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With Child, With Cancer

By PAMELA PAUL

LIZETTE IRVIN, HEAVILY PREGNANT, reclined on a hospital bed, relaxed, considering the circumstances. A bag of fluid dripped into her blood through an IV line as Irvin sucked on ice cubes, trying to pass the time. The ice helped to minimize the metallic taste and heat in her mouth from 5-fluorouracil, an antimetabolite, which entered her bloodstream via a catheter inserted in her chest. It was June 16, Irvin's fourth round of chemotherapy. She was 32 weeks pregnant and had breast cancer.

Before she left the chemo suite at the M. D. Anderson Cancer Center in Houston, Irvin, who is 36 years old, was hooked up to a portable pump that slowly released doxorubicin — "the red devil," a drug so toxic it can cause third-degree burns — into her body over the next 72 hours. During that time, her daughters, Madeline, 4, and Noelle, 2, stayed at her in-laws in part because Irvin feared that Noelle, "the clingy one," might accidentally tear out her IV.

It was Noelle's clambering on her mother that first alerted Irvin to a tender lump in her left breast last November. Irvin nearly called off her mammogram appointment when a home pregnancy test showed up positive in December. Because pregnant women typically experience enlargement and tenderness of their breasts, they often ignore early signs of cancer. Unfortunately, this means pregnant women learn of their breast cancer 2 to 15 months later than nonpregnant women and are two and a half times more likely to be told they have advanced-stage cancer. (Irvin's cancer was Stage IIB; she had three small tumors in one breast and the cancer had begun spreading to her lymph nodes.) Doctors are discovering more and more breast cancers at Stage 0 and I in nonpregnant women, but as one oncologist, Dr. Clifford Hudis, chief of breast-cancer medicine at Memorial Sloan-Kettering Cancer Center, put it, "In pregnant women, breast cancer is more likely to be the old-fashioned, 19th-century, '*look at this big thing that's developed*.' "

In Irvin's case, a breast specialist was concerned enough by an initial ultrasound that Irvin had a biopsy and mammogram right away. For the next few days, she focused intently on her daughters' play dates, Madeline's

upcoming birthday party and “pushing the negative away.” On the fifth day, a nurse called and asked her to come in — and to bring her husband. “It doesn’t take a rocket scientist,” Irvin told me, but when the surgeon told them she had cancer, “I went completely blank.”

The question of how to handle cancer during pregnancy has long troubled the medical profession. In 1880, Samuel Gross, a pioneering American surgeon and the subject of the celebrated Thomas Eakins painting “Gross Clinic,” noted that when breast cancer was associated with pregnancy, “its growth was wonderfully rapid and its course excessively malignant.” In 1943, after treating 20 pregnant patients for breast cancer, doctors at Columbia-Presbyterian Hospital concluded that pregnancy made the disease inoperable. Ten years later, the consensus was that termination of the pregnancy was essential and even improved patient survival.

Breast-cancer treatment has made huge strides since then, and a considerable amount of research shows that termination does not improve a pregnant woman’s prognosis. Yet many pregnant women are still refused treatment unless they abort. “Some doctors may be concerned about hurting the baby or the mother,” says Dr. Richard Theriault, an oncologist at M. D. Anderson, where he oversees a team specializing in the treatment of pregnant women with breast cancer. “Or they’re concerned there will be some medical catastrophe and they’ll be liable. Some just don’t want to tackle the issue because it’s complicated.”

Though still relatively rare (the rate of pregnancy-associated cancer is about 1 in 1,000 pregnancies), the incidence of pregnancy-associated breast cancer is considered to be on the rise. Cancer is primarily a disease of aging, and in the case of breast cancer — the most common cancer diagnosed during pregnancy — age works against women in two ways. First, studies show that women who give birth for the first time at younger ages are less likely to get breast cancer. (The best, perhaps only, argument in favor of teenage pregnancy is that women who get pregnant before age 20 are two to three times less likely to develop breast cancer than women who get pregnant for the first time after 30.) Second, as women increasingly conceive for the first time in their 30s and 40s, their likelihood of developing cancer while pregnant increases. Only 2 percent of breast-cancer cases occur in women under 35, but 1 in 5 are diagnosed in women between the ages of 35 and 49. It’s at these ages that cancer and pregnancy are most likely to collide. One study showed that among women 35 and younger with cancer, 14 percent were pregnant when their

illnesses were diagnosed; another study of women under 45 found that 7 percent were pregnant at the time of diagnosis.

All this takes place against the backdrop of a massive biological shift. Only 150 years ago, girls got their first period at 15 or 16 and went through menopause in their late 30s and 40s. Today, girls begin puberty as early as 9, and menopause generally occurs around 50. We have also increasingly begun tinkering with our bodies, pushing the limits of our fecundity through an array of assisted reproductive technologies. The period in which women's bodies go through a series of tremendous hormonal shifts is extending ever longer, increasing both our fertile years — and our chances of getting breast cancer.

Lizette Irvin hadn't even planned to get pregnant. Twelve weeks in, when her cancer was diagnosed, she fleetingly considered terminating the pregnancy. "But it wasn't really an option," Irvin said, citing her Catholicism. The breast specialist she initially consulted was surprisingly optimistic. "Despite what you might think, chemo is an option," she was told.

As best they can, oncologists try to hew closely to the level of care a nonpregnant woman would receive. "The decisions you have to make when a woman has cancer are difficult enough," Dr. Ann Partridge, an oncologist at Dana-Farber Cancer Institute in Boston, says. "Throw in the fact that she's pregnant, and now we have another party to think about, the fetus." Most oncologists advise strongly against chemotherapy in the first trimester when the fetus's organs are developing. Irvin, like nearly all pregnant breast-cancer patients, had a mastectomy and then started chemo at 23 weeks. She was determined to be aggressive. "I was ready to get rid of both breasts, but they told me it wasn't really necessary at that point." The doctors also wanted to keep her under anesthesia for as little time as possible.

"People can fathom what it's like having two children under 5," Irvin said. "They can fathom being tired because you're pregnant. They can even fathom what it's like having cancer. But they cannot fathom all three at the same time."

IN 1997, WHEN Dr. Elyce Cardonick, a perinatologist, was a research fellow at Cooper University Hospital in Camden, N.J., she met with a pregnant patient who had been told by her oncologist to terminate after learning she had Hodgkin's disease. "She was afraid not to be treated for cancer, but she was afraid to expose her fetus to drugs," Cardonick recalled when I spoke to her recently. It was perhaps the ultimate maternal conflict: choosing between the biological imperatives for self-preservation and procreation.

“We had to figure out what we could do to protect the fetus, but also what to do to protect the mother so that that baby had one,” Cardonick said. She did some research and found that pregnant patients had been treated with chemotherapy in Mexico, with what appeared to be remarkable success. In 1973, while still a resident, Dr. Agustin Avilés, a senior researcher at the Instituto Mexicano del Seguro Social in Mexico City, saw his first pregnant patient with acute leukemia. This woman became the impetus for Avilés’s groundbreaking study on the effects of chemo while pregnant, the first of 84 patients who received chemotherapy during pregnancy between 1973 and 2003, 58 of them during the first trimester. For most, termination wasn’t an option. Up until recently, medical abortions were rarely permitted in Mexico. Delaying treatment wasn’t viable, either. All 84 had acute leukemia, advanced Hodgkin’s or malignant lymphoma. Forestalling chemotherapy for even a few days could cost both mother and fetus their lives.

Avilés and his team went ahead and administered chemotherapy to their first patient. The woman survived, and her baby girl was born the following year. That girl is still alive and is today a mother of six. “That was when I fell in love with this area of research,” Avilés told me through an interpreter. Among the 84 cases in his study, all the fetuses survived and, astonishingly, only 5.8 percent had birth defects, most of them minor. In a follow-up study, Avilés examined 43 children born to mothers who received chemo from 1970 to 1986. At the time of assessment, the children’s ages ranged from 3 to 19, and all had normal physical, neurological and psychological development. The children did fine in school, and among those who had reached adolescence, sexual development was normal.

Armed with Avilés’s results, Cardonick went to her hospital ethics committee and argued for treating the Hodgkin’s patient. “It was such a rewarding thing to say, ‘It’s not a choice between you and your baby; we can take care of you both,’ ” Cardonick told me. Her patient gave birth to a healthy child. “Well, that’s not going to happen too often,” the woman’s oncologist said to Cardonick about having a pregnant patient with cancer. But a couple of months later, another pregnant woman, with melanoma, came in. “I realized, someone needs to look at pregnant women with cancer, because maybe it’s not going to be as rare as we think,” Cardonick says.

ONLY TWO YEARS EARLIER, in 1995, it seemed pretty unlikely to Patty Murray, who was then 35 and a nonpracticing attorney in Buffalo. Five-foot-seven, slim, a regular exerciser and 12 weeks pregnant with her third child, Murray felt at the peak of health. She and her husband desperately wanted a

big family, and after multiple miscarriages, it looked like this pregnancy was going to stick. She began to tell friends the good news.

Then, nearing her 17th week, Murray took a bath after an afternoon of gardening. While washing, she noticed a huge lump under her arm. “I’m not a hypochondriac, but I thought, Oh my gosh, this feels like something that’s not normal,” she said. It wasn’t Murray’s first scare. When she was expecting her second child, her obstetrician found a lump in her left breast and told her to have a mammogram after delivery. Murray got a baseline mammogram while still breast-feeding. It came back clear.

When she went for a second mammogram to check on the new lump, the doctor scrutinizing the result remarked, “It’s like looking for a car in a Buffalo snowstorm.” As Dr. Constance Lehman, director of radiology at the Seattle Cancer Care Alliance, explains it, describing the breast during pregnancy: “Cancers show up as white, and dense breast tissue also is white.” When another doctor did an ultrasound, Murray could tell it was bad by the look on the doctor’s face. A biopsy was performed without painkillers, out of concern for the fetus. “They had to hold me down,” she recalls, comparing the pain to that of labor.

The following day, Murray underwent a barrage of exams. At one point, she got an ultrasound to see if her liver was enlarged, but nobody informed the technician that Murray was pregnant. Suddenly, the technician jumped back and said, “Oh my god, there’s a baby in there!” Murray laughed for the first time in 24 hours. But when she was told she needed the lump removed by a vascular surgeon due to the number of blood vessels under the armpit, she panicked. “I didn’t want to go under general anesthesia with a baby inside me,” she told me.

She had no choice. When Murray awoke after surgery, the doctors dealt more ominous news. “This isn’t what we wanted,” they told her. It was aggressive breast cancer and had spread to her lymph nodes.

“What’s the next step?” she asked. Her oncologist said, “Honey, we start chemotherapy today.” Murray was stunned. She said she thought: “How is that possible? I can’t even take a Sudafed.” She wanted to continue her pregnancy, though not to the detriment of her health. At the time even less was known than now about cancer treatment during pregnancy, but Murray says that her oncologist told her the chemo would have no effect on her fetus; if anything, her baby might be born without hair. Then she was put on a weekly regimen that included methotrexate, a drug that was once sold on the

black market to women who wanted to abort their pregnancies. Doctors no longer use it for cancer treatment during pregnancy.

One morning, as she took a shower, Murray's hair fell away in sopping wet clumps. Her 5-year-old daughter walked in to find her mother in her bathrobe, crying. "She saw me and screamed at the top of her lungs," Murray said. When Murray wasn't worrying about her own life and how her illness was affecting her kids, she worried about what the chemo might be doing to the baby inside her. How much was really known about the long-term consequences for her child? Information was hard to come by. Thirteen years ago, Murray didn't have Google at her fingertips; she didn't even own a computer. "You know when you're delivering, and you hear the baby cry, and you're looking to make sure he has 10 fingers and 10 toes?" she says. "Magnify that 100 times. I was just praying he wasn't going to be deformed."

She went in for a C-section two weeks before her due date in order to maintain her chemo regimen. "I looked like a heroin addict," she recalled. Her veins were black; many had collapsed. The staff seemed nervous around her, even afraid. At one point, the resident physician remarked: "I'm surprised you didn't abort. It would have made it a lot easier to treat you." In fact, according to a 2007 Norwegian study of 45,511 women diagnosed with cancer between 1967 and 2004, matched for age and stage, pregnancy does not affect survival either way. Two small studies even suggest that terminating a pregnancy may decrease a woman's chance of fighting the disease. Some women say that being pregnant increases their will to survive. "That baby inside created for me a necessity for living," Murray said. "Whenever I felt him moving around, I knew that I had to live."

After her baby was removed from her uterus, there were 10 disquieting seconds of silence. Then she heard Patrick Richard Murray, now a 12-year-old who likes fantasy novels and basketball, cry for the first time. "It was the most wonderful sound I'd ever heard," she says. The doctors brought him over, and unlike her first two children at birth, he had a full head of hair.

NOT ALL THE STORIES have happy endings, and even the happy endings are poorly understood. Contradictions abound about just how chemotherapy affects babies in utero. A drug administered, for example, during one week of the first trimester, when fetal development is rapid, can cause a heart malformation; the next week, the same drug can lead to limb defects. Sometimes, timing seems irrelevant. In one remarkable case, a set of twins was exposed to cyclophosphamide, a drug typically given to pregnant breast-

cancer patients, throughout their mother's pregnancy. But after delivery, the differences in outcome for each twin were striking. The boy suffered a host of grave defects including a deformity of the right arm, kidney abnormalities and heart problems. At age 11, he developed thyroid cancer and at 14, neuroblastoma. Three years later, his thyroid cancer recurred. His twin sister had no abnormalities whatsoever and was in excellent health. As so often happens in cases involving pregnant women treated for cancer, doctors were unable to explain the discrepancy.

How can a woman possibly endure the toxic onslaught of chemotherapy without hurting her fetus? The Food and Drug Administration has established five categories for the use of drugs during pregnancy, with category A the only unequivocally safe one. Most chemotherapeutic agents fall into category D, meaning there is evidence of risk to the fetus. While Avilés found that only 5.8 percent of the babies of mothers who had undergone chemo in the first trimester were born with defects, other studies have found defects in the 14 to 19 percent range when chemo is given in the first trimester. Even during the second and third trimesters, chemo isn't risk-free; reports indicate that chemotherapy increases the risk of stillbirth, low birth weight and intrauterine growth retardation.

But as with many uncommon illnesses, particularly those involving pregnancy, the data available is spotty. Most studies are small and retrospective, and there are no controls. Some of the studies showing high levels of birth defects, for example, involved drugs that are no longer in use. Several researchers are assembling large registries of case studies to try to draw a more accurate picture, but problems still exist. In one registry of 720 cases of pregnant women treated with chemotherapy for cancer, "anomalies" are defined so loosely that a baby born with the umbilical cord around its neck (a not uncommon occurrence in healthy births) is not considered "normal." Moreover, it's difficult to differentiate between the effects of chemotherapy and the effects of maternal illness on the developing fetus; or the effects of severe stress, which some studies allege can cause as many malformations as thalidomide, the infamous morning-sickness drug that caused alarming birth deformities, most notably "flipper" arms and legs.

The M. D. Anderson Cancer Center is currently doing the first large prospective study on chemotherapy drugs in common use and their effect on the fetus. Early results show that of the 40 children followed to date of mothers who were treated in the second and third trimesters, only 3 had birth defects, and none were related to chemotherapy (one case of Down syndrome,

a club foot and a baby with an abnormality of the urethra). And Avilés, who describes himself as “controversial,” is going one step further. After reviewing 1,395 cases in the literature, he is writing a paper that will reject the conventional wisdom in this country that chemo should not be given while the fetus’s organs are being formed. “When you start to analyze the facts coldly, you realize that there is no evidence that proves chemo shouldn’t be administered during the first trimester,” Avilés says.

Yet doctors still don’t fully understand why chemotherapy doesn’t seem to harm most fetuses. This is largely because we have a limited understanding of how the placenta handles drugs. (Obviously, testing pregnant women to see whether a drug passes through to her fetus would be highly unethical.) The levels of drugs in a mother’s blood do not necessarily correspond to those in the blood of the placenta, the amniotic fluid, the fetus or the newborn baby. Individual case studies add still more confusion. In one case, doxorubicin was found in placental tissue, but not in the cord tissue or the blood of a healthy baby born 48 hours after the mother was treated. Yet in another, a doxorubicin metabolite was detected in the cord, placental tissue and neonatal spleen of a baby delivered stillborn 36 hours after the mother was treated.

One explanation of why most fetuses seem unharmed may lie with P-glycoprotein. When a cancer cell contains high levels of P-glycoprotein, it is likely to resist treatment by chemotherapy; the human placenta happens to contain very high levels of P-glycoprotein. Could P-glycoprotein be preventing the passage of chemotherapeutic agents to the fetus? Perhaps. But Dr. Eric Jauniaux, a professor of obstetrics and gynecology at University College London who specializes in the placenta, emphasizes that “most substances *do* cross the placenta.” The effect a drug has on a fetus also depends on how the mother, placenta and fetus break it down. Some substances, like tobacco, are actually more deadly once metabolized; nicotine has been found in fetal livers at considerably higher levels than in the mother. “But there is very little information on chemo,” he says. “You can take the placenta out, inject the substance and see how it crosses, but it’s dead tissue, so it’s a poor model.”

Perhaps least known are the long-term effects chemotherapy has on children born to cancer patients. Because development of the central nervous system takes place throughout pregnancy, there may be neurocognitive consequences to chemo exposure in utero even in the second and third trimesters. The effects may not show up until years after the child is born; a large-scale study at the Hospital for Sick Children in Toronto that tracks newborns into adulthood is under way. There may also be delayed effects on the cardiac or

pulmonary systems. And while there appears to be no effect on fertility in the children of cancer pregnancies, the numbers are not yet great enough to be definitive.

Nor is it easy to advance the treatment of cancer in pregnant women. Any new protocol must be approached with the utmost caution. At Memorial Sloan-Kettering Cancer Center and at the Dana-Farber Cancer Institute, doctors have tentatively begun giving some pregnant women a biweekly regimen of chemo that in nonpregnant women has supplanted the every-three-weeks schedule still used for pregnant patients. To do so, they must also administer G-CSF, a drug that stimulates the production of white blood cells, which would otherwise be depleted by the more intense schedule.

“Is G-CSF safe for pregnant women?” asks Hudis, of Memorial Sloan-Kettering. “To answer that, I would have to do a randomized study with controls.” Even if he administered G-CSF “all the time for the next three years and had 30 patients, and everything’s fine, what have I proven? Let’s say the risk of disaster is 5 percent and by chance, I’ve missed it.” In any case, such a study cannot be done. Even with F.D.A.-approved drugs, pharmaceutical companies won’t support research on pregnant women.

With so much focus on the effects of treatment on children, it can be easy to lose sight of what may be the most tragic potential effect of all: the loss of a mother. Dr. Mildred Ramirez, a high-risk obstetrician at the University of Texas Health Science Center at Houston who delivers the babies of many of Theriault’s patients, tearfully recalls a case in which a patient failed to respond to chemo. Theriault called and said: “Mildred, it’s not working. You have to decide if you’re going to induce real early and deliver a preemie.” The woman was induced and put on another series of chemotherapeutic agents — ones not typically used during pregnancy; she died shortly after her son’s first birthday.

Oncologists and obstetricians have to weigh their medical options against the emotional, religious, social and moral concerns of the prospective parents. “There’s no cookie-cutter approach,” says Dr. Jennifer Litton, Lizette Irvin’s oncologist at M. D. Anderson. Much depends on both the stage of the cancer and the pregnancy. Ultimately, it comes down to what doctors describe as a risk-benefit analysis. In Irvin’s case, on the day of her fourth round of chemo, she and Litton decided not to proceed with a fifth round because Irvin’s first two children were both born early. Were Irvin to get chemo at 35 weeks and deliver before 38, her blood count would be low, and both she and her baby would be at greater risk for infection.

WITH JUNE'S 95-DEGREE weather and almost glutinous humidity, Irvin couldn't wait to deliver. She was nearing her due date, chronically overheated despite Houston's ubiquitous air-conditioning, and her constipation, a common symptom of pregnancy, had been severely aggravated by the cancer treatment. Yet chemo itself wasn't nearly as taxing as Irvin had expected. "Pregnant women tend to tolerate chemotherapy better," Litton says. "They don't have the nausea." Nobody knows why.

Following delivery, most women go through an additional regimen of chemotherapy (as well as radiation, which is generally not given during pregnancy). Nearly all report greater nausea, vomiting and fatigue after giving birth. Mothers recall being too exhausted to lift their newborns. One woman described it as "walking through Jell-O." "They're quite heroic," Litton says. "Imagine having a newborn and getting chemotherapy once a week?"

The travails of chemotherapy aren't the only postpartum challenge. Women with cancer are advised not to breast-feed even from healthy breasts because chemotherapeutic agents can reach significant levels in breast milk and be passed on to a nursing infant. (Interestingly, the "milk rejection sign" — an unexplained refusal of an infant to nurse — is frequently seen in cases where inflammatory breast cancer is diagnosed postpartum.) Moreover, 7 in 10 women become infertile following chemotherapy with cyclophosphamide and many go through premature menopause. "People talk about postpartum hormones," Patty Murray says. "But no, I had menopause. I was having hot flashes while changing the baby."

In the last few years, researchers have begun looking at the psychosocial effects the disease has on pregnant patients. After surviving cancer, Murray became a founder, in 1997, of what is now called Hope for Two . . . the Pregnant With Cancer Network. Its mission is to connect cancer patients. One of these women was Anya Silver, who is 39 and a professor of Victorian literature in Macon, Ga. Silver needed the support. She had two devastating miscarriages; during her third pregnancy she was told she had inflammatory breast cancer, all within the span of a year. Inflammatory breast cancer is rare, accounting for fewer than 4 percent of cases, but the five-year survival rate is only 35 percent.

"My predominant feeling at the time was anger," Silver recalls. Shopping in a children's store, Silver overheard a pregnant woman tell a sales clerk, "I really want a girl, but I'd be O.K. with a boy," and she said she felt herself boil over with rage. How could someone take so much for granted and complain about

something so trivial? “Having cancer when you’re pregnant is doubly isolating,” she says. “You walk into your OB appointment with no hair, and everybody stares at you. You’re the person nobody wants to be.”

Even after her son, now a healthy 4-year-old, was born, Silver would lie in bed at night, spinning dark fantasies: “I had this constant fear that my son would be motherless. That my husband would remarry, and my son would call someone else ‘Mommy.’ ” Consumed with bitterness, she felt as if her body had betrayed her. “I suspect that my three pregnancies with all those hormones fed the cancer, but I’ll never know,” she says.

This raises a troubling question: Can hormonal changes during pregnancy cause cancer? Evidence suggests that, at the very least, pregnancy hormones can cause pre-existing abnormal breast cells or growths to develop quickly and aggressively. In addition, pregnancy, it seems, changes the way the body handles the threat of cancer: During a healthy person’s lifetime, cells undergo changes that may or may not turn them into cancer. “Cells may be on the verge of becoming evil cells, then typically go back to being normal,” says Dr. V. K. Gadi, an oncologist at the Fred Hutchinson Cancer Research Center in Seattle. “But during pregnancy, there’s a surge of hormones that help promote certain types of breast cancer. It’s a highly estrogenic environment.” Meanwhile, the woman’s immune system is learning to tolerate the fetus, which is in many ways like a transplanted organ. “Essentially, the immune system is dampened to protect the fetus,” Gadi says. “Cancer cells take advantage of this opportunity where the immune system is backing off from its normal processes. They’re emboldened. And that’s the perfect storm.”

The effects of this “perfect storm” appear to linger during the postpartum period. While pregnancy lowers a woman’s lifetime chances of developing breast cancer, her risk is actually heightened in the 2 to 10 years following childbirth. Moreover, if a woman has been pregnant within the last two years and develops breast cancer, she is twice as likely to die from the disease.

Doctors are also exploring the question of whether infertility treatment may raise women’s risk of cancer, but again, answers are elusive. Some studies show an increase (mostly of ovarian cancer) among women treated for infertility with Clomid; others show a decrease; still others, an association. It may be that the underlying causes of infertility increase the risk of cancer, not the treatment. Furthermore, infertility treatments vary widely. And it is particularly difficult to study the effects of in vitro fertilization in America because nobody tracks women who receive treatment. A woman is hardly

likely to call her infertility clinic to report, “By the way, I got cancer 10 years after taking fertility drugs.”

“**SOMETIMES I GET ANGRY** when my husband says, ‘Don’t worry, we’ll get through this, and you’ll forget it ever happened,’ ” Lizette Irvin acknowledges. “But it will never go away. M. D. Anderson will keep watch over me for five years. I may be taking drugs all the way through menopause. There will always be something to worry about. . . . What if we missed something? What if it comes back?”

As the former admissions director at a school for the mentally disabled, Irvin is well aware of everything that can go wrong during a child’s development. The near-weekly ultrasounds that tracked her third daughter’s fetal growth showed no abnormalities and, last month, Amelie was thrust into the world after 36 weeks and three easy pushes, scoring a near perfect 8 and 9 on her Apgars, the standard test for assessing the health of a newborn. Still, Irvin can’t quite rest easy. “I have that little worry that she’s not going to hit all those developmental milestones,” she says. “Something could show up anytime during her childhood.”

Yet while she’s relieved Amelie doesn’t have to endure the next round of chemotherapy and the 30 sessions of radiation to follow, part of her misses being pregnant. “While she was inside me, I protected her, and she protected me,” Irvin says. When Irvin returned to M. D. Anderson for her first session of postpartum chemotherapy, she felt even more nervous than the first time she got chemo while pregnant. Irvin told me she remembers thinking, “I’m doing this all alone now.”

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