May
2021

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खंड : 46 अंक : 90 08-10 मई 2021

Vol.: 46 Issue : 90 08-10 May 2021

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COVID 19: DRDO's Contribution

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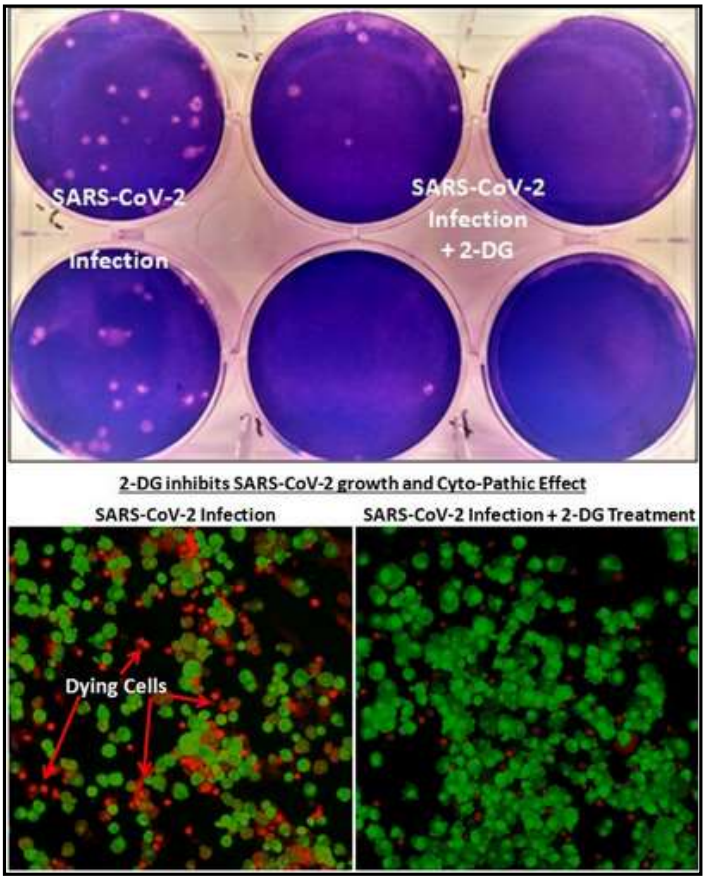
DCGI approves anti-COVID drug developed by DRDO for emergency use

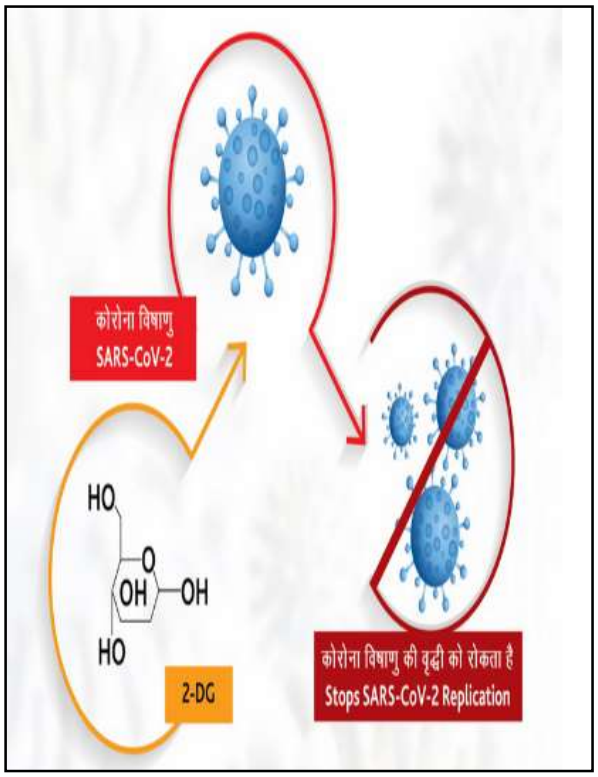
An anti-COVID-19 therapeutic application of the drug 2-deoxy-D-glucose (2-DG) has been developed by Institute of Nuclear Medicine and Allied Sciences (INMAS), a lab of Defence Research and Development Organisation (DRDO), in collaboration with Dr Reddy's Laboratories (DRL), Hyderabad. Clinical trial results have shown that this molecule helps in faster recovery of hospitalised patients and reduces supplemental oxygen dependence. Higher proportion of patients treated with 2-DG showed RT-PCR negative conversion in COVID patients. The drug will be of immense benefit to the people suffering from COVID-19.



