All human beings are "endowed with reason." This assumption is the basis of the United Nations' Universal Declaration of Human Rights, as clearly expressed in its very first article. Obviously the authors of the declaration had not considered the particular case of the process of parturition, when there is no room for rational means of expression. One cannot interpret literally the irrational language of some women in hard labor, as soon as the necortical control has been eliminated: "Kill me... shoot me... let me die... do anything... etc." On the other hand, for obvious reasons, the baby cannot rationally express his or her point of view. However, it frequently happens that decisions must be made during childbirth. Who can make such decisions? And based on which criteria?

A Typical Situation
I'll take as an example a situation I often had to face in a hospital setting. The midwife on duty was calling me because she was pessimistic about the progress of labor, in spite of apparently suitable environmental conditions in terms of privacy, temperature, etc. Should we go on by the vaginal route, starting with a drip of synthetic oxytocin, with the risk of finishing with forceps, ventouse [vacuum extraction] or hasty emergency c-section? Or, without waiting too long, should we prefer an "in-labor, non-emergency c-section"? Since, in such situations, it was impossible to rely on the rationally expressed point of view of the two actors (mother and baby); I often made a decision after wondering: "If I were the baby, what might my choice be?"

Starting with such a question, I gradually developed a tendency to try first to avoid long and difficult labors by the vaginal route and to be cautious about the use of synthetic oxytocin. I can illustrate this tendency by recalling that the last time I used forceps was in February 1965. Of course in the 1960s, 1970s and 1980s, such attitudes could only be based on intuition and clinical observation. Then a visit to a pediatric unit could convince anyone that, apart from prematurity and intra-uterine growth restriction, the most common reasons for transfer during the neonatal period were birth after a long, difficult and medicated labor by the vaginal route or birth after a hasty, last-minute, emergency c-section.

Today, a great diversity of scientific data can support this originally empiric strategy. When exploring the primal health research database (www.primalhealthresearch.com) keywords such as "forceps delivery," "ventouse," "cephalhematoma" or "birth complications" lead to studies that confirm the possible long-term, negative consequences of difficult births by the vaginal route. On the other hand, thanks in particular to the work of Michael Stark, who developed the Misgav Ladach technique, the c-section has become an easy, fast and comparatively safe operation.

The Most Common Medical Intervention in Childbirth
However, it is noticeable that the most common medical intervention used during the birth process is not taken into account in short-term and long-term birth statistics. Birth statistics contrast births by the vaginal route with or without the use of instruments (forceps or ventouse) and births by the abdominal route (pre-labor and in-labor c-sections). There have been some rare studies taking into account the use of epidural anesthesia. But the most common medical intervention is undoubtedly the use of drips of synthetic oxytocin. Most women who had a non-operative delivery by the vaginal route had a drip of oxytocin. Most women who had an operative delivery by the vaginal route also had hours of drip before the use of forceps or ventouse. Most women who had an in-labor c-section also had synthetic oxytocin before the decision to operate. Furthermore, the rates of labor inductions are very high in many countries and, in practice, labor induction implies hours of intravenous drip.

One should first wonder why the use of intravenous oxytocin during labor is perceived as a detail not worth mentioning in statistics. The main reason might be that the nonapeptide oxytocin is not considered a real medication because, from a chemical perspective, the synthetic form is not different from the natural hormone. Another reason might be that oxytocinases (enzymes that metabolize biologically active peptides) have been found in the placenta. This might have led to the tacit conclusion that synthetic oxytocin does not cross the placenta.

On the day when we realize that most women, all over the world, receive synthetic oxytocin when giving birth, we'll give paramount importance to new questions, particularly about placental transfer of peptides. Paradoxically, there is only one serious published article on this issue.(1) After measuring concentrations of oxytocin in maternal blood, and also in the blood of the umbilical vein and of the umbilical arteries, and after perfusions of placental cotyledons, a team from Arkansas came to the conclusion that oxytocin crosses the placenta in both directions. More precisely, the permeability is higher in the maternal-to-fetal than in the fetal-to-maternal direction. We must add that 80% of the blood reaching the fetus via the umbilical vein goes directly to the inferior vena cava via the ductus venosus, bypassing the liver, and therefore immediately reaching the brain: it is all the more direct since the shunts (foramen ovale and ductus arteriosus) are not yet closed.

Since there is a high probability that a significant amount of synthetic oxytocin can reach the brain of the fetus, we must raise questions regarding the permeability of the blood-brain barrier at this phase of human development. Australian researchers have presented evidence that the permeability to small lipid-insoluble molecules is greater in the developing brain and that specific mechanisms, such as those involved in transfer of amino acids, develop sequentially as the brain grows.(2) Furthermore, it appears that the permeability of the blood-brain barrier can increase in situations of oxidative stress(3-5)—a situation that is common when drips of synthetic oxytocin are used during labor.(6)
serious reasons to be concerned if we take into account the widely documented concept of "oxytocin-induced desensitization of the oxytocin receptors."(7-10) In other words, it is probable that, at a quasi-global level, we routinely interfere with the development of the oxytocin system of human beings at a critical phase for gene-environment interaction. In such a new situation, the priority is to phrase appropriate new questions at a cultural level—questions that would induce a new generation of research.

What We Already Know

In the framework of accepted scientific knowledge we must include important functions of the oxytocin system, particularly its role in sociability, capacity to love (love of others and love of oneself) and potential for aggression (aggression toward oneself and toward others). We can also include in the same framework what we have recently learned from several disciplines about the importance of the period surrounding birth.(11) For example, we have learned from an overview of the Primal Health Research Database that when researchers explore disorders that can be interpreted as alterations of the capacity to love (to love others and to love oneself) they always detect risk factors in the period surrounding birth. We have learned in particular that epidemiological studies of disorders associated with documented alterations of the oxytocin system, such as autism (12,13) and anorexia nervosa (14), detect significant risk factors in the perinatal period.(15) Is the wide use of synthetic oxytocin in obstetrics a key to interpreting the rising incidence of such diseases? Is the wide use of synthetic oxytocin at the root of an unprecedented cultural revolution?

Meanwhile

All these questions should stimulate a new generation of research from both physiological and epidemiological perspectives. They should also dramatically influence obstetric strategies. Before we know more, it would be wise to make labor induction an exceptionally rare practice. In the case of prolonged pregnancy, it is possible to replace the routine standardized attitudes (induction at a certain number of weeks of gestation) by a selective attitude: checking on a day-to-day basis, through multiple methods, that the laboring women after thousands of years of socialization of childbirth and powerful cultural interferences. This rediscovery is not unrealistic if we take advantage of basic physiological concepts such as catecholamines-oxytocin antagonism and neurotrophic inhibition. Finally, we can anticipate a shift toward simplified binary obstetric strategies: either the progress of labor is straightforward and the vaginal route is possible without any medical interference; or the labor appears as long and difficult in spite of appropriate environmental conditions, and the best alternative might often be an in-labor, non-emergency cesarean section.(18)

References: