



## MEDICINE

### *Assisted Reproduction*

In the October 15, 2009, issue of *Human Molecular Genetics*, researchers report findings about genetic abnormalities associated with children conceived through various assisted reproductive technologies (S. Katari et al., “DNA Methylation and Gene Expression Differences in Children Conceived In Vitro or In Vivo”). By way of introduction, the authors quote epidemiological data suggesting that children conceived in vitro have a greater risk of rare disorders. In their study, the investigators compared genetic changes (DNA methylation at specific genetic sites) between children conceived through assisted reproductive technologies and those conceived through unassisted means. They found a significant difference in DNA methylation between the two groups. They state that some differences in DNA methylation may have a significant effect on gene expression, and note that several genes whose expression differs between the groups have been implicated in chronic metabolic disorders such as obesity and diabetes. This sort of evidence seems to argue for adherence to natural law principles, for acting contrarily appears to be problematic.

It seems unfortunate that despite the “progress” made in assisted reproductive technology, little attention has been paid to educating “consumers” about the risks and moral implications of the technology. In the article “Patients’ Conceptualization of Cryopreserved Embryos Used in Their Fertility Treatment,” V. Provoost and colleagues asked patients undergoing assisted reproductive interventions about their thoughts and understanding of cryopreserved human embryos (*Human Reproduction*, March 25, 2010). Seven couples and eleven women unaccompanied by a partner underwent interviews which lasted on average thirty-eight minutes. The participants were invited to speak about their experiences and their beliefs about their embryos and about infertility treatment with cryopreserved embryos. The interviews revealed that the patients knew very little about the medical-technical procedures involved in cryopreservation and did not feel a need for such knowledge. Regarding human embryo cryopreservation overall, the patients frequently made comparisons with

food storage—which, the authors speculated, might explain why many patients for whom embryos are stored never decide about their embryos' fates. Another finding in this study was that patients rarely discussed the moral status of the cryopreserved embryos, and the moral status of the human embryo did not play a major role in their decision making.

### *States of Minimal Consciousness*

Investigators in the United Kingdom and Belgium report their work involving fifty-four patients with disorders of consciousness in the February 18, 2010, issue of the *New England Journal of Medicine* (Martin M. Monti et al., "Willful Modulation of Brain Activity in Disorders of Consciousness"). Using functional magnetic resonance imaging, they assessed each patient's ability to generate "willful, neuroanatomically specific, blood-oxygenated-level-dependent responses" when presented with mental-imagery tasks, and then possibly communicate yes-or-no answers to simple questions. They found that of fifty-four patients in a vegetative or minimally conscious state, five patients, all of whom had traumatic brain injury, displayed evidence of brain activation reflective of some awareness and cognition. Four of the five patients who had some awareness and cognition had diagnoses of a vegetative state. This information should give us pause before making hasty decisions with regard to awareness and cognition. Such studies, while advancing our knowledge, similarly reveal the limits of our understanding, and scientific investigation in this area is likely to increase. We should remember, however, that consciousness is not the essence of personhood. Evidence of cognition in patients with disorders of consciousness is not the proof for personhood, nor is it the reason we afford them dignity.

### *Feeding Tubes*

The use of tube feeding in general remains an important issue in the realm of medical ethics. More specifically, in patients with advanced dementia it is reported that the use of feeding tubes does not improve survival, prevent or heal decubitus ulcers, or prevent pneumonia. Nonetheless, feeding tubes are used in many nursing home residents with advanced dementia. Further, the initiation of tube feeding in most of these patients begins during an acute-care hospitalization. In the February 10, 2010, issue of the *Journal of the American Medical Association*, Joan M. Teno and her colleagues identified characteristics of U.S. hospitals that are associated with higher rates of feeding tube insertion in nursing home residents with dementia ("Hospital Characteristics Associated with Feeding Tube Placement in Nursing Home Residents with Advanced Cognitive Impairment"). They found that, among 163,022 nursing home residents with advanced cognitive impairment, the rate of feeding tube insertion ranged from zero to thirty-nine per one hundred hospitalizations, and that over the seven years of analyzed data, the rate of insertion decreased (from 7.9 per one hundred admissions in 2000 to 6.2 in 2007). Further, they found that higher insertion rates were associated with the following hospital characteristics: for-profit ownership, larger hospital size, and greater intensive care use in the last six months of life. This is an important area on which to stay focused, particularly with an expected increase in nursing home care overall and changes in the climate of health care economics.

