# Coronavirus capable of invading brain: study

Headaches, confusion and delirium experienced by some Covid-19 patients could be the result of the coronavirus directly invading the brain, according to a study published Wednesday.

The research is still preliminary -but offers several new lines of evidence to support what was previously a largely untested theory.

According to the paper, which was led by Yale immunologist Akiko Iwasaki, the virus is able to replicate inside the brain, and its presence starves nearby brain cells of oxygen, though the prevalence of this is not

S Andrew Josephson, chair of the neurology department at the University of California, San Francisco, praised the techniques used in the study and said "understanding whether or not there is direct viral involvement of the brain is extraordinarily important."

But he added that he would remain cautious until the paper underwent

It wouldn't be completely shocking if SARS-CoV-2 is capable of breaching the blood-brain-barrier, a structure which surrounds the brain's blood vessels and tries to block foreign substances.

Zika virus, for instance, also does this -- leading to significant damage to the brains of fetuses

But doctors had believed until now that the neurological impacts seen in about half of all patients could instead be the result of an abnormal immune response known as a cytokine storm

brain -- rather than the virus invading

- Prevalence unknown -

Iwasaki and colleagues decided to approach the question in three ways: by infecting lab-grown minibrains known as brain organoids, by infecting mice, and by examining the brain tissues of Covid-19 patients who had died.

In the brain organoids, the team found that the SARS-CoV-2 virus is able to infect neurons and then hijack the neuron cell's machinery to make

Infected cells in turn promoted the death of surrounding cells by choking their oxygen supply.

One of the main arguments against the theory of direct brain invasion had been that the brain lacks high levels of a protein called ACE2 that the coronavirus latches on to, and which is found in abundance in other organs like the lungs.

But the team found that the organoids had enough ACE2 to facilitate the virus' entry, and the proteins were also present in the brain tissue of deceased patients.

They also performed a spinal tap on a hospitalized Covid-19 patient suffering from delirium and found the individual had neutralizing antibodies against the virus in their spinal fluid -- further evidence in favor

The team then looked at two groups of mice -- one set that was genetically altered so it had ACE2 receptors in only its lungs, and the other in only

## Ex-Kafco boss in tight spot

that in any other company. This is not a lot of money for the position of a consultant and for the profile of the person hired.

Asked whether it was approved by the board, KM Ali Azam, the company's current chairman, said he was collecting documents to say it for sure. But so far he came to know that there was no circular for the recruitment.

"I don't know if there was any irregularity here. As there are allegations over the requirement to the post, it is being investigated," he told this correspondent.

"The department concerned has already been directed to present what has been decided in the board meeting and in what process the appointment has been made. Details can be shared only after receiving these documents." QUESTION OVER CSR FUND **SPENDING** 

From July 2018 to May 2020, the company spent Tk 90.79 lakh from its corporate social responsibility (CSR)

Of this, Tk 84 lakh was spent in Bakergani, Boalia and Halta of Barisal. The funds were given for the development of private and government schools, mosques, madrasas, and graveyards in these

Although there were no particular rules, the cost of travel to these areas was also spent from the CSR fund.

According to the CSR fund expenditure list, Abdul Halim as the Kafco chairman donated Tk 5 lakh to Shaheed Altaf Shukur Memorial Girl's School in Bakalia of Bakerganj through a ceremony early this year.

He joined the programme with three top officials of Kafco and spent Tk 1,56,254 for airfare and hotel rents from the CSR fund during the two-day

At the end of 2018, Tk 15.65 lakh was spent from the CSR fund to buy lab equipment and build nameplates for Fazlul Haque Secondary School in Abdul Halim's upazila.

He donated Tk 1,12,166 for setting up an ICT lab at the same institution investigation has already started."

Europe's leaders have been handed an

ultimatum: accept the treaty breach or

prepare for a messy divorce. Britain

signed the treaty and formally left the

EU in January, and leaves the single

market when the status quo agreement

Brexit hits a snag, has tumbled in

recent days. The currency was flat at

\$1.2999 on Thursday, but overnight

implied volatility, an indicator of

investor jitters, rose to 13%, its highest

Sterling, which tends to fall when

expires at the end of this year.

since March 26.

towards the end of 2019 and spent Tk 84,000 for airfare to fly from Dhaka to Barisal to attend the donation

Besides, Tk 5 lakh was spent for Sher-e-Bangla Memorial Scholarship in Bakerganj, Tk 9 lakh in two phases for Halta Haji Bari graveyard, and Tk 12 lakh for Halta Secondary School -- all from the CSR fund, according to the company sources.

According to Kafco officials, Halim managed to spend most of the CSR fund in his upazila with help of the company's chief corporate officer Rabiul Haque Chowdhury and general manager (HR) Raziur Rahman.

This correspondent called the two officials several times but they did not

Regarding the allegations, Abdul Halim said, "It is not possible for the chairman to do anything alone. The CSR fund was spent as per the decision of the board meeting. I just approved the proposal that came from

M Najer Hossain, vice-president of the Consumers Association of Bangladesh (CAB), told The Daily "Even though the company runs its business in Anwara upazila of Chattogram, they have not spent any CSR money there. The former chairman misused his power to spend Kafco's CSR fund in his own area."

He said there is no scope to bear the cost of travel and hotel rents from the CSR fund. "This cannot be done by the former chairman alone. It is important to identify those who are involved with him.

Contacted, the current chairman said, "CSR fund can be spent in different areas and there are no limitations in the law. However, it is unfair that the most of the money has been spent in one area.

"There is no scope to spend transport cost from CSR fund. An inquiry committee will be set up soon to look into the allegations of irregularities in various appointments and use of CSR fund in the past."

He added, "Preliminary work of

## Greenpeace activists stand on a fire truck during an action in front of the Elysee Palace to protest against the ongoing damage to the Amazon rain forest, in Paris, France, yesterday.

New system

months after it suspended the operations to contain spread of Covid-19 in the country.

However, since resumption of services, trains had not stopped at those stations till yesterday as the authorities were installing the access control system to prevent people from travelling without tickets.

BR is gradually increasing trains in its fleet in a bid to normalise services. A total of 218 trains will come into operation by September 16. The remaining 144 mail and local trains will resume operation gradually.

The authorities have started selling all tickets of local, mail and commuter trains from stations from September 5 and will start selling half the tickets of intercity trains from stations from tomorrow, while the rest will be sold

However, BR will continue to operate trains at half capacity to ensure social distancing amid the coronavirus pandemic.

State Minister for Sports and Youth Zahid Hossain Russel, Dhaka North City Corporation Mayor Atiqul Islam, Gazipur City Corporation Mayor Jahangir Alam and Bangladesh Railways's Director General Md Shamsuzzaman were among others present at the programme, with Railways Ministry's Secretary Salim Reza in the chair.

### 10-year-old

FROM PAGE 12

that her daughter was murdered after raped. He also demanded exemplary punishment of the culprits those who were involved with the incident.

Contacted, Mir Mosharaf Hossain, officer-in-charge of Tangail Sadar Police Station, told The Daily Star that filing of a case in connection to this incident was in progress, but police have already started the investigation.

Writ petition filed

MACRON TOUJOURS COMPLICE

In the petition, Debdulal prayed to the HC to issue a rule asking the authorities concerned to explain as to why circulation, publication and disclosure of information to the media in relation to the probe into the case filed with Teknaf Police Station over killing former army officer Sinha Md Rashed Khan should not be declared

Citing the petition, his lawyer Ahsan Ullah told The Daily Star there was no allegation against Nandadulal in the first information report of the murder case, but he has been arrested in the case.

Exaggerated information is being published in the media about the investigation and a section of people are making various inflammatory comments in the media. Nandadulal's family is now under

tremendous pressure, the lawyer said, adding that the family wants a fair probe and justice for Major (retd) Sinha's murder. Ahsan said the petition was placed before the HC bench of

Justice Md Khasruzzaman and Justice Md Mahmud Hassan Talukder on Wednesday for hearing.

During the hearing, Deputy Attorney General Bipul Bagmar sought time from the HC, saying that the attorney general will place arguments on the petition. The court then fixed Sunday for

further hearing on the petition, the lawyer added. Major (retd) Sinha was killed in

what the Teknaf police claimed was a shootout at a checkpoint on Marine Drive in Cox's Bazar on July 31. Sinha, 36, had been making travel

documentaries for a YouTube channel called "Just Go". On July 31, he was returning to Cox's Bazar from Teknaf when his car was halted at Shaplapur on Marine Drive.

The police claimed that they tried to search the vehicle, and Sinha aimed his pistol at them prompting them to

shoot back in self-defence. They also claimed that they seized drugs from the vehicle.

PHOTO: **REUTERS** 

INDUSTRIEL=

Witnesses, however, claimed that Sinha had come out of the car with hands raised when police shot him. APPEAL REJECTED

Meanwhile, Major (retd) Sinha's

elder sister sought to make the superintendent of Cox's Bazar police an accused in her brother's murder case, but the court rejected her appeal, Faridul Alam, public prosecutor of Cox's Bazar District Judge Court, told our correspondent there.

Sharmen Shahria Ferdush asked Senior Judicial Magistrate Tamanna Farah yesterday afternoon, said the complainant's lawyer Mohammed

"SP ABM Masud Hossain had multiple conversations with accused policemen Pradeep and Liaqat before and after the murder, and there is a possibility that he may have assisted them. That is why we are seeking to include him as an accused in the case," said Mostofa.

Sharmin spoke to reporters in front of the court and said, "I believe I can get justice only if SP Masud is made an accused in the case.'

people, including Thirteen suspended OC of Teknaf Police Station Pradeep Kumar Das, suspended Inspector Liaqat Ali, and suspended Sub-inspector Nandadulal Rakshit, were accused in the case.

#### Dutch to compensate survivor of 2015 Iraq air strike

AFP, The Hague

Netherlands will pay compensation to a civilian survivor of a 2015 air strike on Iraq by Dutch forces fighting the Islamic State militant group, the defence ministry

## FOREIGN ministers FROM PAGE 12

which India firmly denied.

Mr Jaishankar last week described the situation in eastern Ladakh as "very serious" and said it calls for "very, very deep conversation" between the two sides at a political level.

On Wednesday, top Indian government sources said the standoff can take any trajectory," indicating that the possibility of a conflict -either localised or across the region -- cannot be ruled out. But the sources said there was room for dialogue and engagement at diplomatic and military levels.

While expressing concern at the ground situation in South Pangong, where the Chinese have made several attempts to drive out Indian soldiers who secured key heights, officials said they believed that a war-like situation has not emerged as yet.

Despite the ground situation, there is hope that "both sides are trying to stop the actual shooting from

There have been multiple rounds of talks at diplomatic and military levels which have resulted in partial Chinese withdrawal in the Galwan and North Pangong region, nowhere close to India's expectations after the Chinese moved into areas stretching from the Depsang Plains, Galwan, Hot Springs, Gogra, North and South Pangong in

The latest incident took place three days after Indian Defence Minister Rajnath Singh and his Chinese counterpart Wei Fenghe met on the sidelines of another SCO meet in Moscow last Friday. Rajnath Singh reportedly told Wei that attempts by Chinese troops to unilaterally alter status quo along the LAC was in violation of bilateral agreements and Beijing should work with New Delhi for complete disengagement from all friction areas including Pangong Tso.

Since tensions erupted in May, ens of thousands of troops from both sides have been deployed to the disputed Himalayan border, which sits at an altitude of more than 4,000 metres (13,500 feet).