Pursuing Prime Minister Shri Narendra Modi's call for preparedness against the pandemic, DRDO took the initiative of developing anti-COVID therapeutic application of 2-DG. In April 2020, during the first wave of the pandemic, INMAS-DRDO scientists conducted laboratory experiments with the help of Centre for Cellular and Molecular Biology (CCMB), Hyderabad and found that this molecule works effectively against SARS-CoV-2 virus and inhibits the viral growth. Based on these results, Drugs Controller General of India's (DCGI) Central Drugs Standard Control Organization (CDSCO) permitted Phase-II clinical trial of 2-DG in COVID-19 patients in May 2020.

The DRDO, along with its industry partner DRL, Hyderabad, started the clinical trials to test the safety and efficacy of the drug in COVID-19 patients. In Phase-II trials (including dose ranging) conducted during May to October 2020, the drug was found to be safe in COVID-19 patients and showed significant improvement in their recovery. Phase IIa was conducted in six hospitals and Phase IIb (dose ranging) clinical trial was conducted at 11 hospitals all over the country. Phase-II trial was conducted on 110 patients.

In efficacy trends, the patients treated with 2-DG showed faster symptomatic cure than Standard of Care (SoC) on various endpoints. A significantly favourable trend (2.5 days difference) was seen in terms of the median time to achieving normalisation of specific vital signs parameters when compared to SoC.



Based on successful results, DCGI further permitted the Phase-III clinical trials in November 2020. The Phase-III clinical trial was conducted on 220 patients between December 2020 to March 2021 at 27 COVID hospitals in Delhi, Uttar Pradesh, West Bengal, Gujarat, Rajasthan, Maharashtra, Andhra Pradesh, Telangana, Karnataka and Tamil Nadu. The detailed data of phase-III clinical trial was presented to DCGI. In 2-DG arm, significantly higher proportion of patients improved symptomatically and became free from supplemental oxygen dependence (42% vs 31%) by Day-3 in comparison to SoC, indicating an early relief from Oxygen therapy/dependence.

The similar trend was observed in patients aged more than 65 years. On May 01, 2021, DCGI granted permission for Emergency Use of this drug as adjunct therapy in moderate to severe COVID-19 patients. Being a generic molecule and analogue of glucose, it can be easily produced and made available in plenty in the country.

The drug comes in powder form in sachet, which is taken orally by dissolving it in water. It accumulates in the virus infected cells and prevents virus growth by stopping viral synthesis and energy production. Its selective accumulation in virally infected cells makes this drug unique.

In the ongoing second COVID-19 wave, a large number of patients are facing severe oxygen dependency and need hospitalisation. The drug is expected to save precious lives due to the mechanism of operation of the drug in infected cells. This also reduces the hospital stay of COVID-19 patients.

