1. Investor Risk Reduction Access platform

Introduction

The Investor Risk Reduction Access (IRRA) platform has been jointly developed by India's major stock exchanges, including BSE and NSE, to address the risks faced by investors during technical glitches. This article explores the purpose and functionality of the IRRA platform and how it benefits investors.

Purpose of the IRRA Platform

The IRRA platform serves as a 'safety net' for investors, providing them with a means to navigate disruptions caused by technical glitches at the trading member's end. It allows investors to close open positions and cancel pending orders in the event of unforeseen outages.

Development and Launch

Developed collaboratively by BSE, NSE, NCDEX, MCX, and MSE, the IRRA platform was officially launched by Madhabi Puri Buch, Chairperson of the Securities and Exchange Board of India (SEBI). Its primary goal is to mitigate risks for investors participating in the market.

Why Was It Needed?

The increasing reliance on technology in the securities market has led to a rise in technical glitches, impacting trading services and resulting in investor complaints. The IRRA platform addresses the challenge of non-availability of avenues for investors to close their positions during market disruptions.

Functionality of the IRRA Platform

The IRRA platform is designed to allow investors to square off/close open positions and cancel pending orders. It does not facilitate the initiation of new positions but focuses on risk reduction during disruptions.

Activation of the IRRA Platform

The platform can be invoked by trading members facing technical glitches, and even stock exchanges can initiate it based on certain parameters. Investors gain access through a secure login system using their Unique Client Code (UCC) or PAN number, receiving a one-time password (OTP) for authorization.

Investor Benefits

Once authorized, investors can view and cancel pending orders across all segments and stock exchanges, close open positions, and cancel pending orders. The platform, however, is not available for algo trading and institutional clients.

Conclusion

The IRRA platform is a crucial tool in mitigating risks for investors during technical glitches, offering a safety net to ensure the smooth functioning of the securities market. Investors can access the platform through a secure and straightforward process, enhancing their ability to manage positions during disruptions.

Relevance: GS Prelims & Mains Paper III; Economics
Source: The Indian Express

2. Casgevy : Gene Therapy to treat Sickle cell disease and anaemia

Introduction

The UK drug regulator last week approved a gene therapy for the cure of sickle cell disease and thalassaemia, seen as a landmark breakthrough by many. This is the first licensed therapy in the world based on the gene editing technology Crispr-Cas9 that earned its innovators a Nobel Prize in 2020.

Called Casgevy, the therapy edits the faulty gene that leads to these blood disorders, potentially curing the person for life. So far, the only permanent treatment has been a bone marrow transplant, for which a closely matched donor is needed.

How does the therapy work?

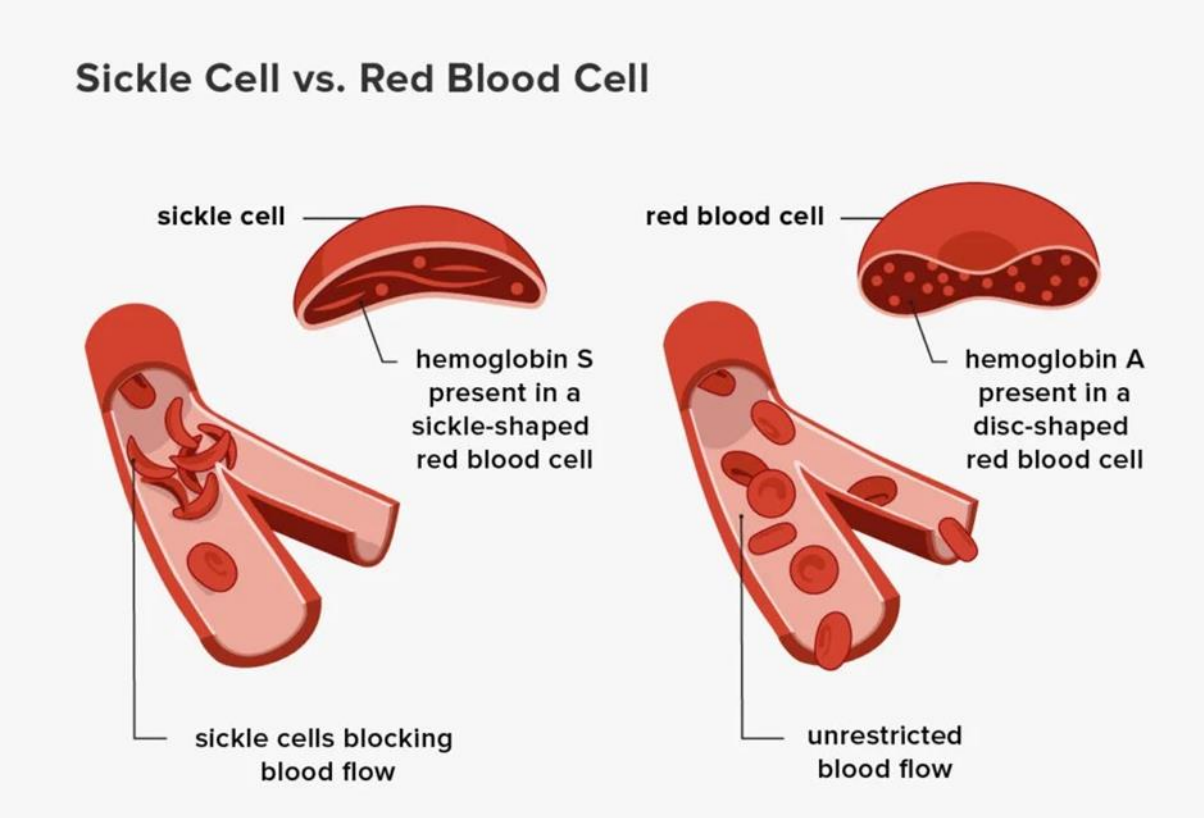
Both sickle cell disease and thalassaemia are caused by errors in the gene for haemoglobin, a protein in the red blood cells that carry oxygen to organs and tissues.