The countries fought a brief border war in 1962, but officially no shots have been fired in the area since 1975 when four Indian troops were killed in an ambush. Because the frontier has never been properly demarcated and the high-altitude terrain is often disorientating, the practice for decades was for neither side to use

#### Drought hits FROM PAGE 12

CROPS AFFECTED

Crops over large areas in the northern districts of the country are damaged due to irregular rainfall and prolonged drought during the early part of the monsoon. The divisional agricultural office in Rajshahi estimates crop damage as a result of drought at 50 percent in Dinajpur, 25 percent in Rajshahi and Rangpur and 30 per cent in other districts of the division. According to this office, jute and transplanted Aman cultivation in Dinajpur, Rajshahi, Pabna and some parts of Rangpur district are badly affected for want of sufficient rainfall during the sowing season.

SOURCES: September 12, 1972 issues of Bangladesh Observer, Dainik Bangla and Dainik Ittefaq.

ব্যবহার করুন

### Scientists develop

Red light, for example, has a wavelength of 700 nanometres, and so can only manipulate objects that are 350 nanometres wide.

While this means they are capable of moving small molecules, they cannot move viruses, which are approximately 100 nanometers, or DNA and proteins that measure under 10 nanometers.

Moreover, laser tweezers also expose the particles to comparatively intense heat and light which can damage the molecules, but the scientists developing this new tool say that it can be avoided.

'We have developed a strategy that enables us to tweeze extremely small objects without exposing them to high-intensity light or heat that can damage a molecule's function," said Justus Ndukaife, assistant professor of electrical engineering at Vanderbilt University.

"The ability to trap and manipulate such small objects gives us the ability to understand the way our DNA and other biological molecules behave in great detail, on a

#### HC denies bail

FROM PAGE 12

jail, ACC lawyer Khurshid Alam Khan told The Daily Star.

Enamul recently filed the petition through his lawyer Zahidul Alam stating that he was sick and had been in jail for a long time. On March 10, HC bench of Justice

Md Nazrul Islam Talukder and Justice KM Hafizul Alam rejected a bail petition filed by Enamul. The bench also directed the lower court concerned to finish within a

year the trial proceedings of the case

against Enamul. The suspended officer landed in Dhaka Central Jail on July 23, 2019, about a week after ACC Director Sheikh Md Fanafillah filed the case with ACC's Integrated District Office in Dhaka on charges of taking Tk 40 lakh in bribes from suspended deputy inspector general of police Mizanur Rahman.

### Trading Corporation of Bangladesh (TCB) TCB Bhaban, Kawran Bazar, Dhaka-1215

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(Md. Shekhabur Rahaman) Chief Officer (Commercial)

Trading Corporation of Bangladesh

#### Talks on a trade deal have been stuck over state aid rules and fishing. Without an agreement, nearly \$1 trillion in trade between the EU and Britain could be thrown into confusion at the beginning of 2021,

compounding the economic impact of the coronavirus pandemic. The latest dispute centres on rules for Northern Ireland, which shares a land border with EU member Ireland. Under the 1998 agreement, there

must be no hard border in Ireland. To ensure that, the British-EU divorce pact calls for Northern Ireland to continue to apply some EU rules. But Britain's new bill unveiled this week would assert the power to override many of those EU rules,

acknowledging that London would be violating international law by doing

Speaker Nancy Pelosi said any move by Britain that undermined the 1998 Irish peace agreement would ensure that a potential US-UK trade deal would not pass the US Congress.

Former British leaders Theresa May and John Major scolded Johnson for considering an explicit, intentional breach of international law "If we lose our reputation for

that may never be regained," Major was playing a game of Brexit "chicken", threatening to wreck the process and

will have lost something beyond price

the pandemic. 'I'm not optimistic at this stage,' Irish Prime Minister Micheal Martin told national broadcaster RTE when asked how confident he was in a trade deal being reached. He said trust in negotiations had been undermined, making it harder to secure a free trade agreement without tariffs and quotas.

EU ponders legal action

US House of Representatives

honouring the promises we make, we

European diplomats said Britain challenging Brussels to change course. Some fear Johnson may view a nodeal exit as a useful distraction from