

CHOOSING CAESAREAN SECTION

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Introduction

“With a scheduled Caesarean section, you and your doctor have agreed to a time at which you will enter the hospital in a fairly calm and leisurely fashion, and he or she will extract your baby through a small slit at the top of your pubic hair. There are a lot of reasons to schedule a caesarean section-----Other women elect to have a caesarean because they want to maintain the vaginal tone of a teenager, and their doctors find a medical explanation that will suit the insurance company.” (1)

This statement from a currently popular paperback book in the US illustrates the degree to which that society appears to condone women choosing CS (and doctors committing insurance fraud). Such a statement is reinforced when the incoming President of the American College of Obstetricians and Gynecologists, in a leading editorial by that organization promoting ‘patient choice cesarean’, calls this major abdominal surgical procedure “a life-enhancing operation”. (2)

Caesarean section (CS) is an essential surgical procedure which, when properly applied, can and has saved the lives of many women and babies around the world. So why not allow pregnant women the option to choose birth by CS?

Unfortunately giving women the option to choose (or even demand) a CS is not that simple. CS, even when elective and with no emergency, carries serious risks including an increased chance the woman will die and an increased chance the baby will have life-threatening conditions which may lead to death. (see below) Contrast the previous sentence’s evidence based statement about CS with the above glowing hype on the advantages of choosing a CS.

There seems to be a movement afoot in medical circles to promote the right of women to choose CS. In 1997 an obstetric journal reported a survey of female obstetricians in England in which 31 % said if they themselves had an uncomplicated singleton pregnancy at term, they would choose an elective CS. (3) In 1998 the British Medical Journal lent legitimacy to the issue by publishing a discussion on the question “Should doctors perform an elective caesarean section on request?” (4) Then the New England Journal of Medicine joined in with a Sounding Board article “The Risks of Lowering the Cesarean-delivery Rate” in which setting a target for CS rates is condemned as implying that women should have no say in their own care. (5) More recently in the November 27, 1999 issue of the British Medical Journal, a feminist Professor of English laments “medical and social prejudices against women sidestepping their

biblical sentence to painful childbirth are still with us” and a consumer advocate states “I do not believe that anyone has the right to demand women give birth vaginally.” (6)

There is an interesting relationship between promoting women’s choice for a certain obstetric procedure and the degree to which that procedure is doctor- friendly. While the scientific evidence has existed for many years that a trial of vaginal birth after a previous CS (VBAC) is safer than a routine repeat CS, there are no articles in medical journals promoting the right of women to choose VBAC. CS is doctor-friendly (see below), VBAC is not.

Risks of caesarean section

Yielding to the temptation to perform a CS because a woman requests it can only be justified if the CS carries no more risk for the woman and baby than a vaginal birth. Thus basic to the attempts to justify women choosing CS is the oft repeated statement found in several of the above articles: “caesarean section is safer than ever before”.

There is a gradation of risk from CS for last minute obstetric emergencies through planned CS on maternal or foetal grounds (including elective repeat CS) to women’s choice elective CS with no medical indications. Most data on risks only separate “emergency” CS from “elective” CS but since many of the risks are related to the surgical procedure itself and its effects on the woman and baby and exist regardless of why the CS is done, women’s choice elective CS, as major abdominal surgery, still has proven higher risks.

The answer to ‘how safe is CS’ varies depending on who is answering since if a CS is done, the woman and her baby take the risks while if the CS is not done, the doctor takes the risk (see below). This helps to explain why the scientifically documented risks of CS to woman and to baby are not widely discussed and often not presented to patients.

Risks to the woman

First is the increased risk the woman will die---maternal mortality associated with CS. The most reliable maternal mortality data come from the UK Confidential Enquiries into maternal deaths. While it may have been obstetric politics which prompted the omission of the usual chapter on maternal mortality with CS from the latest UK Maternal Mortality Report from 1998, two scientists calculated CS fatality rates from the data in the Report. (7) With regard to women’s choice CS, the most relevant statistic, the case fatality ratio for elective CS, documents that an elective CS with no emergency present has a 2.84 fold (almost three times) greater chance of the woman’s death than if she has a vaginal birth.