https://pib.gov.in/PressReleasePage.aspx?PRID=1717007

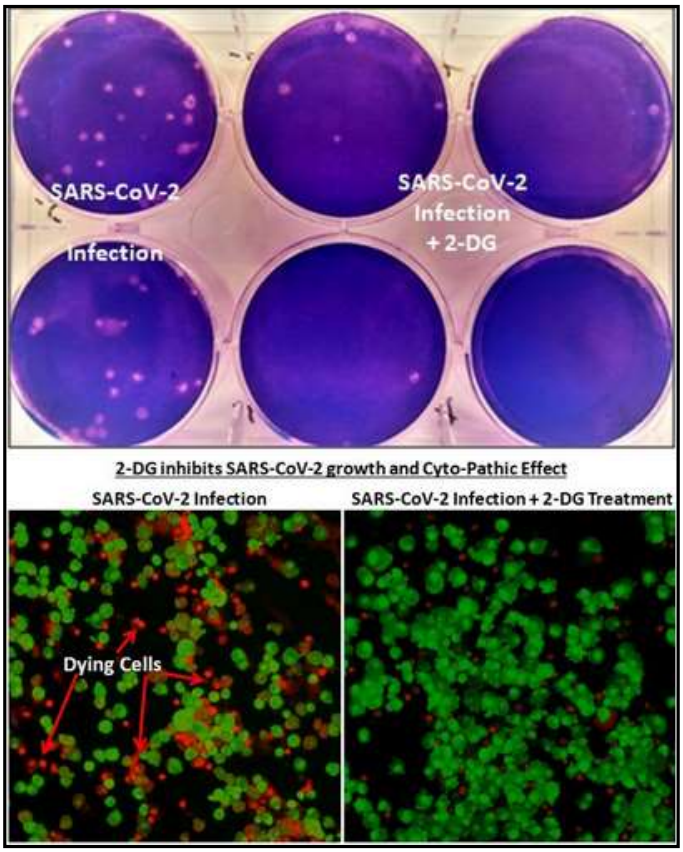
पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

Sat, 08 May 2021 1:42PM

डीजीसीआई ने डीआरडीओ द्वारा विकसित कोविड की दवा के आपात इस्तेमाल को हरी झंडी दी

डॉ. रेड्डीज लेबोरेटरीज (डीआरएल), हैदराबाद के सहयोग से रक्षा अनुसंधान एवं विकास संगठन (डीआरडीओ) की प्रयोगशाला इंस्टीट्यूट ऑफ न्यूक्लियर मेडिसिन एंड एलाइड साइंसेज (आईएनएमएएस) द्वारा दवा 2-डिऑक्सी-डी-ग्लूकोज (2-डीजी) का एक एंटी-कोविड-19 चिकित्सकीय अनुप्रयोग विकसित किया गया है। नैदानिक परीक्षण परिणामों से पता चला है कि यह अणु अस्पताल में भर्ती रोगियों की तेजी से रिकवरी में मदद करता है एवं बाहर से ऑक्सीजन देने पर निर्भरता को कम करता है। अधिक मात्रा में कोविड रोगियों के 2-डीजी के साथ इलाज से उनमें आरटी-पीसीआर नकारात्मक रूपांतरण देखा गया। यह दवा कोविड-19 से पीड़ित लोगों के लिए काफी फायदेमंद होगी।

