In absolute numbers, the OB group had 15 patients who were positive for latex sensitization, whereas the non-OB group had 5 such patients, with both groups having 294 patients in each. In other words, the OB group had 10 more patients who tested positive for latex allergy than did the non-OB. Looking at the risk factors listed, one finds that the OB group had six to seven more patients with positive results than did the non-OB: specifically, drug allergy (atopy), seven more; food allergy (atopy), six more; other allergy (atopy), seven more; multiple surgeries, six more; and healthcare workers, six more. If this difference of six to seven patients accounts for the majority of difference in latex sensitization, the findings of higher prevalence in the OB group is because of the higher prevalence of risk factors.

Unfortunately, the authors do not discuss this confounding issue in their report. Thus, I must conclude that the authors did not have enough evidence to make the conclusion that pregnancy is a risk factor for latex allergy.

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Remove Latex from the Labor and Delivery Suite

To the Editor:

The recent article by Draisci *et al.*[1] showing an increased incidence of increased serum concentrations of specific rubber latex immunoglobulin antibodies among pregnant women is very important. We were interested, however, to know whether the two patients who actually exhibited anaphylaxis had increased concentrations of latex immunoglobulin E antibodies and/or positive latex skin tests. In the methods, it is noted that "skin-prick tests and intradermal tests with oxytocin or other drugs administered in the study were performed to exclude drug allergy in patients who experienced adverse reactions." It is possible that these two patients could have in fact been allergic to other allergens and this information was not reported. The treatment of anaphylaxis, especially in a pregnant patient with a potentially difficult airway, who is exhibiting facial edema and "throat closure," may also require adrenaline and a low threshold for intubation.[2] It would also be of interest to know whether among the pregnant women with latex hypersensitivity the serum concentrations of rubber latex immunoglobulin E became normal after pregnancy. Although the reasons behind the increased serum concentrations of rubber latex immunoglobulin E, potentially increasing the incidence of latex hypersensitivity among pregnant women, are pure speculation, as discussed,[1] the danger is clear. The way to avoid this life-threatening problem altogether is to remove latex (gloves or catheters) from the operating room in the labor and delivery suite.

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In Reply:

We appreciate Dr. Abouleish's deep attention in revising our article[1] and we thank him for his comments. To investigate a possible history of allergy in our patients, we designed our questionnaire according to data in the literature.[2–5] All risk factors (multiple surgical procedures, high-risk work, atopy, cross-reacting fruits/vegetables, previous history of allergy) associated with latex sensitization were analyzed. The same factors were recently described by Sampathi and Lerman as risk factors for developing latex allergy in children.[6] In table 1, we reported the statistical differences between pregnant and nonpregnant patients. Even if the two groups showed different frequencies or means for all variables, those differences were not significant ($P > 0.05$), that is, the pregnant and nonpregnant groups were omogenous. In contrast with previous data reported by Chen *et al.*,[7] we found no significant correlations between accepted risk factors and latex sensitization in our study.

We also thank Dr. Weiniger for the interest in our work. In our data, the two patients who experienced an adverse reaction previously experienced allergic disease and hand hitching after the use of rubber gloves. In studies performed before surgery, both patients revealed a sensitization to latex, presenting with a latex immunoglobulin E serum concentration of 100 kilo units/l and 5.33 kilo units/l, respectively. After adverse reaction, skin-prick and intradermal tests were performed to detect latex allergy: both tests were positive. Oxytocin and other drugs were administered and tested, and other drug allergies were excluded. After pregnancy, high-latex immunoglobulin E serum concentration was reported, and the patients were managed with desensitizing treatment.

We agree with Weiniger's statement that increased sensitization to latex in pregnant patients could be a potential danger in the labor and delivery suite. Conversion to a latex-free hospital environment could be possible, but in our opinion additional investigations in larger groups of patients are needed to better define this potential high risk.

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Is a Weekend Too Long?

To the Editor:

I read with interest (and concern for those gestating) the article by Palanisamy *et al.* analyzing adult Sprague-Dawley rats exposed to isoflurane *in utero*.[1] This was clearly a well-done study demonstrating reduced spatial memory and reduced anxiety in those animals exposed to isoflurane *in utero* during a time of critical brain development. The question arises as to how this may apply clinically to humans. The gestational length described in this study was 22 days, or 528 h. The study exposed subjects to 4 h of isoflurane. Therefore, the intrauterine exposure to isoflurane accounted for 0.758% of the total gestational period. This seems miniscule, but when placed in perspective, is a significantly long period of time. In humans, a term gestation is 40 weeks, or 6,720 h, meaning a similar exposure in pregnant women would total 50 h, 55 min, and 48 s. It should not be surprising that exposing the developing fetal brain to isoflurane for more than 2 days might cause a reduction in spatial memory. After all, the effect of isoflurane on plastic water traps is well described.[2,3] Although the effect of volatile anesthetics on the developing brain is a fascinating and important topic, further study should include exposures that are clinically relevant to the human developing brain. In the meantime, it can be recommended that we avoid general anesthesia in pregnant women undergoing operations lasting longer than 50 h.

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In Reply:

We appreciate the fact that Dr. Shear took an interest in our recent study showing spatial memory impairment in the adult male offspring of pregnant rats exposed to isoflurane.[1] His analogy that the brain is like a water trap is silly, and the argument that 4 h of anesthesia during rat gestation is equivalent to a weekend of anesthesia in humans, and therefore not clinically relevant, is mathematically correct but scientifically simplistic. The rat brain and human brain are obviously different. In comparison with that of the rat, for example, the human brain has approximately 430-fold more neurons, a more intricate dendritic arbor, and a markedly larger and more complicated cortical surface (accounting for 77% of brain volume *vs.* just 30% in the rat).[2,3] Of particular relevance for gestational exposure to anesthetics, the human brain has more neural stem cells, which have threefold more mitotic cycles and must traverse far longer distances to reach the right place at the right time than those in the rat. In addition, there is the fact that the human brain does far more complicated things (such as math), which requires more precise and complex connections and circuits. In short, the human brain is exponentially more intricate than the rodent brain. This is why we were careful not to extrapolate our results in the rodent to humans. More to the point, however, to the extent vulnerability is proportional to complexity (see recent events on Wall Street), it is quite plausible that the developing human brain is actually more easily damaged by general anesthetics than the rodent brain or, alternatively, that the consequences of injury are more noticeable because the demands on the system are greater in humans. Humans,