Review article

Ethical challenges in the management of multiple pregnancies: the professional responsibility model of perinatal ethics

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Abstract

Ethics is an essential component for the responsible clinical management of multiple gestation and decision-making about such pregnancies with pregnant women. The ethical concept of the fetus as a patient is presented as the basis for identifying a professionally responsible approach to selective termination, twin-to-twin transfusion syndrome, and to discordant beneficence-based obligations that exist when one or more fetuses are adversely affected by a fetal anomaly or complication of pregnancy. The roles for directive counseling, i.e., making evidence-based recommendations, and for non-directive counseling, i.e., offering evidence-based alternatives but making no recommendations, are described. The professional responsibility model of perinatal ethics creates a practical framework to guide the clinical judgment of perinatologists and the informed process about the clinical management of multiple pregnancies.

Keywords: Ethics; fetal patient; professional responsibility model of perinatal ethics; selective termination; twin-to-twin transfusion syndrome.

Introduction

Ethical challenges in the management of multiple pregnancies can be especially poignant. Not only can there be conflicting obligations owed to the pregnant woman and the fetal patient; there can also be conflicting obligations owed to multiple fetal patients. The purpose of this paper is to provide a practical, ethically justified framework to guide clinical judgment and decision making and apply this framework to three prominent ethical challenges in the management of multiple pregnancies: selective termination; twin-to-twin transfusion; and discordant obligations to fetal patients.

The professional responsibility model of perinatal ethics

The framework is based on the professional responsibility model of perinatal ethics [7]. This model originates in the ethical concept of medicine as a profession, which was introduced into the history of medicine by two physician-ethicists: John Gregory (1724–1773) of Scotland and Thomas Percival (1740–1804) of England. This concept requires the physician to commit to: (1) becoming and remaining scientifically, ethically, and clinically competent; (2) protecting and promoting the health-related and other interests of the patient as the primary concern and motivation; and (3) preserving and strengthening medicine as a “public trust”. By this, Percival meant for physicians to treat medicine as a social institution that exists primarily for the benefit of society not its members [8–10, 12]. The ethical concept of medicine as a profession makes assumption of responsibility for the competent care of patients the defining feature of the physician-patient relationship. In the professional responsibility model of perinatal medicine, perinatologists have ethical obligations to both the pregnant and fetal patients [7, 11]. The clinical basis for these obligations is provided by evidence-based clinical judgment about diagnostic and therapeutic measures that are reliably expected to result in a greater balance of clinical goods over clinical harms, understood in biopsychosocial terms. This clinical basis of professional responsibility is captured by the principle of beneficence [2, 11]. The second basis of professional responsibility is the patient’s values and beliefs in response to the physician’s evidence-based judgments about which diagnostic and therapeutic interventions are expected to result in a greater balance of clinical benefits over harms. This second basis is captured by the principle of respect for autonomy [2, 11].

Respect for the autonomy of the pregnant woman includes acknowledging and implementing her rights, but with limits. This is because respect for autonomy also includes acknowledging and respecting the integrity of the patient’s values and beliefs, especially those that she has for her pregnancy. A pregnant woman’s values and beliefs will be drawn from multiple social sources, including her family upbringing, culture, and religion. These psychosocial sources of pregnant patients’
values and beliefs should always be acknowledged and respected. Doing so helps to promote a sense of psychological safety and security that contribute significantly to a strong physician-patient relationship, which becomes indispensable in the ethical challenges of managing multiple pregnancies.

Pregnant patients appeal to their values and beliefs to assess the medically reasonable alternatives that are offered or recommended to them in the informed consent process. The goal of this process is to empower the exercise of the pregnant woman’s autonomy. This empowerment supports the important psychosocial values of trust and respect. The obstetrician has both beneficence-based and autonomy-based obligations to the pregnant woman.

Perinatal medicine is ethically distinctive in that the fetus is sometimes a patient. The general ethical concept of a human being a patient is based on the principle of beneficence. The human being (a) is presented to a physician and (b) there exist clinical interventions that are reliably expected to clinically benefit that human being [11]. A pregnant woman becomes a patient when she is presented for obstetrical care. A fetus becomes a patient in a more complex fashion. The viable fetus also becomes a patient when the pregnant woman is presented for obstetrical care [11]. The obstetrician has beneficence-based obligations to the viable fetal patient [3, 14]. The pre-viable fetus becomes a patient when the pregnant woman is presented for obstetrical care and the pregnant woman confers the moral status of being a patient on her fetus [11]. When the pregnant woman confers the status of being a patient on her fetus, the perinatologist has beneficence-based obligations to it as a fetal patient. When she does not do so, no beneficence-based obligations to the fetus exist. Perinatologists know when they have a professional relationship with a patient and therefore responsibility to and for that patient: the pregnant woman or fetus is presented to the perinatologist and there exist clinical interventions that reliable expected to benefit the patient clinically. The perinatologist has both beneficence-based and autonomy-based obligations to the pregnant patient but only beneficence-based obligations to the fetal patient.