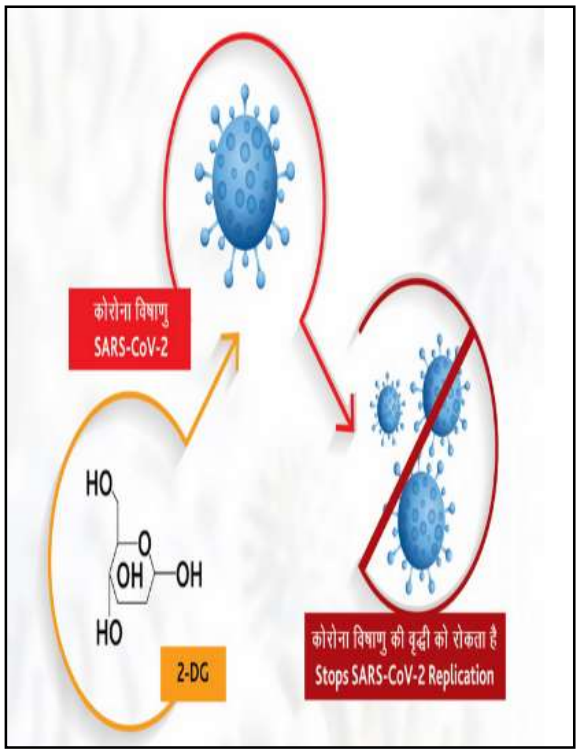


महामारी के विरुद्ध तैयारी के लिए प्रधानमंत्री श्री नरेन्द्र मोदी के आह्वान के सिलसिले में रक्षा अनुसंधान एवं विकास संगठन (डीआरडीओ) ने 2-डीजी के एंटी-कोविड चिकित्सकीय अनुप्रयोग विकसित करने की पहल की। अप्रैल 2020 में महामारी की पहली लहर के दौरान,आईएनएमएएस-डीआरडीओ के वैज्ञानिकों ने सेंटर फॉर सेलुलर एंड मॉलिक्यूलर बायोलॉजी (सीसीएमबी), हैदराबाद की मदद से प्रयोगशाला परीक्षण किए और पाया कि यह दवा सार्स-सीओवी-2 वायरस के खिलाफ प्रभावी ढंग से काम करती है और वायरल बढ़ने को रोकती है। इन परिणामों के आधार पर ड्रग्स कंट्रोलर जनरल ऑफ इंडिया (डीसीजीआई) सेंट्रल ड्रग्स स्टैंडर्ड कंट्रोल ऑर्गनाइजेशन (सीडीएससीओ) ने मई 2020 में कोविड-19 रोगियों में 2-डीजी के चरण-2 के नैदानिक परीक्षण की अनुमति दी।

रक्षा अनुसंधान एवं विकास संगठन (डीआरडीओ) ने अपने उद्योग सहयोगी डीआरएल हैदराबाद के साथ मिलकर कोविड-19 मरीजों में दवा की सुरक्षा और प्रभावकारिता का परीक्षण करने के लिए नैदानिक परीक्षण शुरू किए। मई से अक्टूबर 2020 के दौरान किए गए चरण- II परीक्षणों (डोज़ रेजिंग समेत) में दवा कोविड-19 रोगियों में सुरक्षित पाई गई और उनकी रिकवरी में महत्वपूर्ण सुधार दिखाया गया। दूसरे चरण

का संचालन छह अस्पतालों में किया गया और देश भर के 11 अस्पतालों में फेज II बी (डोज रेंजिंग) क्लीनिकल ट्रायल किया गया। फेज-2 में 110 मरीजों का ट्रायल किया गया।

प्रभावकारिता की प्रवृत्तियों में 2-डीजी के साथ इलाज किए गए रोगियों ने विभिन्न एंडपॉइंट्स पर स्टैंडर्ड ऑफ केयर (एसओसी) की तुलना में तेजी से रोगसूचक उपचार प्रदर्शित किया। इस उपचार के दौरान रोगी के शरीर में विशिष्ट महत्वपूर्ण संकेतों से संबंधित मापदंड सामान्य बनाने में लगने वाले औसत समय में स्टैंडर्ड ऑफ केयर (एसओसी) की तुलना में एक बढ़िया अंतर (2.5 दिन का अंतर) देखा गया।



सफल परिणामों के आधार पर डीसीजीआई ने नवंबर 2020 में चरण-3 नैदानिक परीक्षणों की अनुमति दी। दिल्ली, उत्तर प्रदेश, पश्चिम बंगाल, गुजरात, राजस्थान, महाराष्ट्र, आंध्र प्रदेश, तेलंगाना, कर्नाटक और तमिलनाडु के 27 कोविड अस्पतालों में दिसंबर 2020 से मार्च 2021 के बीच 220 मरीजों पर फेज-3 क्लीनिकल ट्रायल किया गया। तीसरे चरण के क्लीनिकल ट्रायल के विस्तृत आंकड़े डीसीजीआई को पेश किए गए। 2-डीजी के मामले में रोगियों के लक्षणों में काफी अधिक अनुपात में सुधार देखा गया और एसओसी की तुलना में तीसरे दिन तक रोगी पूरक ऑक्सीजन निर्भरता (42 प्रतिशत बनाम 31 प्रतिशत) से आज़ाद हो गए जो ऑक्सीजन थेरेपी/ निर्भरता से शीघ्र राहत का संकेत है।

