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DOI:
the authors reply:

Drs. Grönefeld and Hohnloser request information on antithrombotic treatment. In our study protocol, anticoagulation was not standardized but was left to the local practice of each center. Fifteen patients (7 percent) were treated with warfarin, and 38 (18 percent) with aspirin. During the follow-up period, no patient had a transient ischemic attack, stroke, or arterial embolism. However, we believe that the indications for antithrombotic therapy are not clearly defined in patients with transient, symptomatic episodes of atrial fibrillation that are treated with either the pill-in-the-pocket approach or long-term oral prophylaxis; this point deserves further investigation.

Drs. Konety and Olshansky underscore the lack of a control group. In many studies carried out in hospitalized patients, oral flecainide or propafenone has been shown to be superior to placebo in rapidly terminating atrial fibrillation of recent onset. In our opinion, further study to demonstrate this superiority was not indicated. We agree with Drs. Konety and Olshansky that the pill-in-the-pocket approach or long-term oral prophylaxis are not clearly defined in patients with transient, symptomatic episodes of atrial fibrillation that are treated with either the pill-in-the-pocket approach or long-term oral prophylaxis; this point deserves further investigation.

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Vascular Events after Acute Infection or Vaccination

To the editor: In their article about cardiovascular events after acute infections (Dec. 16 issue),1 Smeeth et al. do not discuss alternative, time-honored explanations for the occurrence of cardiovascular events within three days after acute infections. A reasonable explanation could be that fever...
The New England Journal of Medicine

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Altered Nuclear Transfer

TO THE EDITOR: Altered nuclear transfer is a procedure that has been proposed as a morally acceptable means of procuring human embryonic stem cells. In their Perspective article, Melton et al. (Dec. 30 issue) appear to misunderstand, and therefore prematurely dismiss, the promising possibilities of this proposal.

The proposal for altered nuclear transfer, which was developed in wide consultation with leading scientists, moral philosophers, and religious authorities, represents a “third option” — a technological solution to the current moral impasse regarding the destruction of human embryos to obtain embryonic stem cells.

Using the techniques of somatic-cell nuclear transfer, but with the intentional alteration of the nucleus before transplantation, we could construct a biologic entity that, from its very inception, lacked the attributes and capacities of a human embryo. Studies with mice already provide evidence that we may be able to generate functional embryonic stem cells from a system that is not an organism but is biologically (and morally) more akin to tissue or cell culture. There is a natural precedent for entities that lack the characteristics of organisms, yet are capable of generating embryonic stem cells or their functional equivalent. Teratomas are germ-cell tumors that generate all three primary embryonic germ-layer cell types, as well as more advanced cells and tissues. Yet these chaotic, disorganized, and nonfunctional masses entirely lack the structural and dynamic character of an organism.

Most of the objections raised by Melton et al. are based on a mistaken identification of altered nuclear transfer with silencing of the gene CDX2, but — as was clearly stated in my presentation to the President’s Council on Bioethics — there are many potential approaches involving the alteration of genes that are necessary for early intercellular signaling, cell differentiation, or integrated patterning of development. The exact gene or combination of genes will depend on the level of disorganization deemed essential to fulfill the moral criteria of this project.

Many Americans believe that a decent society should not build the foundations of its biomedical science on the intentional creation and destruction of human embryos. Such a view is consistent with the enduring traditions of our profession, encoded in the Hippocratic oath and extended in the 1948 Declaration of Geneva, which explicitly states, “I will maintain the utmost respect for human life, from the time of conception.” Altered nuclear transfer is not a “distraction” or a “diversion of resources” as stated by Melton et al., but a morally reasonable and technologically feasible proposal that honors the important human goods being defended by both sides of this difficult debate.

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THE AUTHORS REPLY: We did not misunderstand Hurlbut’s proposal. We focused on CDX2 because this is the example that Hurlbut offered, but our point was more general. To repeat: “We see no basis for concluding that the action of CDX2 (or indeed any other gene) represents a transition point at which a human embryo acquires moral status.”

Hurlbut now acknowledges that “the exact gene or combination of genes will depend on the level of...