options for women diagnosed with cervical cancer during the second trimester. This is a particularly striking ethical case since options that benefit the woman most may bring great harm to the fetus and vice versa. In other situations, a fetus may produce harmful effects on a parent. Arun Jeyabalan highlights such a phenomenon in this month's clinical pearl using the context of preeclampsia as a maternal-fetal competition for limited resources.

Technologic advances have also catalyzed shifts in the parental-fetal relationship. Egyptians first described their methods of predicting gender in the Kahun Medical Papyrus, dating as far back as 1850 BC: “Let the woman water wheat and spelt with her urine…if wheat grows, it will be a boy; if the spelt grows, it will be a girl” [6]. In Roman-Greek mythology, the barren appealed to goddesses of fertility such as Demeter and Persephone.

Today, however, couples seek assisted reproductive technologies (ART) such as in vitro fertilization, gamete/zygote intrafallopian transfer, and preimplantation genetic diagnosis. From such scientific strides arise new ethical debates for the field of obstetrics and gynecology, as critics question whether we are entering into an era of designer babies. In another clinical case, Marta Kolthoff contrasts the appropriate use of preimplantation genetic diagnosis to screen for “disability” with the potentially improper uses that some foresee as the first step onto a slippery slope toward eugenics. Senait Fisseha expands upon this theme in the policy forum by emphasizing the need for professional regulatory governance of such technologies, which now make feasible the unnatural states of posthumous fatherhood and postmenopausal motherhood. Lucy Frith reconciles the rights of anonymous gamete donors with an offspring’s right to know his or her genetic heritage in the op-ed.

Importantly, the repercussions of such scientific developments reverberate beyond the field of obstetrics and gynecology to impact other areas of medicine. In this month’s medicine and society feature, Andrew M. Courtwright and Mia Wechsler Doron comment on the societal obligations of physicians and infertility specialists to assist those who wish to become parents and the circumstances under which physicians might be justified in restricting access to ART. Kamalkumar P. Kolappa and David A. Gerber review a journal article on the ethics of pregnancy in transplant recipients and the need for transplant teams to adequately counsel this patient population.

Intractable parental-fetal conflicts may enter the legal arena for recourse. For this month’s health law segment, Daniel Zank describes the slow ideologic death of HIV exceptionalism, a death that is contributing to the current political climate governing mandatory perinatal HIV testing. In closing, the medical narrative section features *Delivering Doctor Amelia*, a fictionalized memoir of an actual medical malpractice case. With this novel as her basis, Catherine Green reflects on the various professional roles of physicians—who during parturition assist with the severance of the maternal-fetal bond, but may ultimately be called upon to restore the parental-fetal connection—and the consequences when these dual functions are interrupted or frustrated.

I now invite you to read the commentaries that follow. The authors represent a variety of disciplines and departments—reproductive endocrinology and infertility, reproductive medical genetics, maternal-fetal medicine, abdominal transplant surgery, neonatology, and bioethics—and a multitude of universities from across the nation and abroad. Through this diversity, I hope you find a well-rounded discourse

that adequately addresses the complexity of this topic. I am confident that you will gain useful insights regardless of the specialty of your current or future practices.

References

1. David HP. Incentives, reproductive behavior, and integrated community development in Asia. *Stud Fam Plann*. 1982;13(5):159-173.
2. Jones RK, Brayfield A. Life's greatest joy? European attitudes toward the centrality of children. *Soc Forces*. 1997;75(4):1239-1270.
3. Beller GA. Edvard Munch's renditions of illness and dying: their message to contemporary physicians. *J Nucl Cardiol*. 2006;13:309-310.
4. Johannesen KF. *Edvard Grieg*. Miller D, trans. http://nettbiblioteket.no/grieg-samlingen/utskrifter/bio2_eng.html. Accessed August 3, 2007.
5. Ludwig M. Ethics in medicine: maternal-fetal conflict. http://depts.washington.edu/bioethx/topics/matern.html. Accessed August 3, 2007.
6. Bruehl FJ. The development of pregnancy tests. *Am J Nurs*. 1952;52(5):591-593.

Dana Marie Roque, MD
PGY-1 Resident
Department of Obstetrics, Gynecology and Reproductive Sciences
Magee-Womens Hospital
University of Pittsburgh Medical Center

The viewpoints expressed on this site are those of the authors and do not necessarily reflect the views and policies of the AMA.

Copyright 2007 American Medical Association. All rights reserved.

Virtual Mentor
American Medical Association Journal of Ethics
September 2007, Volume 9, Number 9: 600-604.

Clinical Case
Pregnant Women and Cervical Cancer: Balancing Best Interests of Mother and Fetus
Commentary by Watson A. Bowes Jr., MD

Mrs. Smith arrived at the clinic nearly 30 minutes late. Patty, the nurse at the front desk, watched her enter. Mrs. Smith's 10-year-old daughter was whining and grasping at her mother's sides while her adolescent son ineffectually instructed the little girl to "stop it or else." When Mrs. Smith came into full view, it was obvious that she was pregnant.