Ideally, one might wish for a randomized controlled trial (RCT) comparing women’s choice elective CS to vaginal birth, using intention to treat in which the outcome measures for those few women in the vaginal birth group who ended up with emergency CS still would be counted in the vaginal group. But since such an RCT is

not ethically possible (women cannot be asked to be randomly allocated to elective CS or vaginal birth), the above data on 153,929 elective CSs give powerful enough evidence of the increased risk of maternal mortality with women's choice elective CS. The lack of an RCT cannot be used as an excuse for questioning the proven higher maternal mortality with elective CS.

In addition to the increased risk the woman will die with an elective CS, there are other risks for the woman including the usual morbidity associated with any major abdominal surgical procedure--anesthesia accidents, damage to blood vessels, accidental extension of the uterine incision, damage to the urinary bladder and other abdominal organs. (8) Some of these risks are common--- 20% of women develop fever after CS, most due to iatrogenic infections requiring diagnostic fever evaluation for both woman and baby. (8).

There are also risks women carry to subsequent pregnancies due to scarring of the uterus including decreased fertility, increased miscarriage, increased ectopic pregnancy, increased placenta abruptio, increased placenta previa (8,9,10). Recently in the US the widespread use of the unapproved drug misoprostol (cytotec) for labor induction has created a new risk of CS in subsequent pregnancies. Women attempting VBAC who are given misoprostol have a rate of uterine rupture of 5.6% compared with a rupture rate of 0.2% for women attempting VBAC not given misoprostol, a 28 fold increase in risk of uterine rupture. (11) For women choosing CS, all of these risks exist in all of their subsequent pregnancies even if the original CS was not an emergency and the increased risks of ectopic pregnancy, abruptio placenta, placenta previa and ruptured uterus are all life threatening to both woman and baby.

Risks to the baby

For whatever reasons women choose CS, very few are clearly informed about fetal risks. In an emergency CS where the baby has developed a problem during the labor, the risks to the baby of doing the CS will likely be outweighed by the risks to the baby of not doing it. In an elective CS where the baby is not in trouble, the risks to the baby of doing a CS still exist, meaning the woman who chooses CS puts her baby in unnecessary danger. That some women are choosing CS strongly suggests women are not told this scientific fact.

The first danger to the baby during CS is the 1.9% chance the surgeon's knife will accidentally lacerate the fetus (6.0 % when there is a non-vertex fetal position). (12) Obstetricians may be less aware of this risk---in one study only one of the 17 documented fetal lacerations was recorded by the obstetrician doing the surgery. (12)

A much more serious risk to babies born by CS is respiratory distress. Many reports in the scientific literature document the CS procedure per se is a potent risk factor for respiratory distress syndrome (RDS) in preterm infants and for other forms of respiratory distress in mature infants. (8) RDS is a major cause of neonatal mortality. The risk of newborn RDS is greatly reduced if the woman is allowed to go into labor prior to the CS.

Another serious risk to the baby born by CS is iatrogenic prematurity (the baby is premature because the CS was performed too early). Even with repeated ultrasound scans, the standard deviation for estimating gestational age is large, creating errors in judging when to do an elective CS. Doing the elective CS after the woman goes into spontaneous labor would markedly reduce this risk as well. A vast literature documents the increased mortality and morbidity, including neurological disability, associated with premature birth.

For elective CS, then, the logical time is at the onset of labour for two reasons: prevention of respiratory problems in the baby; prevention of prematurity. For women with compelling reasons for CS, such as a phobia about vaginal birth as a result of earlier rape, CS at the onset of labour might be a reasonable clinical compromise even though it rules out convenient scheduling.

Benefits of Choosing Caesarean section

While the risks of CS are present regardless of whether it is an emergency CS or an elective CS chosen by the woman, the benefits of CS depend on the reason for doing it. When the CS is chosen by the woman, the lifesaving benefits from an emergency CS are not present. The following are benefits when the CS is not an emergency but chosen by the woman and elective.

Benefits to the woman

While absence of the pain of childbirth with a CS is claimed to be one of the benefits to the woman, it is a false promise (see below). The ability to schedule a CS in advance does provide convenience to the woman and her family. The promise of maintaining “the vaginal tone of a teenager”, frequently promoted not only in popular books but also by hospitals in Latin America and elsewhere, is real although more likely a benefit to the woman’s sexual partner than to her. While less damage to the genitalia is claimed with CS, much of the damage in vaginal birth today is iatrogenic, caused by hurrying through an uncomplicated second stage, unnecessary use of forceps or vacuum extraction, unnecessary episiotomy (8,9,10). In countries like Brazil where full reproductive rights are not available for women, CS provides an opportunity for sterilization without openly contravening the law.