Selective termination

There is a beneficence-based justification for offering-selective termination [1] (more precisely, selective feticide [4]) before viability: an evidence-based clinical judgment that continued pregnancy poses a threat to the life or health of co-existent fetuses [6]. For example, in higher order pregnancies or twin pregnancies the continued existence of an anomalous fetus that is causing hydramnios, poses a threat to the health or life of the other fetus(es). These risks can be reduced by selective feticide. When the best available evidence supports the clinical judgment that continued multifetal, preivable pregnancy poses a risk to the other fetus’ or fetuses’ health or life, the pregnant woman should be informed about this matter and offered the alternative of selective feticide in the informed consent process. Subsequent clinical management is autonomy-based: Some women, because of moral convictions about the general moral status of the fetus, will refuse this offer. They should be informed that their refusal increases the risk that the pregnancy will end before viability without any surviving fetuses or end prematurely after viability with increased risk of infant mortality and morbidity. The final decision to continue the pregnancy without intervention, to terminate the entire pregnancy by induced abortion, or to elect selective feticide is solely a function of the pregnant woman’s autonomy and should be respected by the perinatologist.

There are clinical circumstances in which selective feticide should be offered in the informed consent process to respect for the pregnant woman’s autonomy [6]. A preivable pregnancy is diagnosed with an anomaly or viable pregnancy will be diagnosed with a severe anomaly. In addition, some pregnant women will directly and sometimes indirectly express concern about multiple births and will prefer for economic or other personal reasons to have a singleton pregnancy. There is no beneficence-based objection to reduction of a multiple pregnancy to a singleton; this is a matter for the pregnant woman to decide. Perinatologists should manage these ethical challenges with a thoroughgoing informed consent process. The nature of the fetal anomaly and its prognosis should be clearly explained. The risks of the procedure, especially the loss of the entire pregnancy, should be explained in both cases. There is no professional obligation to offer selective feticide routinely to women with twin pregnancies. The perinatologist should respond to a woman’s concern about having twins with a thoroughgoing informed consent process in which both continuing her pregnancy and selective feticide are offered and discussed non-directively.

Pregnant women who elect selective feticide should be assured in all cases that ethical and legal obligations of confidentiality will be fulfilled: others will be informed about the patient’s decision only with her explicit permission or, in the case of minors, as required by law. In particular, should the pregnant woman elect absolute confidentiality, the perinatologist has a professional obligation not to inform her husband or partner or other family members [4].

Twin-to-twin transfusion syndrome

In the informed consent process the perinatologist has the professional responsibility to identify all medically reasonable alternatives for the management of the patient’s condition, i.e., those for which there is evidence of clinical efficacy. This is a beneficence-based clinical judgment. The perinatologist also has the professional responsibility to provide a clear and careful account of the clinical benefits and risks of each medically reasonable alternative. When evidence supports one or more medically reasonable alternatives as clinically superior, the physician should recommend them. This is known as directive counseling. By contrast, non-directive counseling in the informed consent process means that the physician should present all medically reasonable alternatives but make no recommendation among them. Non-directive counseling should be followed when the evidence for efficacy among medically reasonable alternatives is not decisive [11].
The clinical management of twin-to-twin transfusion syndrome (TTTS) should be rigorous and comprehensive [15]. The first step should be evaluation of diagnosis and staging. The perinatologist should then present the results of this evaluation to the pregnant woman. Counseling about the disposition of a pre-viable pregnancy should be strictly non-directive. Whether the previable fetus should be regarded as a patient is a decision beyond the competence of physicians and beneficence-based clinical judgment. This decision is therefore solely a function of the pregnant woman’s autonomy. Before viability the pregnant woman is free to confer or withhold the moral status of being a patient according to her own values and beliefs. Non-directive counseling requires the physician to prevent personal bias about the moral status of the previable fetus from influencing what information is presented and how it is presented. If the woman elects termination of her pregnancy as the outcome of the decision-making process, the perinatologist should either perform it or make an appropriate referral [4, 13].

If she elects to continue her pregnancy to viability and thus term, there is a further role for non-directive counseling in some cases, because the next decision concerns selective fetocide. This is a decision governed by the pregnant woman’s autonomous decision to confer the moral status of being a patient on one fetus but withholding or withdrawing this moral status from the other fetus [4, 11].

If the woman elects selective fetocide, the perinatologist should perform it or make an appropriate referral [14]. An important dimension of this decision is the role of directive counseling regarding the fetus to be targeted: the less healthy fetus as identified by ultrasound evaluation. This role for directive counseling distinguishes decision making about TTTS from decision making in genetic counseling. Genetic counseling should be systematically non-directive in presentation of information and about the subsequent clinical management of a previable pregnancy [14].