Dr. Daniels quickly glanced over Mrs. Smith's chart before entering the exam room and saw that her last recorded visit was a routine postpartum care appointment nearly one decade prior.

Dr. Daniels greeted Mrs. Smith with a warm smile that had come to be one of her trademarks. "What brings you to clinic today?" she began.

"Well, now, isn't that pretty clear?" Mrs. Smith said jovially while patting her belly. A large smile spread across her face. "I'm probably almost five months along!"

Throughout the course of the interview, it became clear to Dr. Daniels that this pregnancy meant a great deal to Mrs. Smith. She had recently remarried and was carrying the child of her new husband, who was also extremely excited about the recent developments. When Dr. Daniels probed to find if Mrs. Smith had been receiving any form of health care since her last clinic visit, Mrs. Smith disclosed sheepishly that she had been battling unemployment intermittently and had only recently regained her health insurance.

Dr. Daniels then finished the interview. "Today we'll draw blood, do a urinalysis, and perform a Pap smear along with your exam. Then we'll schedule an ultrasound to confirm your dates and ensure that the pregnancy is proceeding normally. Do you have any questions or concerns for me?"

Mrs. Smith did not.

They proceeded with the physical exam. Dr. Daniels was alarmed to find several suspicious lesions involving the cervix, so she told Mrs. Smith that in addition to the Pap smear she would likely need to biopsy these sites.

A week later, Mrs. Smith found herself again in the obstetrician's office—this time alone. Dr. Daniels began to explain that the Pap smear and biopsies showed clear evidence of abnormal cells.

"What do you mean, 'abnormal cells?' Are you saying that I have cancer?" interrupted Mrs. Smith. "How will that affect my baby?"

"Well," began Dr. Daniels, "if a pregnant woman is found to have very early stage disease, most physicians are comfortable delaying interventions until after delivery regardless of how far along in the pregnancy you are. For late stage cancers, we generally recommend that treatment—which might include hysterectomy—begin immediately, again, regardless of the stage of pregnancy. I'd like to do a few more tests today, and we'll go from there."

One week later Dr. Daniels had to deliver the news to Mrs. Smith that she had stage II cancer and discuss with Mrs. Smith her treatment options and their affect on her pregnancy.

Commentary

Mrs. Smith states that she believes she is "probably almost five months along," and there is no data given about the results of the ultrasound performed by Dr. Daniels to confirm gestational age of the fetus. For purposes of this discussion I will assume that the gestational age is 20 weeks. At this time Mrs. Smith has also been found to have stage II cancer of the cervix, which means that the cancer has spread beyond the cervix but has not reached the pelvic side walls or extended beyond the upper one-third of the vagina. The five-year survival rate for this stage of cancer in nonpregnant women managed with either radical hysterectomy or radiation therapy (both of which are considered standard of care) is 64 percent [1]. We are also told that Mrs. Smith, who has a 10-year-old daughter and adolescent son from a previous marriage, had recently remarried and was pleased that she was pregnant. This, then, is a "wanted pregnancy."

The standard advice currently given to women who have stage II cancer of the cervix discovered at 20 weeks' gestation is to commence treatment immediately, either with radiation or radical hysterectomy. Both treatments, however, result in the death of the fetus. If Mr. and Mrs. Smith decide on this course of action, they face the loss of their child-to-be, and Mrs. Smith will no longer have the ability to become pregnant. Alternatively, the Smiths can delay treatment until after the delivery of the baby. Given the relatively lenient requirements for receiving an abortion for medical reasons and the standard of care for women with stage II cancer of the cervix at 20 weeks' gestation, there would be no legal restrictions on Mrs. Smith's terminating the pregnancy either before or during treatment of her cancer.

The major ethical principle involved in this situation is respect for autonomy [2]. It is essential that the patient's right to make an informed decision be supported by her physician and other health care givers. Respecting the patient's autonomy means that

the physician must give Mrs. Smith the best possible information about the risks and benefits of the treatment options and that this information should be provided in an unbiased manner.

Nondirective counseling is very difficult, if not, in fact, an oxymoron. The information that is provided by a physician who has much more medical knowledge than the average patient, and the emphasis that he puts on that information, influence the patient's decision making. For example, a male ob-gyn who sees the consequences of cancer of the cervix daily, may counsel the patient from a perspective that is different from that of, let's say, a nurse who is opposed to abortion and who is personally dealing with infertility. Nevertheless, all of those who counsel Mrs. Smith must deal with the fundamental issue of balancing the value of her child-to-be against the possible (but largely unknown) harmful effects on her own mortality risk by temporarily delaying treatment of her cancer.

The counseling dilemma is complicated by the fact that no one knows what the prognosis is for stage II cancer of the cervix in a patient who delays treatment to achieve neonatal viability. There are several small studies of patients with stage I cancer of the cervix (where the tumor has not extended beyond the cervix) in which treatment was delayed until after delivery of a viable infant [3-5], and there was no untoward effect on survival related to such a delay. Because stage II cancer of the cervix in pregnancy is so uncommon, however, there is simply no evidence that 5-year survival of stage II cancer of the cervix in pregnancy is worse if treatment is delayed until after delivery.

