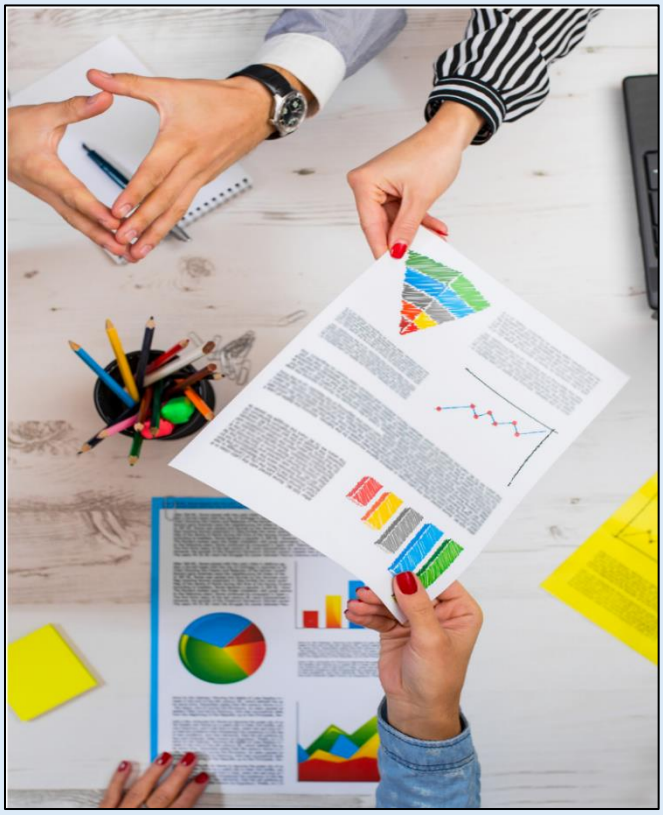
Friday, 18 October 2024

INSIGHTS

Healthcare Newsweekly For You

CONTENT *(Highlights)*



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UPCOMING EVENTS

Expo

Amptech India™

Pharma machinery & Lab Equipment Expo

Haridwar, 22-23 February 2025

Stats & Number

200+	250+	5000+	3000+
Brands	Exhibitors	Trade Visitors	Products

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- The Amptech India Haridwar Pharma and Lab Expo is the only trade fair focused on emerging pharmaceutical and lab markets in India
- Network with over 6,000 industry professionals, including manufacturers, distributors, and researchers
- Discover the latest products, technologies, and services in pharmaceutical formulations and lab equipment
- Attend expert-led seminars and workshops to gain insights into industry trends and advancements
- Explore a diverse range of exhibitors from India and abroad, expanding your business connections
- Identify potential suppliers and customers to enhance your business development efforts
- Gain valuable knowledge that can advance your career in the pharmaceutical and lab sectors
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DEALS/ FUNDING

Strides Pharma CDMO arm gets Rs 801 cr from investors in pre-listing round

Business standard, 16 October 2024

Strides Pharma Science on Wednesday said its associate firm has received equity commitment of Rs 801 crore from domestic and foreign institutional investors in the pre-listing round.

OneSource Specialty Pharma, the contract development and manufacturing organisation (CDMO) arm of the company, has received confirmed capital infusion commitments from investors, Strides Pharma Science said in a statement.

The share subscription agreements are being executed at a pre-money equity value of $ 1.65 billion, it added.

The fundraise is in line with the scheme of arrangement announced in September 2023 and the investment is subject to customary closing conditions, including receipt of necessary regulatory approvals, the company said.

https://www.business-standard.com/companies/news/strides-pharma-cdmo-arm-gets-rs-801-cr-from-investors-in-pre-listing-round-124101600224_1.html

★★★★★★

Akums Drugs inks licensing pact with Canadian firm

Money Control, 16 October 2024

Shares of Akums Akums Drugs and Pharmaceuticals were trading 4.31 per cent up at Rs 919 apiece on BSE.

Akums Drugs inks licensing pact with Canadian firm

Akums Drugs and Pharmaceuticals on Wednesday said it has inked a licensing pact with Canada-based Triple Hair Inc.