Benefits to the baby

While an emergency CS may save the life of a baby, when there is no medical indication for CS, only the woman’s choice, there is no scientific evidence to suggest any benefits for the baby. Women who chose a ‘natural birth’ or a home birth have been criticized by the medical profession as selfish, concerned with their own needs rather than the safety of the baby, a criticism not based on evidence. Given the evidence above on the many risks to the baby and absence of benefits to the baby when women choose CS, the label of selfish would better fit women choosing CS were it not that to do so would blame the victims. Too often today women’s basis for choosing CS is deep seated fear and lack of confidence in their own biological abilities

as a result of those doctors who themselves fear vaginal birth and fuel their patients' anxieties.

Benefits to the doctor when women choose CS

In contrast, there are many benefits for the doctor doing a CS rather than assisting at a vaginal birth.

Avoiding litigation

The most common reason given by doctors for the excessively high rates of CS is "defensive obstetrics"--- a CS is performed as a defense against litigation. In a recent survey 82% of physicians employed such defensive approaches to avoid negligence claims. (13) Presently, with a bad birth outcome doctors are sued and during the trial find themselves criticized for not performing interventions such as CS. There are few or no cases of litigation in which doctors are criticized for performing unnecessary interventions. As a result, doctors take a risk doing fewer interventions and gain insurance against litigation doing more interventions, including CS.

Defensive obstetrics violates a fundamental principle of medical practice: whatever the physician does must be first and foremost for the benefit of the patient. If a doctor performs a CS because he or she is afraid of going to court or afraid of rising insurance costs, the doctor is not practicing medicine but practicing fear and greed.

Defensive obstetrics treats the symptom, not the disease. The medical profession tends to blame women, lawyers and the legal system for so much litigation, rather than looking at its own role in precipitating litigation. The situation in Ireland is illustrative with a 450% rise from 1990 to 1998 in medical negligence claims, with obstetrics and gynecology cases accounting for nearly half of the payouts. (13) The Medical Defense Union (MDU) proposes a more accessible complaints procedure, a solution which may prevent complaints from reaching the courts but does nothing to address the underlying dissatisfaction of women which leads to complaints.

Rather than just tinkering with complaints procedures, perhaps in addition attempts are needed to find out why there is such widespread dissatisfaction with maternity care in Ireland. Some of this dissatisfaction may be because today in Ireland there is very little choice about maternity care. Nearly every hospital practices the highly structured "active management" approach first started in Dublin in which "active" refers to staff, not to women giving birth and choice is effectively eliminated.

Another source of women's dissatisfaction with present maternity care in Ireland and elsewhere undoubtedly stems from a broken promise. In order to convince women to give up the comfort and security of their homes and come to hospitals to give birth where they give up any possibility truly to control what happens to them, doctors and hospitals have found it necessary to promise women a perfect birth and perfect baby.

But if you play God, you are blamed for natural disasters. Nowhere is the maternal mortality nor perinatal mortality zero. Women and babies die or are injured around the time of birth and sometimes it is because of a mistake in care. Throughout history

women have accepted this harsh reality until recently when doctor's began to promise perfect births. Now we find statements in the medical literature such as: "Childbirth has become very safe for both mothers and babies". (5) Instead of understanding their own role in generating such false hope, doctors in the same article blame the women-- "A couple's expectation of a perfect baby". (5) So when something goes wrong during birth, women and families correctly feel deceived and seek answers but are often met by a stone-wall from doctors and hospitals.

Given the present situation, perhaps litigation is not a bad thing but a necessary evil. It provides a setting where women and families can attempt to address and answer their priorities and concerns, holding doctors to account in the one public forum even the doctors cannot always evade. Litigation also serves as a symptom, alerting us to look for serious underlying problems in maternity care.

Another problem with defensive obstetrics is that it doesn't work. During the years that defensive obstetrics has increased there has been no slowdown in litigation as a result. This suggests that, to some extent, fear of litigation is an excuse to allow the continuing use of interventions such as CS that many doctors prefer anyway.