In a smaller study also about the use of feeding tubes in nursing home residents, Ruth Palan Lopez and her colleagues examined two nursing homes in South Carolina, one with a high tube-feeding rate of 42 percent and the other with a low tube-feeding rate of 11 percent (“The Influence of Nursing Home Culture on the Use of Feeding Tubes,” *Archives of Internal Medicine*, January 11, 2010). The focus of the study was to examine nursing home characteristics associated with tube feeding. The high-use nursing home differed from the low-use home in that it had a higher percentage of Medicaid beds (81 versus 28 percent), a greater percentage of African American residents (52 versus 9 percent), and no dementia unit. In addition, the environments differed greatly between the two. The low-use home had a more home-like environment, and mealtime processes were more conducive to feeding the residents, including better staffing at mealtime, the allowance of visitors to assist with meals, and dining rooms where most of the residents ate. In the high-use home, there was a more institutional environment, relatively little social exchange among the staff and residents, the dining room was annexed to the main building, and food appeared only during scheduled mealtimes. In addition, in the low-use home, there was more staff involvement in decision making about feeding, and the medical director had an explicit preference for hand feeding over tube feeding. This was not the case in the high-use home. Furthermore, the low-use home had an explicit mission to create a “community” environment, whereas the mission in the high-use home was to “minimize recovery time.”

This study suggests that many factors are important in driving the use of feeding tubes in nursing homes. Among these key factors are physical environment, mealtime and decision making processes, and values emanating from the directors and leaders to the individual caregivers. The results of this study were predictable. How one cares for residents in nursing homes and assisted care facilities closely correlates with expected outcomes. Patient care always suffers when it becomes impersonal, and frequently suffers when institutionalized.

### *Conscience*

The Committee on Bioethics of the American Academy of Pediatrics has published a policy statement on physician refusal to provide information or treatment on the basis of claims of conscience (“From the American Academy of Pediatrics: Policy statements—Physician Refusal to Provide Information or Treatment on the Basis of Claims of Conscience,” *Pediatrics*, December 2009). In this statement the committee offers a concise discussion of conscience and highlights the difficulty in evaluating claims of conscience. At least in the first part, the document is relatively sound and uncontroversial. As the document unfolds, however, the analyses begin to unravel and are not well presented. In the discussion about intention and cooperation, for example, the brief treatment of cooperation is simplistic, and does not add any serious consideration of cooperation in the context of morality. Furthermore, although it provides a reference to Monsignor Orville Griesse’s *Catholic Identity in Health Care: Principles and Practice* (Pope John Center, 1987), the statement that “there is also concern that cooperation may be misinterpreted as approval and might cause another to act wrongly” is left without any explication or clarification. As the

document then focuses on conscientious objection in health care, it seems to be even more loosely formulated and unsubstantiated.

Two particular statements deserve particular attention. One is the claim that conscientious objection in medicine should be evaluated on the level of the health care system rather than the individual, since “neither the clinicians’ nor the patients’ claims clearly trump the others’ in all situations.” The other is the misguided assertion that conscientious objections are typically based not on medical knowledge but on moral, religious, or political beliefs, so refusal to provide service or information on the basis of these nonmedical beliefs is not appropriate for a physician. A physician is first a person, formed by a variety of influences throughout life and possessing many values which cannot readily be partitioned—nor should they be. To imply that a physician or health care provider must subordinate his or her moral judgment to patient autonomy is capricious.

In the end, the committee’s statement makes seven recommendations, four of which subordinate physicians’ claims of conscientious objection to patients. Recommendation 3 states, for example, that “physicians have a duty to prospective patients to disclose standard treatments and procedures that they refuse to provide but are normally provided by other health care professionals.” This statement fails to acknowledge the reality of cooperation in the context of moral action. Similarly, recommendation 4 states that “physicians have a moral obligation to inform their patients of relevant alternatives.” This lacks thoughtful moral analysis. What is the basis for this moral obligation? What happens when the alternative is immoral? Again, the matter of cooperation is relevant but is not addressed. This policy statement may appease the sensibilities of many clinicians, but lacks a cogent moral foundation.