Another option for Mrs. Smith to consider is chemotherapy during pregnancy followed by definitive therapy with radical surgery or radiation after the infant is born. Trials have shown benefit in combining chemotherapy with radiation for stage II cervical cancer [6], and a number of case reports of chemotherapy with cisplatin during pregnancy found no adverse effects on the fetus or newborn [7, 8]. The rationale for such treatment is to avoid metastatic spread of the cancer during pregnancy while awaiting definite treatment with radiation or surgery after the birth of the infant. Still, the Smiths must make their decision based on a substantial degree of medical uncertainty.

To counsel the patient from a perspective of optimism and hope, it would be safe to say to the Smiths that, given the information we have about the lack of adverse effects from delaying treatment for stage I cancer of the cervix in pregnancy, it is reasonable to believe that a delay of treatment for stage II cancer would have a similarly benign effect. This counseling might draw attention to the benefits of having a son or daughter for Mrs. Smith and her husband.

To counsel the patient from a perspective of caution and reserve, it would be reasonable to emphasize that the standard of care practiced by many ob-gyns is to begin treatment without delay in the interest of giving Mrs. Smith the best prognosis, even though it involves the loss of her child-to-be and her child-bearing potential.

This counseling would draw attention to the importance of Mrs. Smith's having the best chance of continuing her life with her children and her husband. It is also appropriate to mention here the option of using chemotherapy during pregnancy. The physician, however, must stress that it is a new treatment option and not yet the standard of care.

The counseling that best respects Mrs. Smith's autonomy includes both of these perspectives. Above all it is essential that the Smiths be given as much information as possible about patients with stage II cancer of the cervix during pregnancy, including what is known and what is unknown about the disease and the treatments.

If Mrs. Smith chooses to delay treatment, she faces another decision to be made by her and her health care team that, again, weighs benefits for her health against maximum benefit for her infant: the timing of delivery. Some will recommend delivery of the infant at the earliest sign of lung maturity as determined by tests on amniotic fluid in order to shorten Mrs. Smith's treatment delay. This sense of urgency (on behalf of possible reduction of risk for Mrs. Smith) must be tempered with the knowledge that the closer the gestational age can get to 40 weeks, the lower the newborn's risk for developing serious respiratory disease and other complications, especially when an elective cesarean delivery is performed, which is usually the recommended method of delivery in patients with cervical cancer.

A final ethical issue in this matter is the right of Mrs. Smith's physicians to conscientiously object to certain treatment options. One or more of them might have reservations about induced abortion and, in light of the uncertain prognosis of a delay in treatment, might oppose any intervention that resulted in the termination of pregnancy before a gestational age compatible with newborn survival. It is imperative that physicians and all health care givers make their views known on sanctity of life and induced abortion upfront. Doing so allows time for Mrs. Smith's care to be transferred to another qualified professional if her decisions cannot be carried out.

References

1. Stenchever MA, Droegemueller W, Herbst AL, Mishell DR Jr. *Comprehensive Gynecology*. 4th edition. St. Louis, MO: Mosby; 2006:901-910.
2. Beauchamp TL, Childress JF. *Principles of Biomedical Ethics*. 4th edition. New York, NY: Oxford University Press; 1994:120-188.
3. Duggan B, Muderspach LI, Roman LD, Curtin JP, d'Ablaing G 3rd, Morrow CP. Cervical cancer in pregnancy: reporting on planned delay in therapy. *Obstet Gynecol*. 1993;82(4 Pt 1):598-602.
4. Takushi M, Moromizato H, Sakumoto K, Kanazawa K. Management of invasive carcinoma of the uterine cervix associated with pregnancy: outcome of intentional delay in treatment. *Gynecol Oncol*. 2002;87(2):185-189.

5. Van der Vange N, Weverling GJ, Ketting BW, Ankum WM, Samlal R, Lammes FB. The prognosis of cervical cancer associated with pregnancy: a matched cohort study. *Obstet Gynecol*. 1995;85(6):1022-1026.
6. Eifel PJ. Chemotherapy in the treatment of cervical cancer. *Semin Radiat Oncol*. 2006;16(3):177-185.
7. Bader AA, Petru E, Winter R. Long-term follow-up after neoadjuvant chemotherapy for high-risk cervical cancer during pregnancy. *Gynecol Oncol*. 2007;105(1):269-272.
8. Karam A, Feldman N, Holschneider CH. Neoadjuvant cisplatin and radical cesarean hysterectomy for cervical cancer in pregnancy. *Nat Clin Pract Oncol*. 2007;4(6):375-380.

Watson A. Bowes Jr., MD, is a professor emeritus at the University of North Carolina School of Medicine. Prior to his retirement, he was a professor in the Department of Obstetrics and Gynecology at the University of North Carolina and previously at the University of Colorado. His major professional interests include high-risk obstetrics, preterm birth, and all aspects of labor and delivery.

The people and events in this case are fictional. Resemblance to real events or to names of people, living or dead, is entirely coincidental.

The viewpoints expressed on this site are those of the authors and do not necessarily reflect the views and policies of the AMA.

Copyright 2007 American Medical Association. All rights reserved.