The therapy uses the patient's own blood stem cells, which are precisely edited using Crispr-Cas9. A gene called BCL11A, which is crucial for switching from foetal to adult haemoglobin, is targeted by the therapy.

Foetal haemoglobin, which is naturally present in everyone at birth, does not carry the same abnormalities as adult haemoglobin. The therapy uses the body's own mechanisms to start producing more of this foetal haemoglobin, alleviating the symptoms of the two conditions.

What are sickle cell disease?

The genetic error in sickle cell disease leads to red blood cells assuming a crescent shape. Unlike the disc shaped normal cells, the sickle-like cells cannot move around easily in the vessels, resulting in blocked blood flow. This can lead to episodes of severe pain, life-threatening infections, anaemia, or a stroke.



An estimated 30,000-40,000 children in India are born with the disorder every year.

The symptoms manifest in people who inherit a pair of damaged genes from both parents. Those who carry only one copy of the gene from one parent can lead a normal life. This is the same as thalassaemia, in which people who inherit a pair of genes from both parents experience symptoms like severe anaemia.

What is Thalassaemia?

Thalassaemia leads to low levels of haemoglobin, leading to fatigue, shortness of breath, and irregular heartbeats. People with the condition need blood transfusions throughout their life. The transfusions also lead to accumulation of excess iron in the body, for which they need chelation.

India also has the largest number of children with thalassaemia major in the world — about 1-1.5 lakh.

How is the therapy prepared and given?

Casgevy is a one-time treatment for which the doctor has to first collect blood stem cells from the bone marrow using a process called apheresis — used to filter out the blood for different components. The cells are then sent to the manufacturing site where it takes about six months for them to be edited and tested.

Before a transplant with the edited cells, the doctor gives a conditioning medicine for a few days to clear the bone marrow of other cells that will be replaced by the modified cells.

The patient has to stay in hospital for at least a month so that the edited cells take up residence in the bone marrow and start making red blood cells with normal haemoglobin.

What are the challenges of this treatment?
Although the price of the therapy hasn't been announced, it is likely to be very high. Estimates suggest it could be as much as $2 million per patient, which is in line with other gene therapies. Cost is one of the biggest limitations of newer gene therapies, along with the absence of local manufacturing facilities, which means that the harvested blood stem cells have to be sent across countries.

Relevance: GS Prelims; Science & Technology
Source: The Indian Express & The Hindu

3. The OpenAI Leadership Turmoil: Sam Altman's Firing and Return

Introduction
The recent upheaval at OpenAI, involving the firing and subsequent return of CEO Sam Altman, sheds light on broader issues within the company and the challenges associated with the rapid deployment of artificial intelligence (AI).

Chronology of Events
The sequence of events began with Altman's dismissal by OpenAI's board over alleged communication issues. Greg Brockman, the president and co-founder, was stripped of his board seat and he then resigned in solidarity with Altman.

About three days later, Microsoft announced that it had hired both Altman and Brockman to lead a "new advanced AI research team". The news sparked an uproar among the employees of OpenAI. The news sparked an uproar among the employees of OpenAI.

Almost all 800 employees signed an open letter demanding Altman's reinstatement and the resignation of board members involved in his dismissal. The protest successfully led to Altman's return, accompanied by a reshuffling of the board.

Reasons Behind Altman's Dismissal
Board Disagreements: While the official statement from OpenAI was vague, reports suggest growing disagreements between Altman and other board members. Concerns

were raised about Altman prioritizing business growth over addressing potential risks associated with the company's technology.

Safety Concerns: Some board members expressed concerns about the dangers to society posed by OpenAI's technology. They felt that Altman was not adequately addressing these risks, especially after a recent breakthrough that enhanced the AI models' problem-solving capabilities.

Conflict Over Research Paper: Tensions escalated when Altman clashed with a board member Helen Toner over her research paper comparing safety approaches between OpenAI and a rival company. Altman's disagreement with the paper, coupled with an attempt to oust Toner, contributed to the internal discord.

Repercussions and Board Restructuring

Board Reshuffling: Following the employee protest, Altman's return led to the removal of some board members. Introduction of New members in their place hints at potential shifts in OpenAI's priorities.

Commercialization Focus: The reshaped board may signal a shift toward maximizing the commercial potential of AI, with a focus on rapid technology commercialization. Microsoft's influence on the board could lead to changes in the company's direction.

Future Technological Development: OpenAI's renewed focus on advancing GPT-5, its powerful AI model, suggests an accelerated pace of technological evolution. This could intensify competition in the generative AI market, raising concerns about understanding and regulating the potential societal impacts of these technologies.

In conclusion, the OpenAI saga reflects the challenges and tensions associated with the evolving landscape of AI development and deployment. The company's future trajectory, influenced by a reshaped board, will likely impact the broader AI industry and trigger discussions around responsible AI practices and regulations.

Relevance: GS Prelims & Mains Paper III; Science & Technology
Source: The Indian Express