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For women with congenital heart defects, having a baby can be risky (August 2017)

*By Tara Haelle
Health & Science
June 4*

For years, the one thing standing between Candace Martinez and motherhood was her heart. She was born with a defect that a generation earlier would have led to death as an infant, but modern medicine — open-heart surgery at 5 weeks old to switch two misconnected arteries — had saved her. At age 18 she experienced heart failure: Her heart muscle couldn't pump enough blood to oxygenate her body. At 19, she got a pacemaker.

Martinez survived, but she always assumed that the life modern medicine had given her would not include having children. Pregnancy and childbirth long were thought to be too tough on women with congenital heart defects like hers.

Not anymore. Recommendations adopted in January by the American Heart Association suggest that, with careful supervision and management, many complex congenital heart defects should not be a deterrent to pregnancy.

For Martinez, 33, of Bakersfield, Calif., the recommendations couldn't have come soon enough. After spending the early part of her pregnancy in the Ronald Reagan UCLA Medical Center and the rest of it near the hospital, she gave birth to a baby girl on Valentine's Day. The pregnancy wasn't exactly easy: Martinez's heart at one point started beating abnormally and doctors administered electric shock to get it back to a normal rhythm. But her daughter is healthy and she is, too.

"Where we used to think pregnancy was not feasible or a prohibitively high risk" for women with complex heart defects, said her UCLA cardiologist Jamil Aboulhosn, one of the authors of the new AHA guidelines, "many of these women can actually tolerate pregnancy, but they're still high-risk pregnancies" that should occur in places with appropriate infrastructure and practitioners who know how to care for such patients.

To view the full article, please click on this link:

https://www.washingtonpost.com/national/health-science/for-women-with-congenital-heart-defects-having-a-baby-can-be-risky/2017/06/02/c7d3cbac-1fb6-11e7-a0a7-8b2a45e3dc84_story.html?utm_term=.118df94207e8

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Congenital heart defects (CHDs) – Data & Statistics (August 2017)

August 1, 2016

Congenital heart defects (CHDs) are the most common types of birth defects, and babies born with these conditions are living longer and healthier lives. Find more statistics about CHDs below.

Number of U.S. Babies Born with CHDs

- CHDs affect nearly 1% of—or about 40,000—births per year in the United States.^{1,2}
- The prevalence (the number of babies born with heart defect compared to the total number of births) of some CHDs, especially mild types, is increasing, while the prevalence of other types has remained stable. The most common type of heart defect is a ventricular septal defect (<https://www.cdc.gov/ncbddd/heartdefects/ventricularseptaldefect.html>) (VSD).^{3,4}
- About 25% of babies with a CHD have a critical CHD. Infants with critical CHDs generally need surgery or other procedures in their first year of life. [Read summary]
- The prevalence of all types of CHDs, including critical CHDs, varies by state and by type of defect.

Number of U.S. Children and Adults Living with CHDs

Currently, there are a number of state-based birth defects programs that track CHDs among newborns and young children, but no tracking system exists to look at the growing population of older children and adults with heart defects.

To view the full article, please click on this link:

<https://www.cdc.gov/ncbddd/heartdefects/data.html>

Content source: Division of Birth Defects and Developmental Disabilities, Centers for Disease Control and Prevention

U.S. Department of Health & Human Services

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Improving Access to Transplant for Patients with Incompatible Donors (August 2017)

July, 2017

M Health – University of Minnesota

Paired kidney exchange programs are bringing together pairs of patients and living donors, improving the odds of identifying compatible matches and achieving better outcomes. Kidney paired exchange programs are giving patients with renal failure and willing, but incompatible donors improved access to transplantation. First established in the United States in the 2000s, databases of incompatible pairs were created in the effort to find suitable matches for donor-recipient pairs. Before paired exchange programs, most patients with incompatible living donors could only opt to join the nation's waiting list for organs from deceased donors. Each year, however, deceased-donor kidneys become available for less than one-fifth of waiting patients, and increased time spent on dialysis increases the rate of complications from kidney disease.¹ Patients who receive kidneys from living donors experience better overall health outcomes and greater longevity than do those who receive kidneys from deceased donors.² The chance that a living-donor kidney will fail 5 years after transplant is half that of deceased-donor kidneys.¹

Donors undergo tissue typing, and recipients are tested for antibodies against human leukocyte antigens (HLA), and their compatibility is then evaluated. Antibodies may develop to HLA after exposure through blood transfusion, pregnancy, or a prior organ transplant and can make a recipient "sensitized." Sensitized patients face increased difficulty in finding compatible donors. Highly sensitized patients can pursue desensitization therapy prior to transplant, but transplant outcomes are inferior to those achieved with the use of compatible donor organs.³

The National Kidney Registry, the largest paired exchange program in the United States, expands the pool of potential donors for transplant patients.

To view the full article, please click on this link:

http://consult.mhealth.org/7-27-2017/improving-access-to-transplant-for-patients-with-incompatible-donors?utm_source=m_health_consult_newsletter&utm_medium=email&utm_campaign=sot_july_2017&utm_source=M+Health+Consult+Newsletter&utm_campaign=b0c9b4da64-EMAIL_CAMPAIGN_2017_07_31&utm_medium=email&utm_term=0_458d22411d-b0c9b4da64-331578581

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Doctors Treat Rare Case of Bleeding in Newborn with Hemophilia A (July 2017)

March 24, 2017

By Joana Fernandes, PHD In News

An infant was diagnosed with severe hemophilia A after developing splenic injury (injury to the spleen), a rare condition among newborns. For the first time, however, a newborn with these conditions was successfully treated with recombinant factor VIII replacement therapy without the need for surgical intervention, doctors reported.

The report, titled "Successful Medical Management Of A Neonate With Spontaneous Splenic Rupture And Severe Hemophilia A," was published in the journal *Hematology Oncology and Stem Cell Therapy*.

Spontaneous rupture of the spleen during the newborn period is very rare and usually associated with an underlying coagulation disorder or abnormalities of the spleen. In most cases, splenic rupture occurs due to increased intrathoracic pressure during delivery, which puts the newborn's spleen at risk of injury during labor.

In normal conditions, the body triggers a response to stop spleen bleeding, but in patients with blood coagulation disorders such as hemophilia, the spleen may rupture hours to days later.

The newborn boy was born after an unremarkable delivery. His family had no history of bleeding problems. But four days after his birth, he was admitted to the ER with worsening anemia and was later diagnosed with spontaneous splenic rupture. His symptoms included abdominal distension with a slightly enlarged liver, tachycardia (accelerated heart beat), poor feeding, and worsening yellow skin color.

To view the full article, please click on this link:

<https://hemophilianewstoday.com/2017/03/24/rare-case-bleeding-newborn-hemophilia-spleen-injury-during-birth/>

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FDA Advisors Back CAR T-Cell Therapy for B-Cell ALL (July 2017)

Committee unanimously recommends approval of tisagenlecleucel

by Charles Bankhead, Senior Associate Editor, MedPage Today July 12, 2017

WASHINGTON -- An FDA advisory committee today unanimously recommended approval of the CAR T-cell therapy tisagenlecleucel (CTL019) for pediatric and young-adult patients with relapsed/refractory B-cell acute lymphoblastic leukemia (ALL).

The Oncologic Drugs Advisory Committee (ODAC) voted 10-0 in favor of approval after hearing reports from FDA staff and Novartis regarding the development, manufacturing, efficacy, and safety of CTL019, the first-ever CAR T-cell therapy submitted for FDA approval. The therapy consists of genetically modified antigen-specific autologous T cells programmed to target CD19, an antigen expressed by B-cells and tumors of B-cell origin.

As noted in the FDA staff report, the product's efficacy was not in question, but instead its short- and long-term safety. ODAC members expressed satisfaction with Novartis' plan to minimize risk, which includes limiting distribution of the therapy to selected centers experienced with CAR T-cell therapy (at least initially) and plans for extensive, long-term postmarketing surveillance.

"This is a very poor-risk population and represents a very great unmet need in the pediatric population," said Catherine M. Bollard, MD, of George Washington University here. "The clinical responses are remarkable, and I think Novartis has done a great job of putting together a plan for mitigating risk."

Brian Rini, MD, of the Cleveland Clinic, characterized the therapy as "potentially paradigm changing."

Despite unknowns surrounding the therapy, "it is hard to argue with the unprecedented clinical success we have seen in this population of patients who do not have other viable treatment options," added Grzegorz S. Nowakowski, MD, of the Mayo Clinic in Rochester, Minn.

To view the full article, please click on this link:

<https://www.medpagetoday.com/PublicHealthPolicy/FDAGeneral/66592>

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What Causes Hemophilia (July 2017)

by Erum Naqvi

Hemophilia is a bleeding disorder usually caused by defects (mutations) in the genes that code for the blood-clotting factors VIII, IX or XI.

What causes hemophilia A and hemophilia B?

Hemophilia A and B are the major forms of hemophilia and affect males more than females. Hemophilia A is the most common type that affects approximately 1 in 4,000 to 5,000 newborn boys, while hemophilia B affects 1 in 20,000 newborn boys.

Mutations in the gene coding for factor VIII cause hemophilia A (also known as classic hemophilia), while mutations in the gene coding for factor IX cause hemophilia B (also called Christmas disease). The genes encoding for factor VIII and factor IX are both situated on the X-chromosome.

Mutations in these genes cause a deficit of blood-clotting factors, which are proteins in the blood that work together with platelets to stop or control bleeding. As a result, blood clotting in hemophilia patients is impaired and results in uncontrolled bleeding.

The genetic material in humans is packaged in 23 chromosome pairs, with the last pair being two X chromosomes in females and one X and one Y chromosome pair in males. If a disease-causing mutation is in a gene located on the X chromosome, a male with this mutation will develop hemophilia.

To view the full article, please click on this link:

<https://hemophilianewstoday.com/what-causes-hemophilia/>

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Allo-HSCT: Placental Stem Cells and Cord Blood Key to Success (June 2017)

-Engraftment more rapid, and GVHD incidence lower

*ASCO Reading Room 05.31.2017
by Alec O'Neil, Contributing Writer*

Allogeneic hematopoietic stem cell transplantation (allo-HSCT) is an essential component of modern care for children and young adults with hematologic malignancies who are at high risk for relapse following chemotherapy.

Donor sources can include bone marrow, peripheral blood stem cells, human placental-derived stem cells (PDSCs), and umbilical cord blood from related and unrelated donors. Cord blood in particular offers special advantages, including expansion of the pool of potential donors, rapid availability, decreased risk of viral and decreased transmission from donor to recipient, noted Mitchell Cairo, MD, chief of Pediatric Hematology, Oncology and Stem Cell Transplantation at Westchester Medical Center in Hawthorne, NY, and colleagues.

In addition, cord blood is enriched in hematopoietic progenitors compared with peripheral blood stem cells or marrow. Cord blood transfusions are associated with decreased severity of acute graft-versus-host disease (GVHD) and a reduced incidence of chronic GVHD.

Drawbacks to cord blood, however, include limited cell doses, prolonged immune reconstitution time, delays in hematopoietic recovery, and a higher incidence of graft failure compared with other sources.

At the 2017 meeting of the Pediatric Blood and Marrow Transplant Consortium (PBMTTC) and the American Society of Pediatric Hematology/Oncology in Montreal, Cairo and colleagues presented early data from an ongoing study aimed at optimizing immune reconstitution following allo-HSCT with a combination of umbilical cord blood and PDSCs in children with malignant conditions, including B-cell and T-cell leukemias and lymphoma, as well as non-malignant conditions.

To view the full article, please click on this link:

https://www.medpagetoday.com/reading-room/asco/hematologic-malignancies/65686?xid=NL_ASCORR_2017-06-08&eun=g8404572d39r&pos=1111

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Hepatitis C Has Been Eradicated in 20 Patients Who Received Infected Kidney Transplants (June 2017)

The gamble paid off.

Peter Dockrill 1 May 2017

For the patients, it was a gamble: if they took part in a new study, they'd be off the waiting list, and would receive a new kidney from an organ donor – but the organ they'd be getting would be one infected with the hepatitis C virus.

Those were the terms of two bold clinical studies conducted last year in the US, but for the patients who took part, the gamble paid off. Doctors this week [announced](#) that all 20 patients who received donated organs – and subsequently contracted hepatitis C – were able to beat the infection thanks to an antiviral treatment after the transplant. The approach carries an amount of risk, as there's a chance the patients receiving the organs might never be cured of hepatitis C.

But the early success of the two trials run separately by the University of Pennsylvania and Johns Hopkins University could provide new hope for the hundreds of thousands of patients on organ donation lists around the world.

In the US alone, more than 100,000 people are waiting to receive kidney transplants, but despite the level of need, organ donations from people with hepatitis C haven't been possible - with viable kidneys even being thrown out due to the infection.

To view the full article, please click on this link:

<http://www.sciencealert.com/scientists-have-eradicated-hepatitis-c-in-patients-who-received-infected-kidney-transplants>

The preliminary results of the University of Pennsylvania trial are published in The New England Journal of Medicine.

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After 2 lung transplants, 1 brain tumor and 15 years of hardship, Seattle U student earns a degree (June 2017)

Originally published June 11, 2017 at 7:00 am Updated June 11, 2017 at 5:58 pm

Steven Jenkins spent 15 years trying to earn his bachelor's degree at Seattle University, dogged by health problems so severe they nearly killed him.

Born with cystic fibrosis, he survived a double-lung transplant. Then he developed a brain tumor. Strong chemo and radiation put the tumor in remission, but life-threatening cases of swine flu and pneumonia caused his body to reject his lungs, leading to a second transplant.

Yet Jenkins also played for Seattle U's soccer team, where he was such an inspiration that coach Peter Fewing credits him with helping the team win the national championship in 2004.

On Sunday, Jenkins will don a cap and gown and accept a bachelor's degree in criminal justice. It will be an emotional moment for many at the Jesuit school.

"I don't know anybody in my 25 years at this school who's gone through as much as he's gone through to get this degree," said J.B. Helfgott, professor and chair of criminal justice. "I have never seen anything like it in my life."

Seattle U President Stephen Sundborg, who gave Jenkins a full-ride soccer scholarship despite his diseased lungs, called it an amazing story.

"The number of times through the years he almost didn't make it, the way the other players responded to him — the family is heroic, and so is Stevie, for just persevering through it all," Sundborg said.

To view the full article, please click on this link:

<http://www.seattletimes.com/seattle-news/education/after-two-lung-transplants-one-brain-tumor-and-15-years-seattle-u-student-earns-his-degree/>

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