इसी तरह का रुझान 65 साल से अधिक उम्र के मरीजों में देखा गया । दिनांक 1 मई, 2021 को डीसीजीआई ने इस दवा के आपातकालीन उपयोग की गंभीर कोविड-19 रोगियों में सहायक चिकित्सा के रूप में अनुमति प्रदान की। ग्लूकोज का एक सामान्य अणु और एनालॉग होने के नाते इसे आसानी से उत्पादित किया जा सकता है और देश में अधिक मात्रा में उपलब्ध कराया जा सकता है।

एक सैशे में पाउडर के रूप में यह दवा आती है जिसे पानी में घोलकर लिया जाता है। यह वायरस संक्रमित कोशिकाओं में जमा होती है और वायरल संश्लेषण और ऊर्जा उत्पादन को रोककर वायरस के विकास को रोकती है। वायरस से संक्रमित कोशिकाओं में इसका चयनात्मक संचय इस दवा को बेजोड़ बनाता है।

वर्तमान में जारी दूसरी कोविड-19 लहर में बड़ी संख्या में मरीज गंभीर ऑक्सीजन निर्भरता का सामना कर रहे हैं और उन्हें अस्पताल में भर्ती होने की जरूरत है। संक्रमित कोशिकाओं में दवा के प्रभाव करने के तरीक़े के कारण इस दवा से बहुमूल्य जीवन बचाने की उम्मीद है। इससे कोविड-19 मरीजों के लिए अस्पताल में बिताए जाने वाले दिनों की संख्या भी कम हो जाती है।

https://www.pib.gov.in/PressReleasePage.aspx?PRID=1717051

Mon, 10 May 2021

Exclusive: DRDO's anti-Covid oral drug to roll out by May 11

Based on these results, the DCGI's Central Drugs Standard Control Organisation (CDSCO) permitted Phase-II clinical trial of 2-DG in COVID-19 patients in May 2020. The ministry said the DRDO, along with DRL started the clinical trials to test the safety and efficacy of the drug in COVID-19 patients

New Delhi: In an exclusive conversation with India TV, DRDO chief G. Satheesh Reddy on Sunday said the anti-COVID drug, which has been approved for emergency use, will be rolled out by May 11. Explaining further, the DRDO chief said the drug will help neutralise most of the COVID-19 symptoms and will prevent the growth of the virus inside the body. Regarding the availability of the drug, Reddy said arrangements for proper distribution across all hospitals need to be done and a team is already working on the same.

DRDO's anti-Covid oral drug to roll out by May 11. Image Source : INDIA TV

Speaking about the drug, the DRDO chief also said it would help improve the level of oxygen in the body. The drug is expected to help coronavirus patients within three days of consumption.

An anti-COVID-19 therapeutic application of the drug 2-deoxy-D-glucose (2-DG) has been developed by the Institute of Nuclear Medicine and Allied Sciences (INMAS), a lab of Defence Research and Development Organisation (DRDO), in collaboration with Dr. Reddy's Laboratories (DRL), Hyderabad. Clinical trial results have shown that this molecule helps in faster recovery of hospitalised patients and reduces supplemental oxygen dependence. A higher proportion of patients treated with 2-DG showed RT-PCR negative conversion in COVID patients. The drug will be of immense benefit to the people suffering from COVID-19.

The drug has been approved by the Drugs Controller General of India (DCGI) for emergency use as an adjunct therapy in moderate to severe coronavirus patients.

The approval to the drug comes at a time when India has been grappling with a record-breaking wave of coronavirus pandemic that has stretched the country's healthcare infrastructure to its limit.

"In the ongoing second COVID-19 wave, a large number of patients are facing severe oxygen dependency and need hospitalisation. The drug is expected to save precious lives due to the mechanism of operation of the drug in infected cells. This also reduces the hospital stay of COVID-19 patients," the ministry said.