Other benefits to the doctor when women choose CS

Elective CS is of great convenience to the doctor as he may plan and schedule and get closer to 'daylight obstetrics'. UK and US studies not only show all births occur much more commonly Monday through Friday during daylight hours but, much more surprisingly, emergency CS shows a distribution skewed to favor weekdays and daylight. (8) CS takes the doctor 20 minutes while with a vaginal birth the doctor is in the hospital or on call for 12 hours or more on average. In systems such as the US, Canada, Belgium, Brazil where obstetricians do primary maternity care including routine prenatal checkups and attending normal births, the convenience of CS is vital to their practice.

In nearly all systems of private maternity care, doctors and hospitals earn considerably more money from a CS than from a vaginal birth. US studies show women most likely to receive a CS are white, married, have private health insurance and give birth in private hospitals. (8) These are the women at lowest risk of any medical complications at birth that might necessitate a CS---a rare example of wealthy women receiving less safe care than poor women. WHO reports: "In the United States the profit motive explained hospital-specific cesarean section rates that were high even by United States standards." (14)

Doctors performing CS have the satisfaction of using surgical skills for which they have spent years in training. Once the doctor and woman have agreed on a CS, the doctor has complete control and the elevated status of surgeon. The woman and her family, rather than partners in the birth of their child, become passive spectators, turning everything over to the doctor whom they may hold in awe or even see as a hero.

Benefits to hospitals and industry when women choose CS

In private health care, hospitals receive considerable benefits from CS as it is one of the most common major surgical procedures, filling beds and operating rooms and providing important hospital income. Private hospitals compete for patients and want to discourage out-of-hospital birth. High CS rates reinforce the perceived need for hospitals. In both private and public hospitals the convenience of elective CS is important, scheduled during daylight hours when most staff are present.

Commercial interests need to promote 'high tech' birth which uses the maximum equipment and technology. High CS rates mean increased profit for the medical, hospital, medical technology and pharmaceutical industries.

The Right to Choose

Fully informed choice ?

A woman consenting to or choosing any medical or surgical procedure first must be given full, unbiased information on what is known scientifically about the chances that the procedure will make things better (efficacy) and the chances it will make things worse (risks). While this principle of informed choice is gaining acceptance, there remain doubters such as the clinician who, after reading a draft of this paper, commented: "I wonder if any doctor has the time to give, or any patient the patience to listen to full unbiased information on what is known". Hopefully such attitudes will soon be a thing of the past.

The clinician who is to do the procedure has the obligation to give this information to the woman, requiring the clinician to have that information. This can be problematic for several reasons. The tradition in modern medical practice is for clinicians to base their knowledge and practices on 'standards of practice' generated by other clinicians--standards often at odds with the scientific evidence. (15) More recently there is a desirable movement towards basing medical knowledge and practice on evidence but still today many doctors are not familiar with recent evidence nor with the means to obtain it. In a 1998 study 76% of practicing physicians surveyed were aware of the concept of evidence based practice, but only 40 % believe that evidence is very applicable to their practice, only 27% were familiar with methods of critical literature review and, faced with a difficult clinical problem, the majority would first consult another doctor rather than the evidence. (16)

The clinicians' insufficient knowledge of scientific evidence is compounded further since scientific data on efficacy and risks of procedures keeps evolving---a moving target requiring keeping up to date on the literature. Modifications are made in procedures requiring new data on efficacy and risks and more reading by the clinician.

Information available to the clinician may be bias, generated by commercial firms interested in profits or by professional organizations interested in promoting the more doctor-friendly data on procedures. For example, many obstetrical organizations promote hospital birth, suppressing the evidence documenting the safety of planned

home birth because the latter is doctor-unfriendly. Now clinicians are turning more and more to the internet where medical chat lines are full of misinformation on efficacy and risks with no mechanism to control validity.

The result is many badly informed clinicians unqualified to provide full, unbiased information to women. Some believe clinician's ignorance to be a form of medical misconduct. (17) Without clinicians able to provide correct information, women are unable to make truly informed choices about their maternity care. As an example, a woman who chooses CS as a means of avoiding the "biblical sentence to a painful childbirth" is badly misinformed. By choosing a CS, she exchanges 12 hours of labor pain for severe postoperative pain and debility and a longer recovery period with weeks or even months of pain.