In the November 2009 issue of the *American Journal of Obstetrics and Gynecology*, C. S. Lupi and colleagues report on a pedagogical intervention for medical students during a core clinical clerkship in obstetrics and gynecology. The structured workshop addressed ethical reasoning and communication skills that are needed in counseling patients about morally objectionable medical interventions. (“Conscientious Refusal in Reproductive Medicine: An Educational Intervention”). The article raises a number of concerns. Does this represent an attempted inculcation of medical students into advancing immoral behaviors? Recognizing that medical students come to the classroom and clinical clerkships with already formed values and views, is this an effort, under the guise of an educational intervention, to promote a particular view in the name of patient autonomy—which, as we know, does not necessarily accord with morally correct actions. An individual can make an immoral decision autonomously just as well as a morally correct one.

This study, basically an educational workshop for third-year medical students at the University of Miami, was rolled out to 187 students during their clerkship in obstetrics and gynecology. The module was aimed at teaching the ethical and communication skills necessary for conscientious refusal. The educational module consisted of trigger skits and discussion, scene selection and values clarification, role playing, and discussion. The authors concluded that this workshop increased “student awareness of the ethical and communications skills challenges” posed by the morally objectionable medical interventions. Students, for example, self-reported feeling

more “comfortable” or more “somewhat comfortable” in providing nondirective options counseling to a young mother facing an unplanned pregnancy for reasons of difficult life circumstances. The students were also asked to record their responses to various statements aimed at measuring religiosity. One of the statements was “It doesn’t matter so much what I believe as long as I lead a moral life.” To this question 73 percent of the respondents answered “true.” What is perhaps of more concern from a moral relativity standpoint is that of the thirty-eight students (27 percent) who responded “false” to that statement, 71 percent of them changed their comfort level after the training workshop, with 81 percent reporting more comfort. This was the only statistically significant change in willingness to provide nondirective counseling in response to the workshop, suggesting that moral dissonance can be altered by such an intervention. Following trends in medical education, this is an important area requiring close attention.

The degree to which certain controversial matters are portrayed as seemingly noncontroversial in some of the medical literature is quite remarkable. In a recent article by F. A. Chervenak and L. B. McCullough, for example, shortly after stating that induced abortion and feticide continue to be ethically controversial, they state in the following sentence that “there is a need for practical, comprehensive, ethical guidance for physicians on when to offer, recommend, perform, and refer pregnant patients for induced abortion or feticide” (“An Ethically Justified Practical Approach to Offering, Recommending, Performing, and Referring for Induced Abortion and Feticide,” *American Journal of Obstetrics and Gynecology*, December 2009). If these practices are controversial, how can it be that we already need guidance for engaging in them? This article provides a methodical, succinct analysis concerning abortion and feticide, however objectionable some of its premises may be.

### *End of Life*

Continuous deep sedation until death is becoming a more prevalent practice at the end of life in some countries. In the March 8, 2010, issue of *Archives of Internal Medicine*, a nationwide survey of this practice in Belgium is reported (K. Chambaere et al., “Continuous Deep Sedation until Death in Belgium: A Nationwide Survey”). The authors report a significant increase in the prevalence of continuous deep sedation until death between 2001 and 2007, from 8.2 percent (238) to 14.5 percent (561) of all deaths. Opioids were used for sedation in 83 percent of cases, often as the only drug, with the time to death almost always less than one week. Assisted nutrition and hydration were withheld in most cases when the patient was at home, and it was withheld in almost half the cases where the patient was in the hospital. In 20 percent of sedated patients at home and 27 percent in the hospital, neither the patient nor the family had given consent for the sedation. The article also reports that there was an intention or co-intention to hasten death in 17 percent of cases, and in 82 percent of the cases the physician indicated no other alternatives to this form of sedation.

In the introduction to the report, the authors comment on several guidelines for the use of this form of sedation. The guidelines include that the sedation should not be aimed at hastening death; the patient has refractory symptoms and is expected to die within no more than two weeks; benzodiazepines rather than opioids are the recommended agent for sedation; and the decision for continuous deep sedation until

death should be made by the patient or, in the case of decision-making incapacity, by the patient's family. Ironically, according to this report the intention to hasten death occurred in nearly 20 percent of cases, opioids were the primary agent used, and consent for the procedure was lacking in a substantial number of cases. The disconnect between what continuous deep sedation until death is intended to achieve and what occurs in practice is worrisome. It calls to mind the adage that the road to hell is paved with good intentions.

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