It said the anti-COVID-19 therapeutic application of 2-DG drug has been developed by the Institute of Nuclear Medicine and Allied Sciences (INMAS), a leading laboratory of Defence Research and Development Organisation (DRDO), in collaboration with Dr Reddy's Laboratories (DRL) in Hyderabad.

https://www.indiatvnews.com/news/good-news/drdo-drug-approval-coronavirus-drug-rollout-covid19-703449

DECCAN Chronicle

Mon, 10 May 2021

DRDO all set to supply anti-Covid drug in bulk

2-DG drug developed by the defence wing can handle new strains effectively, says DRDO Chief

By Pathri Rajasekhar

Nellore: The Defence Research and Development Organisation's (DRDO) anti-Covid drug will be made available next week to those who are in need, bringing major relief to thousands of people who are struggling for breath in Covid hospitals and undergoing treatment in home isolation.

Dr G. Satheesh Reddy, secretary, department of defence research and development, and Chairman, DRDO, said that 10,000 sachets of the new anti-Covid drug — 2 DG 2-deoxy-D-glucose — that was developed by a defence lab will be released either on May 11 or 12.

The Drugs Controller General of India's (DCGI) had approved the anti-Covid drug developed by DRDO's Institute of Nuclear Medicine and Allied Sciences (INMAS) in collaboration with Dr Reddy's Laboratories (DRL), Hyderabad, for emergency use.

The Drugs Controller General of India's (DCGI) had approved the anti-Covid drug developed by DRDO's Institute of Nuclear Medicine and Allied Sciences (INMAS) in collaboration with Dr Reddy's Laboratories (DRL), Hyderabad, for emergency use. (Representational Photo: AP)

Against this backdrop, Dr Satheesh Reddy told this newspaper that the 2 DG will be available in sizable numbers after three weeks while pointing to large-scale production in the offing.

Responding to a question on the effectiveness of 2-DG in the new Covid strains emerged during the second wave as the trails were conducted in the first phase, Dr Sateesh Reddy asserted that the drug can deal with any virus strain.

"2-DG accumulates in the virus-infected cells and prevents virus growth by stopping viral synthesis and energy production. Its selective accumulation in virally infected cells makes this drug unique," Dr Reddy maintained.

He said 51 per cent of the patients were cured within three days during the third phase of clinical trials and others within 5 to 7 days after administering the drug, which can be used for moderate to severe Covid patients.

It is a generic molecule and it can be produced in any country, he informed. On production plans, he said they have been discussing bulk production and they would come out with an action plan within the next two or three days.

He praised the DRDO scientists for their concern towards the people and country and their outstanding contribution through scientific solutions for Covid infected.

Dr Sateesh Reddy said they were coming out with light-weight oxygen gas cylinders with regulator and non-returnable valve with features to save oxygen and it would be very useful to

those using it at home. He added that they were also developing software to detect Covid infection using artificial intelligence with the help of a Chest X-Ray.
https://www.deccanchronicle.com/nation/current-affairs/090521/drdo-all-set-to-supply-anti-covid-drug-in-bulk.html

abp न्यूज़

Mon, 10 May 2021

DRDO चेयरमैन ने दी जानकारी- एंटी कोरोना दवा 11-12 मई से होगी उपलब्ध, जानें कहां किया ये दावा

DRDO की इस एंटी-कोविड मेडिसन को '2-डिओक्सी-डी-ग्लूकोज', जिसे 2-डीजी के नाम से भी जाना जाता है। डीआरडीओ ने हैदराबाद की रेड्डीज लैब्स के साथ मिलकर इस दवा को तैयार किया है।

नई दिल्ली: डीआरडीओ की एंटी कोविड दवा '2-डीऑक्सी-डी-ग्लूकोज' को हाल ही में आपात इस्तेमाल के लिए डीसीजीआई ने मंजूरी दी है। डीआरडीओ के चेयरमैन जी सतीश रेड्डी ने कहा है कि 11 या 12 मई से ये एंटी कोविड दवा मार्केट में उपलब्ध होना शुरू हो जाएगी। उन्होंने बताया है कि शुरुआत में दवा की कम से कम 10 हजार डोज मार्केट में आ सकती हैं। उन्होंने ये दावा इंडिया टीवी के एक कार्यक्रम में किया है। साफ तौर पर ये जानकारी कोरोना से लड़ने के लिए बेहद काम आ सकती है और इसे आपको जानना चाहिए।