A liberated woman correctly strives not to be controlled by men but if she accepts the male dominated obstetric model of care, she gives up any chance to control her own body and make true choices. Volumes have been written about how liberating and empowering it is for a woman to give birth when she controls what happens. Without fully informed choice, she will give up any control and comply with the wishes of the doctors and hospitals. Women who demand choice but get only selected doctor-friendly information unwittingly buy into the medical position and call it feminism.

Ethical issues

Does a woman have an inalienable 'right' to choose a CS? It has been clearly established in international law through such means as the Helsinki Accord that an individual has the right to refuse medical treatment, even when it is medically indicated. (As an example, legal precedent has been set in the UK and the US against forced CS.) But it does not logically follow that the converse is also true---that an individual has the right to demand treatment which is not medically indicated.

If a woman chooses a CS but is refused because there are no medical indications, is it correct to say she will have a "forced vaginal birth"? Pregnancy is not an illness or disease, not a medical condition. For the great majority of women, no medical or surgical treatment is absolutely required during pregnancy, birth and the puerperium. Vaginal birth is the inevitable consequence of being pregnant and is not a medical treatment. The woman is not forced to have a vaginal birth by anyone but by her pregnant state, a state for which she and her sexual partner must take responsibility, not the medical profession.

Clinicians as well as patients have rights in deciding a course of treatment. For example, if a particular procedure is against the clinician's religious principles, he or she has the right to refuse to perform the procedure. Thus, a doctor cannot use the excuse that the woman chose a CS and I am thereby obliged to perform it. A clinician's first obligation is to the well being of his or her patient and if a woman asks for a CS for which the doctor can find no medical indication and which, to the best of the doctor's knowledge, carries risks for the woman and her baby which outweigh any

possible benefit, the doctor has the right, perhaps even the duty to refuse to do the CS. No one is holding a gun to the doctor's head.

The clinician has an obligation not only for the well being of his patients but also for the welfare of his/her community. If a patient presents with all the evidence of viral influenza and then demands antibiotics, the clinician has the right to refuse for two reasons: the knowledge that antibiotics will not help this patient and the knowledge that the overuse of antibiotics in his community will lead to antibiotic resistant microorganisms which will threaten all his patients and the wider community.

The overuse of elective CS also will threaten the larger community. Not even the richest countries in the world have the financial resources to transplant all the hearts, dialyze all the kidneys, give new hips to all the people who might benefit from these procedures. Choices must be made about which medical and surgical treatments to fund and these choices will determine who shall live. A CS which is done because a woman chooses it requires a surgeon, possibly a second doctor to assist, an anesthesiologist, surgical nurses, equipment, an operating theatre, blood ready for transfusion if necessary, a longer post-operative hospital stay, etc. This costs a great deal of money and, equally importantly, a great deal of training of health personnel, most of which is at government expense, even if the CS is done by a private physician in a private hospital. If a woman receives an elective CS simply because she prefers it, there will be less human and financial resources for the rest of health care.

For example, in Brazil there are hospitals with 100% CS rates, health districts with 85% CS rates, an entire State with a CS rate of 47.7 %. (18) Clearly this is a huge drain on the limited health resources of that country. And the women of Brazil also are paying another price. The data given above proving the higher maternal mortality with elective CS in the UK is further substantiated by data showing a recent rise in maternal mortality rates in those areas of Brazil with these shockingly high CS rates. (19) CS on demand is an expensive and dangerous luxury.

Another ethical issue surrounding the question of women choosing CS is the right to equal access in health care. Most everyone would agree it is not right that in many countries there is not equal access of all women to basic, essential maternity care such as emergency CS for serious medical complications. But it is a very different ethical issue to ask: if wealthy women can choose CS, shouldn't all women have this right?

Discussions of equal access need to start with the question: access to what? Few would insist everyone has the right to access to blood letting as a form of medical treatment. But would some insist that since wealthy women can buy surgical augmentation when they feel their breasts are too small, we should use public funds for health care, even though limited in every country, to allow all women the right to access to such surgical breast augmentation?

In the light of these ethical issues, the Committee for the Ethical Aspects of Human Reproduction and Women's Health of FIGO (the international umbrella organization

of national obstetric organizations) states in a 1999 report: “ Performing cesarean section for non-medical reasons is ethically not justified.” (20)

Why is there promotion of women choosing CS?

After a two decade rise in CS rates in many countries, the efforts to bring this rate back down have finally begun to take effect---CS rates in the US, Canada and elsewhere have fallen several percentage points the last few years. In the US, the goal of the Federal Government to reduce the rate from 25% to 15% by the year 2000 was not quite met. However, some are fighting against this effort to lower CS rates through such means as: questioning the recommended optimal CS rates (2,5,6); suggesting lowering the rates may be dangerous (5); grasping the excuse this is what women want. (2 – 6)

Do we know what the optimal rate of CS should be? There is no evidence that a rate of CS over 7% saves lives. (9) The most quoted optimal CS rate is that given by the World Health Organization, 10 to 15% of all live births. (21) Now this figure is challenged and called arbitrary. (6) It is important to know that this figure was arrived at during a WHO consensus conference attended by 62 participants from over 20 countries. (8) Following a thorough literature review, participants were aware of all the risks of CS to woman and baby and the need for an optimal rate to be the minimal optimal rate. The participants then studied variations in CS rates across countries. As several countries with the lowest maternal and perinatal mortality rates were found to have national CS rates close to 10 %, this appeared to be a minimal optimal rate, saving the maximum number of lives. Furthermore, studies sponsored by WHO and involving many countries found no evidence that CS rates above this level lower mortality rates.(8) Because the participants were aware that some hospitals and some districts have higher risk populations, the final consensus recommendation was modified to 10 to 15%--- 10% for general populations and 15% for high risk populations. This recommendation was based on the best scientific evidence, thorough discussion among many experts and final consensus and was anything but arbitrary.

Medical factors behind the promotion of women’s choice of CS

Some believe there is an increased need for CS because babies are getting bigger and women’s pelvic outlets are not. A search fails to reveal data proving babies are getting bigger. But it shouldn’t matter. In Sweden, Denmark, The Netherlands the present national CS rate is close to 10% with some of the world’s lowest maternal and perinatal mortality rates and there is no known data proving their babies are smaller or their women’s hips bigger than in the US, Canada or Brazil.

Promoting higher CS rates also is related to the many claims that technological advances are the reason that “Childbirth has become very safe for both mothers and babies”. (5) Scientifically there are two problems with this idea: where is the data showing improved outcomes; where is proof of a causal relationship between outcomes and use of technology or increasing CS?

Has the past two decades of rapidly increasing CS rates seen improved birth outcomes? There has been no significant improvement in the highly industrialized countries the past 20 years in: cerebral palsy rates; low birth weight rates; maternal mortality rates (in the US the rate may be rising); the fetal component of perinatal mortality rates. Attempts to show lower perinatal mortality rates with higher CS rates have failed. (8) A US National Center for Health Statistics study comments: "The comparisons of perinatal mortality ratios with cesarean section and with operative vaginal rates finds no consistent correlations across countries". (22) A review of the scientific literature on this issue by the Oxford National Perinatal Epidemiology Unit states: "A number of studies have failed to detect any relation between crude perinatal mortality rates and the level of operative deliveries". (23)

In summary, there is no evidence that the rise in CS rates the past two decades has improved birth outcomes. Since it is true that CS does save babies lives, how can this be? As indications for CS broaden and rates go up, lives are saved in a smaller and smaller proportion of all CS cases. But the risks of this major surgical procedure do not decrease with increasing rates. It is only logical that eventually a point is reached at which CS kills almost as many babies as it saves. This possibility is, for the most part, invisible to obstetricians: they may experience cases in which babies lives are saved, but often may not see the death of a baby, for example from respiratory distress syndrome in a neonatal intensive care unit, hours or days after CS.

Non-medical factors behind promoting women's choice of CS

Litigation, money and convenience, three non-medical factors underlying doctors encouragement of women to choose CS, were discussed earlier. Another important factor behind the promotion of maintaining high CS rates is one rarely if ever discussed. When maternity care systems are characterized by medical hegemony and midwives are marginalized or absent, higher CS rates are found. It is no coincidence that in the US, Canada and urban Brazil where obstetricians attend the majority of normal births and there are few midwives attending few births, the highest CS rates in the world are found. Having a highly trained gynecological surgeon attend a normal birth is analogous to having a pediatric surgeon baby-sit a normal two-year old child. It would be a waste of the pediatric surgeon's time and skills and, when the young child gets tired and fussy, the surgeon might be tempted inappropriately to use drugs, where a properly trained baby-sitter would soothe the baby with a variety of non-medical techniques for many hours---the medicalization of normal childhood similar to the medicalization of normal birth.

While doctors use the medical model of birth, the midwifery approach to birth uses a different paradigm. Medicine focuses on the pathological potential of pregnancy and birth, midwifery focuses on its normalcy and potential for health---to midwives breech birth is a variation of normal while to doctors it is a pathological condition. Many studies demonstrating lower CS rates when midwives rather than doctors attend birth are reviewed in a recent paper. (24) Promoting more CS by encouraging women to choose CS is part of a campaign to keep the obstetric profession in control of

maternity care, a campaign which also includes marginalizing midwives through witch-hunts. (25)

A more subtle but pervasive non-medical factor promoting CS is the belief system underlying the medical approach to birth. In general, medical doctors trust technology, not nature. A leading obstetrician in Canada said it well: "Nature is a bad obstetrician".

A blind trust in technology leads to misunderstandings. It is commonly believed that technology equals science equals progress. Whether in London or in a small village in rural China, a visit to a hospital inevitably begins with showing new equipment.

A few scientific truths are hard to sell in a medical setting: science may be used in the development of technology but technology is not science; the use of technology does not mean the practice of scientific medicine---evidence based practice is scientific medicine; technological advances may or may not mean progress; technology is neither good nor bad and the use of technology can have good or bad results.

Behind these misunderstandings is the reality that most practicing doctors have little or no training in science. Furthermore, there is a fundamental difference between the practice of science and the practice of medicine. To generate hypotheses, scientists must believe they don't know while practicing doctors, to have the confidence to make life and death decisions, must believe they do know.

The medical approach, with diagnosis and treatment, assumes the practitioner will 'do something'. The surgical approach is a subset of the medical approach, assuming in addition that cutting it out or repairing it is the ultimate solution and that a cut is better than a tear. That a survey of practicing women doctors found that some of them would choose CS for themselves only shows that, after years of training in the medical and surgical approach, there are some who have come to believe in technology, not nature.

The medical and surgical approaches work well for diseases and injuries but may be inappropriate at birth where often the most important thing is to do nothing. A midwife is someone with good hands who knows when to sit on them.

Conclusions

The current promotion of allowing women to choose CS is not because the medical profession has suddenly recognized women's rights but rather because surgical birth leads to many benefits and fewer risks for doctors and hospitals. Doctors are using the rhetoric of patients rights and women's rights and making capital of the 'choices' of a few well-off women to have a CS---a recent headline in a UK newspaper "Too posh to push" referred to a singer from the pop group 'Spice Girls' choosing CS. Much the same thing happened earlier with the promotion of hospital birth which was similarly scientifically unjustified but doctor-friendly.

When a women chooses an elective CS rather than a vaginal birth it means: major and minor risks and no benefit for her baby; major and minor risks and limited benefits for

the woman; major benefits and little or no risk for doctors, hospitals, medical and drug industries.

It is highly unlikely women would ever consider choosing CS if they were given the full scientific evidence on the risks for themselves and their babies. The key ethical issue is not the right to choose or demand a major surgical procedure for which there is no medical indication but the right to receive and discuss full, unbiased information prior to any medical or surgical procedure.

Women and their babies are currently paying a big price for the promotion of CS. The scientific data on maternal mortality associated with CS suggest the apparent rising maternal mortality rates in the US and Brazil may be, at least in part, the result of their high CS rates. The data on other risks for both woman and baby associated with CS mean both are paying a big price in the current birth. Additional data on risks associated with CS mean both woman and baby are paying a big price in future pregnancies as well.

The health of the public is affected by the contribution which women choosing CS makes to the high number of unnecessary CSs performed in some countries. Unnecessary CS is a drain on health resources, even when performed in the private sector. Demanding equal access to unnecessary major surgery means less access to essential care. The luxury of women choosing CS means other women dying of cancer not found early enough because of lack of attention and funds for such unglamorous but essential care as outreach cancer screening programs for poor women. Who shall live?

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