For the woman who elects to continue her pregnancy, counseling regarding treatment has both directive and non-directive components, depending on the specific clinical circumstances of the particular patient. In the non-directive component the perinatologist should discuss all medically reasonable alternatives, which include therapeutic amniocentesis, laser ablation, septostomy and conservative management. Based on the currently available evidence and the details of the particular patient, the perinatologist should be directive concerning the alternative that is reliably judged to be the best. When there is evidence-based uncertainty about the relative efficacy of different therapeutic options, counseling should be non-directive [13].

For some interventions clinical trials may be available. The perinatologist should make clear to the pregnant woman that, by definition, she should not understand clinical investigation to be the standard of care for the management of her pregnancy. The woman therefore has no beneficence-based ethical obligation to the fetal patient to enroll in a clinical trial. Counseling, therefore, should be non-directive about seeking out and enrolling in clinical trials. Respect for the pregnant woman’s autonomy should become the guiding ethical consideration. Research in TTTS should follow a comprehensive ethical framework for fetal research, as proposed by the authors [5].

**Discordant obligations to fetal patients**

Almost always, beneficence-based obligations to the fetal patients in a multiple pregnancy are concordant: all of the fetal patients benefit from the continuation of the pregnancy and delivery upon indication. Rarely, beneficence-based obligations to fetal patients in a multiple pregnancy are discordant. Continuation of the pregnancy may clinically benefit one or more fetuses but not another or others. The latter would experience clinical harm that could be prevented by early delivery but only at increased risk to the former. In beneficence-based clinical judgment, clinical harms become very significant when they are serious, far-reaching, and irreversible and likely to occur. “Serious” means that the patient’s life is at risk or the patient is at risk for major injury to vital organ systems. “Far-reaching” means that functional status of the patient, especially neurologic, sensory, and motor function are likely be adversely affected in the future. “Irreversible” means that no clinical intervention will be effective in preventing these outcomes. In general, it is permissible to risk less than serious, far-reaching and irreversible harm for a fetal patient, in order to prevent serious, reaching, and irreversible harm for another fetal patient. There is no simple algorithmic procedure by which to decide the trade-offs; rigorous clinical ethical judgment is required, as it is in so many other aspects of perinatal medicine.

Consider the example of one fetus in a triplet pregnancy that has uteroplacental insufficiency documented by a non-reassuring non-stress test, an abnormal biophysical profile and decreased amniotic fluid. The gestational age of the pregnancy is ethically very significant. In the authors’ judgment, after 32 weeks, the risk to the non-affected fetuses is less than serious, far-reaching and irreversible because these fetuses’ brains, lungs, and other organ systems are mature enough to do well with modern neonatal intensive care. Early delivery after 32 weeks is likely to prevent serious, far-reaching, and irreversible harm to the affected fetus. The perinatologist should recommend early delivery when the trade-off in beneficence-based discordance favors an affected fetus and the risks to the non-affected fetus(es) are less than serious, far-reaching, and irreversible.

In the authors’ judgment, before 26 weeks continuing the pregnancy poses serious, far-reaching and irreversible risk for the affected fetus, but is clearly clinically beneficial for the other fetuses. Early delivery could result in serious, far-reaching and irreversible harm for the affected fetus and marginally increased serious, far-reaching, and irreversible risk for the non-affected fetuses, especially of irreversible loss of neurologic function for the non-affected fetuses. The incremental clinical benefit of early delivery for the affected fetus is clearly outweighed by the significant, increased risk of clinical harm to the non-affected fetuses. There is a probability that the affected fetus could survive to 32 weeks,
at which the above clinical ethical reasoning would apply. The perinatologist should recommend continuation of the pregnancy when the trade-off in beneficence-based discordance favors the non-affected affected fetuses and the risks to the affected fetus(es) are less than serious, far-reaching and irreversible.

In the authors’ judgment, in the period between 26 and 32 weeks, clinical ethical judgment needs to be individualized, based on the certainty of fetal distress, the degree of prematurity, the ability to give steroids prior to delivery, and other factors. This is a paradigm clinical situation in which obstetricians and neonatologists need to confer using an integrated approach. The goal should be to present the pregnant woman with the best clinical judgment possible, to empower her exercise of her autonomy in the informed consent. When the discordance of beneficence-based obligations to fetuses in a multiple pregnancy is profound and therefore especially poignant, the pregnant woman should be assured that a decision to continue the pregnancy and a decision for early delivery are both consistent with her responsibility for her future children.

**Conclusion**

Ethics is an essential component for the responsible clinical management of multiple gestation and decision-making about such pregnancies with pregnant women. The ethical concept of the fetus as a patient is required in order to identify a professionally responsible approach to selective termination, twin-to-twin transfusion syndrome, and to discordant beneficence-based obligations that exist when one or more fetuses is adversely affected by a fetal anomaly or complication of pregnancy. The professional responsibility model of perinatal ethics creates a clinically applicable framework to guide the clinical judgment of perinatologists and the informed process with their pregnant patients.

**References**


The authors stated that there are no conflicts of interest regarding the publication of this article.

Received March 20, 2012. Accepted March 20, 2012. Previously published online May 17, 2012.