As per the terms of the agreement, the company has been granted exclusive rights to further develop and market the products recently innovated by Triple Hair Inc, in India, Akums Drugs and Pharmaceuticals said in a regulatory filing.

The company will undertake this development and commercialisation after obtaining the necessary regulatory approvals or requisite licenses in India, it added.

"The agreement grants the company exclusive right to use Triple Hair's intellectual property rights (patent) solely to carry out the studies and perform the services as stipulated in the agreement," the company said.

https://www.moneycontrol.com/news/business/markets/akums-drugs-inks-licensing-pact-with-canadian-firm-12843280.html

★★★★★★

Lilly's manufacturing splurge continues with $200M expansion in China

Fierce Pharma, 11 October 2024

Five months after Eli Lilly secured the first of two approvals for tirzepatide in China—one for Type 2 diabetes and the other for obesity—the company has revealed that it will expand its manufacturing site in Suzhou to produce the in-demand drugs along with other pipeline medicines.

Lilly has earmarked $200 million for the upgrade, a company spokesperson confirmed to Fierce Pharma. The new project will bring Lilly's total investment in Suzhou to nearly 15 billion yuan ($2.1 billion), according to a Chinese release. The 28-year-old site, which is the Indianapolis pharma's lone manufacturing facility in China, employs 500.

With the expansion, Lilly plans to add 120 new positions at the site, which will supply for both China and Europe, according to Lilly China.

https://www.fiercepharma.com/manufacturing/lillys-manufacturing-splurge-continues-200m-expansion-china

★★★★★★

Cipla, Alkem eye Rs 4,000 crore stake in India's largest stent manufacturer

Business standard, 16 October 2024

India's largest stent manufacturer, Sahajanand Medical Technologies is also reportedly exploring a public listing on the domestic market

Cipla and Alkem Laboratories have emerged as the leading contenders to acquire a controlling stake in Mumbai-based Sahajanand Medical Technologies (SMT), India's largest cardiac stent manufacturer. This comes after private equity giants KKR, TPG Capital, and Apax Partners withdrew from the race, having initially shown interest, reported *The Economic Times* citing sources.

The deal, expected to value SMT between Rs 3,500 and Rs 4,000 crore, is anticipated to see binding offers submitted by next week. Sources told *The Economic Times* that SMT's

promoters, the Kotadia family, are planning to retain a minority stake in the company, likely holding onto 15-20 per cent post-transaction. Other shareholders are also expected to divest their holdings in this high-stakes deal.

https://www.business-standard.com/companies/news/cipla-alkem-eye-rs-4-000-crore-stake-in-india-s-largest-stent-manufacturer-124101600264_1.html

★★★★★★

Hurricane-related IV fluid shortage could hurt medical device makers

Reuters, 17 October 2024

Oct 17 (Reuters) - A shortage of intravenous (IV) saline fluids due to Hurricane Helene is forcing hospitals to defer non-urgent surgeries, and could hurt companies that make medical devices for elective procedures if the supply crunch persists, analysts said.

Baxter International's (BAX.N), opens new tab North Carolina plant, which makes 60% of the nation's supply of IV fluids and some key dialysis solutions, was closed for production late last month due to hurricane-related flooding.

https://www.reuters.com/business/healthcare-pharmaceuticals/hurricane-related-iv-fluid-shortage-could-hurt-medical-device-makers-2024-10-17/#:~:text=Oct%2017%20(Reuters)%20%2D%20A,supply%20crunch%20persists%2C%20analysts%20said.

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TPG, Blackstone planning joint bid for contact lens supplier Bausch + Lomb, says FT

Money control, 14 October 2024

One Bloomberg estimate projected the sale to value Bausch + Lomb at over $13 billion, making the deal potentially one of the largest PE buyouts of 2024.

Private equity players TPG and Blackstone are planning a joint bid for Canadian contact lens supplier Bausch + Lomb, Financial Times reported on October 14 citing people familiar with the matter. One Bloomberg estimate projected the sale to value Bausch + Lomb at over $13 billion, making the deal potentially one of the largest PE buyouts of 2024. Shares of Bausch + Lomb have risen by 10% in last one month, as reports of stake sale have started to gather steam. Bausch + Lomb had been testing interest from potential buyers, and had separated from parent Bausch Health in 2022, while it still owns a large stake in the eyecare company. https://www.moneycontrol.com/news/business/tpg-blackstone-plan-joint-bid-for-bausch-lomb-12841666.html

mRNA licensing deals surge 800% in value as confidence grows beyond vaccines

The Pharmaletter, 16 October 2024

A staggering 800% increase in licensing agreement deal values for messenger ribonucleic acid (mRNA)-based innovator pharmaceuticals was recorded over 2019 to 2024 year-to-date (YTD), driven by the remarkable success of mRNA vaccines during the COVID-19 pandemic. With growing confidence in this transformative technology, key companies are investing heavily in its potential to address unmet medical needs, indicating that mRNA will remain a critical focus for pharmaceutical innovation and development, says pharma analytics company GlobalData.

https://www.thepharmaletter.com/mrna-licensing-deals-surge-in-value-as-confidence-grows-beyond-vaccines

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PHARMA AND BIOLOGICS

SMALL MOLECULE

Catalent offloads New Jersey manufacturing plant, HQ to Belgian CDMO Ardena

Fierce Pharma, 14 October 2024

Awaiting a potential acquisition by Novo Holdings, Catalent is giving its contract manufacturing compatriot a boost as Ardena plots its U.S. debut. Catalent is selling its oral solids development and small-scale manufacturing facility in Somerset, New Jersey, to Belgium's Ardena for an undisclosed sum. The transaction is expected to close in early 2025, Catalent said in a release Monday.

The Somerset property doubles as Catalent's corporate headquarters, and the CDMO will maintain its home base at the site for now before shifting to a new location sometime in the future. Catalent said it plans to announce the new HQ location at a later date.

https://www.fiercepharma.com/pharma/catalent-offloads-new-jersey-manufacturing-plant-hq-belgian-cdmo-ardena

★★★★★★

Sudeep Pharma India diversifies into battery materials with the launch of Sudeep Advanced Materials, focusing on green iron phosphate for EV storage

Business standard, 18 October 2024

Sudeep Pharma India diversifies into battery materials with the launch of Sudeep Advanced Materials, focusing on green iron phosphate for EV storage Vadodara (Gujarat) [India], October 1: Sudeep Pharma Private Limited (Sudeep Pharma) announces its expansion into the Clean Energy Storage sector with the launch of its subsidiary, Sudeep Advanced Materials (SAM). This self-funded initiative will focus on the production of Iron Phosphate for electric vehicle (EV) energy storage applications, utilizing the company's over 30+ years of expertise in green chemistry developed through its work in pharmaceutical and food specialty and active ingredients.

Sudeep Pharma India diversifies into battery materials with the launch of Sudeep Advanced Materials, focusing on green iron phosphate for EV storage (business-standard.com)

★★★★★★

LARGE MOLECULE

Wave hails first for human RNA editing with GSK-partnered prospect, sending stock skyward

Fierce Biotech, 16 October 2024

Wave Life Sciences has taken a step toward validating a new modality, becoming the first group to report therapeutic RNA editing in humans. The update on the GSK-partnered prospect sent Wave's share price up 63% to almost $14 despite coinciding with news that Takeda has axed a deal for another asset. The ongoing phase 1b/2a study is testing WVE-006 in alpha-1 antitrypsin deficiency (AATD). The drug candidate is a GalNAc-conjugated RNA editing oligonucleotide that is designed to correct a mutation in mRNA. The mutation drives misfolding and aggregation of AAT in the liver, a decrease in functional forms of the protein in circulation and the symptoms that make AATD an unmet medical need.

https://www.fiercebiotech.com/biotech/wave-hails-human-rna-editing-first-gsk-partnered-prospect-sending-stock-skyward

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J&J, with adult approval in sight, posts adolescent myasthenia gravis data on $6.5B FcRn blocker

Fierce Biotech, 15 October 2024

Johnson & Johnson has burnished the evidence for nipocalimab, adding a sliver of data in adolescents with generalized myasthenia gravis (gMG) to the growing case for its near-approval FcRn blocker.

Nipocalimab, the molecule J&J acquired in its $6.5 billion takeover of Momenta Pharmaceuticals, is now under review at the FDA as a treatment for adults with gMG. While the adult population is the meat of the market, around 10% of new cases of the chronic neuromuscular disease are in adolescents aged 12 to 17 years. Hospitalizations, including stays in intensive care, are common in pediatric patients. Tuesday, Oct. 15, J&J shared phase 2/3 data that suggest nipocalimab can help those patients. Presenting at the American Association of Neuromuscular & Electrodiagnostic Medicine Annual Meeting, J&J reported reductions in immunoglobulin G (IgG) in adolescents who received nipocalimab infusions for 24 weeks.

https://www.fiercebiotech.com/biotech/jj-adult-approval-sight-posts-adolescent-myasthenia-gravis-data-65b-fcrn-blocker

★★★★★★

Theriva Biologics gains EU orphan drug status for eye cancer treatment

Investing.com, 16 October 2024

ROCKVILLE, Md. - Theriva Biologics (NYSE American: TOVX), a clinical-stage biopharmaceutical company, announced today that the European Commission has endorsed the European Medicines Agency's (EMA) recommendation to grant orphan medicinal product designation for its clinical candidate VCN-01. The designation is for the treatment of retinoblastoma, a rare form of eye cancer primarily affecting children.

The orphan medicinal product designation in the European Union (EU) is reserved for treatments targeting conditions that are life-threatening or chronically debilitating, with a prevalence not exceeding 5 in 10,000 or where the treatment would not be profitable without incentives. VCN-01 has also received orphan drug designation and rare pediatric disease designation from the United States Food and Drug Administration (FDA).

Theriva Biologics gains EU orphan drug status for eye cancer treatment By Investing.com

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Valneva and LimmaTech Awarded FDA Fast Track Designation for Tetravalent Shigella Vaccine Candidate S4V

Valneva, 16 October 2024

Saint Herblain (France) and Schlieren (Zurich), October 16, 2024 – Valneva SE (Nasdaq: VALN; Euronext Paris: VLA), a specialty vaccine company, and LimmaTech Biologics AG, a clinical-stage biotech company developing vaccines for the prevention of life-threatening diseases, announced today that the U.S. Food and Drug Administration (FDA) has granted Fast Track designation to Shigella4V (S4V), the world's most clinically advanced tetravalent bioconjugate shigellosis vaccine candidate, for which Valneva obtained an exclusive worldwide license from LimmaTech. Fast Track designation is granted by the FDA to products under development that have the potential to treat serious conditions and fill an unmet medical need. It is designed to facilitate the clinical development and expedite the review of important new products with the intention to get them to the people who need them earlier.

Valneva and LimmaTech Awarded FDA Fast Track Designation for Tetravalent Shigella Vaccine Candidate S4V - Valneva

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Airway Therapeutics to Launch a Multinational Phase 3 Trial of Zelpultide Alfa for Preterm Neonates at Risk of Bronchopulmonary Dysplasia

Businesswire, 15 October 2024

ATLANTA--(BUSINESS WIRE)--Airway Therapeutics, Inc. (Airway), a biopharmaceutical company developing a new class of biologics to break the cycle of injury and inflammation for patients with respiratory and inflammatory diseases, announced today it will launch a multinational Phase 3 clinical trial in December 2024 of zelpultide alfa (rhSP-D) for prevention of bronchopulmonary dysplasia (BPD) and minimization of resulting lung damage in preterm infants.

"The approval of this Phase 3 trial is based on the successful completion of our randomized blinded Phase 1b study in the US and Europe, in which no dose limiting toxicities were found and indications of efficacy were observed"

Airway Therapeutics to Launch a Multinational Phase 3 Trial of Zelpultide Alfa for Preterm Neonates at Risk of Bronchopulmonary Dysplasia | Business Wire

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REGULATORS AND REGULATORY ACTIONS

8 drugs for TB, asthma & glaucoma to be dearer: National Pharmaceutical Pricing Authority hikes prices

The Telegraph Online, 15 October 2024

The price cap revision will apply to various formulations of benzyl penicillin, atropine, streptomycin, salbutamol, pilocarpine, cefadroxil, desferrioxamine and lithium

India's drug pricing agency has raised by 50 per cent the price caps on 11 formulations of eight drugs used to treat asthma, glaucoma and tuberculosis among other health disorders, the Centre announced on Monday.

The National Pharmaceutical Pricing Authority (NPPA), in response to representations from drug makers, has approved increases in ceiling prices of the 11 formulations by 50 per cent of their current ceiling prices, the Press Information Bureau said.

medicines | 8 drugs for TB, asthma & glaucoma to be dearer: National Pharmaceutical Pricing Authority hikes prices - Telegraph India

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US FDA pauses Novavax's trial of combo COVID-flu shot on safety concerns

Reuters, 16 October 2024

The U.S. Food and Drug Administration has put on hold a trial of Novavax's COVID-influenza and its standalone flu vaccines after a participant who took the combination shot reported nerve damage, the company said on Wednesday.

Its shares plunged as much as 24%, and if losses hold, it would wipe off nearly $400 million from the vaccine maker's market capitalization.

The stock drop also reflect concerns on whether the hold would impact Novavax's partnership with French drugmaker Sanofi, according to one analyst.

https://www.reuters.com/business/healthcare-pharmaceuticals/us-fda-places-trials-two-novavax-vaccines-hold-2024-10-16/

★★★★★★

McKinsey close to settling US opioid investigations, sources say

Reuters, 17 October 2024

Consulting firm McKinsey & Co is close to an agreement with U.S. prosecutors to pay more than $500 million to resolve longstanding federal investigations into its past work

helping opioid makers boost sales that allegedly contributed to a deadly addiction epidemic, two people familiar with the matter said.

A deal, which has not been finalized, would resolve U.S. Justice Department criminal and civil probes, the people said.

The time frame for the announcement of any agreement remained unclear, they said. The terms of the settlement could change as negotiations continue, one of the sources said.

McKinsey and the Justice Department declined to comment. Bloomberg earlier reported that McKinsey was close to resolving the probes.

Federal prosecutors have been investigating McKinsey's role in the opioid epidemic, focusing on its work advising OxyContin maker Purdue Pharma and other drugmakers, Reuters reported in April.

https://www.reuters.com/legal/mckinsey-nears-500-mln-settlement-with-doj-over-opioid-probe-bloomberg-news-2024-10-16/

★★★★★★

J&J must pay $15 million to man who says its talc caused his cancer, jury finds

Reuters, 16 October 2024

Johnson & Johnson must pay $15 million to a Connecticut man who alleges that he developed mesothelioma, a rare form of cancer, as a result of using the company's talc powder for decades, a jury found on Tuesday.

Plaintiff Evan Plotkin sued the company in 2021 soon after his diagnosis, saying he was sickened by inhaling J&J's baby powder.

The jury in Fairfield County, Connecticut Superior Court also found that the company should pay additional punitive damages, which will be determined later by the judge overseeing the case.

https://www.reuters.com/legal/jj-must-pay-15-mln-connecticut-man-who-says-its-talc-gave-him-cancer-jury-finds-2024-10-15/

★★★★★★

Novartis loses latest bid to block generic version of blockbuster heart drug

Reuters, 17 October 2024

Novartis has lost a bid to keep a generic version of its top-selling heart failure drug Entresto off the U.S. market by blocking regulators from approving it, though the generic's launch faces other legal roadblocks.

U.S. District Judge Dabney Friedrich in Washington, D.C., in an order made public on Tuesday, said the U.S. Food and Drug Administration did not overstep its authority in approving MSN Pharmaceutical's generic of Entresto, despite a slightly different label and alleged differences between the drugs. Novartis said in a statement that it disagreed with the ruling and is appealing the decision. MSN and the FDA did not immediately respond to requests for comment.

Entresto is Switzerland-based Novartis' best-selling drug, earning the company more than $6 billion in revenue last year. MSN's version of Entresto was approved by the U.S. Food and Drug Administration last month and would be the first U.S. generic of the drug.

https://www.reuters.com/legal/litigation/novartis-loses-latest-bid-block-generic-version-blockbuster-heart-drug-2024-10-16/

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Diabetes drug metformin safe for men who may become fathers, study finds

Reuters, 17 October 2024

Men can take the widely prescribed diabetes drug metformin without fear of causing birth defects in their children, according to results of a large study published on Wednesday.

Tracking more than 3 million pregnancies in Norway and Taiwan, researchers found no association between birth defects and use of metformin by fathers during the three months before conception, which is the period of sperm development.

Metformin, a relatively inexpensive generic medicine, is typically the first drug prescribed for Type 2 diabetes, by far the more prevalent form of the disease. A 2022 study from Denmark had found that metformin was associated with a 1.4 times greater risk of birth defects in boys whose fathers were taking the drug. Studies conducted since have not confirmed that association.

In June, a pair of studies published in Annals of Internal Medicine suggested that neither maternal nor paternal metformin use increases the risk of congenital malformations.

https://www.reuters.com/business/healthcare-pharmaceuticals/diabetes-drug-metformin-safe-men-who-may-become-fathers-study-finds-2024-10-16/

Italy makes it illegal to seek surrogacy abroad

Reuters, 17 October 2024

ROME, Oct 16 (Reuters) - Italy's parliament made it illegal on Wednesday for couples to go abroad to have a baby via surrogacy -- a pet project of Prime Minister's Giorgia Meloni party which activists say is meant to target same-sex partners.

Since taking office in 2022 Meloni has pursued a highly conservative social agenda, looking to promote what she sees as traditional family values, making it progressively harder for LGBTQ couples to become legal parents.

The upper house Senate voted into law a bill proposed by Meloni's Brothers of Italy party by 84 votes to 58. The bill was already approved by the lower house last year.

The legislation extends a surrogacy ban already in place in Italy since 2004 to those who go to countries such as the United States or Canada, where it is legal, imposing jail terms of up to two years and fines of up to 1 million euros ($1.09 million).

https://www.reuters.com/world/europe/italy-makes-it-illegal-seek-surrogacy-abroad-2024-10-16/

★★★★★★

CMR Surgical lands FDA clearance for Versius robot amid CEO swap

Fierce Biotech, 15 October 2024

CMR Surgical obtained a de novo clearance from the FDA for its Versius surgical system, finally allowing its modular, cart-based, laparoscopic robot to come to U.S. shores. Versius previously received a CE Mark approval in Europe in early 2019. The Cambridge, U.K.-based company said the multi-port system was cleared by the agency for gallbladder removal procedures, in patients ages 22 and up who are eligible for minimally invasive surgery.

The green light comes on the heels of last week's news that CEO Supratim Bose would be stepping down from the position for personal reasons and that he planned to return to Singapore after about a year and a half with the company. CMR's chief commercial officer, Massimiliano Colella, was named interim CEO.

https://www.fiercebiotech.com/medtech/cmr-surgical-lands-fda-clearance-versius-robot

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MEDTECH

Abbott bumps up profit forecast on strong medical device sales

Reuters, 16 October 2024

Abbott Laboratories slightly lifted its annual profit forecast on Wednesday, after beating Wall Street estimates for quarterly earnings on strong demand for its continuous glucose monitors (CGMs) and other medical devices. Shares of Abbott rose 2% in afternoon trade. Increasing diabetes care awareness, wider insurance coverage and preference for devices that do not need finger pricks have benefited CGMs such as Abbott's popular FreeStyle Libre. The company's CGM sales, which include newly launched over-the-counter device Lingo, rose nearly 21% organically to more than $1.6 billion.

https://www.reuters.com/business/healthcare-pharmaceuticals/abbott-slightly-raises-profit-forecast-strong-medical-device-sales-2024-10-16/

★★★★★★

Novocure nets FDA approval for Tumor Treating Fields in metastatic lung cancer

Fierce Biotech, 16 October 2024

Novocure received a long-sought FDA approval for the use of its Tumor Treating Fields technology against metastatic non-small cell lung cancer—which the company described as the first treatment of its kind for the aggressive disease.

Its portable Optune Lua device, with arrays on adhesive patches worn on the chest or back, received a green light for patients that are also being treated with PD-1/PD-L1 inhibitors or the chemotherapy docetaxel, and who have seen their cancer progress after receiving a platinum-based treatment regimen. With stimulators previously approved as a treatment for the brain tumor glioblastoma multiforme, as well as malignant pleural mesothelioma, Novocure's electric field-based therapies aim to physically interfere with the charged components of cancer cells as they divide, reproduce and spread, helping the immune system to respond to the tumor.

https://www.fiercebiotech.com/medtech/novocure-nets-fda-approval-tumor-treating-fields-metastatic-lung-cancer

INTERESTING MEDICAL NEWS

Eating less can lead to a longer life: massive study in mice shows why

Weight loss and metabolic improvements do not explain the longevity benefits of severe dietary restrictions.

Natures article, 9th October 2024

Cutting calorie intake can lead to a leaner body — and a longer life, an effect often chalked up to the weight loss and metabolic changes caused by consuming less food. Now, one of the biggest studies1 of dietary restrictions ever conducted in laboratory animals challenges the conventional wisdom about how dietary restriction boosts longevity.

The study, involving nearly 1,000 mice fed low-calorie diets or subjected to regular bouts of fasting, found that such regimens do indeed cause weight loss and related metabolic changes. But other factors — including immune health, genetics and physiological indicators of resiliency — seem to better explain the link between cutting calories and increased lifespan.

"The metabolic changes are important," says Gary Churchill, a mouse geneticist at the Jackson Laboratory in Bar Harbor, Maine, who co-led the study. "But they don't lead to lifespan extension."

To outside investigators, the results drive home the intricate and individualized nature of the body's reaction to caloric restriction. "It's revelatory about the complexity of this intervention," says James Nelson, a biogerontologist at the University of Texas Health Science Center in San Antonio.

The study was published today in *Nature* by Churchill and his co-authors, including scientists at Calico Life Sciences in South San Francisco, California, the anti-ageing focused biotech company that funded the study.

Counting calories

Scientists have long known that caloric restriction, a regimen of long-term limits on food intake, lengthens lifespan in laboratory animals2. Some studies3,4 have shown that intermittent fasting, which involves short bouts of food deprivation, can also increase longevity.

To learn more about how such diets work, the researchers monitored the health and longevity of 960 mice, each a genetically distinct individual drawn from a diverse population that mirrors the genetic variability found in humans. Some mice were placed

on calorie-limited diets, another group followed intermittent fasting regimens, and others were allowed to eat freely.

Cutting calories by 40% yielded the longest longevity bump, but intermittent fasting and less severe calorie restriction also increased average lifespan. The dieting mice also displayed favourable metabolic changes, such as reductions in body fat and blood sugar levels.

However, the effects of dietary restriction on metabolism and lifespan didn't always change in lockstep. To the authors' surprise, the mice that lost the most weight on a calorie-limited diet tended to die younger than did animals that lost relatively modest amounts.

This suggests that processes beyond simple metabolic regulation drive how the body responds to limited-calorie regimes. What mattered most for lengthening lifespan were traits related to immune health and red-blood-cell function. Also key was overall resilience, presumably encoded in the animals' genes, to the stress of reduced food intake.

"The intervention is a stressor," Churchill explains. The most-resilient animals lost the least weight, maintained immune function and lived longer.

Leanness for longevity

The findings could reshape how scientists think about studies of dietary restriction in humans. In one of the most comprehensive clinical trials of a low-calorie diet in healthy, non-obese individuals, researchers found5 that the intervention helped to dial down metabolic rates — a short-term effect thought to signal longer-term benefits for lifespan.

But the mouse data from Churchill's team suggest that metabolic measurements might reflect 'healthspan' — the period of life spent free from chronic disease and disability — but that other metrics are needed to say whether such 'anti-ageing' strategies can truly extend life.

Daniel Belsky, an epidemiologist who studies ageing at the Columbia University Mailman School of Public Health in New York City, cautions against over-extrapolating from mice to humans. But he also acknowledges that the study "adds to the growing understanding we have that healthspan and lifespan are not the same thing".

https://www.nature.com/articles/d41586-024-03277-6#:~:text=Cutting%20calories%20by%2040%25%20yielded,fat%20and%20blood%20sugar%20levels.