डीआरडीओ के चेयरमैन जी सतीश रेड्डी

डीआरडीओ के चेयरमैन जी सतीश रेड्डी ने कहा, "डीआरडीओ और डॉ रेड्डी लैब द्वारा बनाई जाने वाली इस दवा को डीसीजीआई ने मंजूरी दे दी है। इस दवा के सेवन से ऑक्सीजन पर निर्भर कोरोना मरीज 2-3 दिन में ऑक्सीजन सपोर्ट को छोड़ देंगे। वह जल्दी ठीक होंगे। जल्द ही यह दवा अस्पतालों में उपलब्ध होगी।" हालांकि उन्होंने ये भी कहा कि मरीज इस दवा को डॉक्टर की सलाह के आधार पर ही लें।

क्लीनिकल टेस्ट से पता चला है कि यह दवा अस्पताल में भर्ती मरीजों की तेजी से रिकवरी में मदद करता है और बाहर से ऑक्सीजन देने पर निर्भरता को कम करता है। अधिक मात्रा में कोविड मरीजों के 2-डीजी के साथ इलाज से उनमें आरटी-पीसीआर नकारात्मक रूपांतरण देखा गया है। यह दवा कोविड पीड़ित लोगों के लिए काफी फायदेमंद होगी।

कब-कब हुआ 2-डीजी का ट्रायल

आपको बता दें, अप्रैल 2020 में महामारी की पहली लहर के दौरान आईएनएमएएस-डीआरडीओ के वैज्ञानिकों ने सेंटर फॉर सेलुलर एंड मॉलिक्यूलर बायोलॉजी (सीसीएमबी), हैदराबाद की मदद से प्रयोगशाला परीक्षण किए। उन्होंने पाया कि यह दवा सार्स-सीओवी-2 वायरस के खिलाफ प्रभावी ढंग से काम करती है और वायरल बढ़ने को रोकती है। इन परिणामों के आधार पर ड्रग्स कंट्रोलर जनरल ऑफ इंडिया (डीसीजीआई) सेंट्रल ड्रग्स स्टैंडर्ड कंट्रोल ऑर्गेनाइजेशन (सीडीएससीओ) ने मई 2020 में कोविड मरीजों में 2-डीजी के चरण-2 के क्लीनिकल ट्रायल की अनुमति दी।

मई से अक्टूबर 2020 के दौरान किए गए दूसरे चरण के परीक्षणों में दवा मरीजों में सुरक्षित पाई गई और उनकी रिकवरी में महत्वपूर्ण सुधार दिखाया गया। दूसरे चरण का संचालन छह अस्पतालों में किया गया और देशभर के 11 अस्पतालों में फेज 2 बी क्लीनिकल ट्रायल किया गया। फेज-2 में 110 मरीजों का ट्रायल किया गया।

सफल परिणामों के आधार पर डीसीजीआई ने नवंबर 2020 में चरण-3 क्लीनिकल ट्रायल की अनुमति दी। दिल्ली, उत्तर प्रदेश, पश्चिम बंगाल, गुजरात, राजस्थान, महाराष्ट्र, आंध्र प्रदेश, तेलंगाना, कर्नाटक और तमिलनाडु के 27 कोविड अस्पतालों में दिसंबर 2020 से मार्च 2021 के बीच 220 मरीजों पर फेज-3 क्लीनिकल ट्रायल किया गया। तीसरे चरण के क्लीनिकल ट्रायल के आंकड़े डीसीजीआई को पेश किए गए। 2-डीजी के मामले में मरीजों के लक्षणों में काफी अधिक अनुपात में सुधार देखा गया। तीसरे दिन तक मरीज पूरक ऑक्सीजन निर्भरता (42 फीसदी बनाम 31 फीसदी) से मुक्त हो गए जो ऑक्सीजन थेरेपी/निर्भरता से शीघ्र राहत का संकेत है। इसी तरह का रुझान 65 साल से अधिक उम्र के मरीजों में देखा गया।

https://www.abplive.com/news/india/drdo-chief-g-satheesh-reddy-says-anti-covid-drug-will-be-rolled-out-by-may-11-1911854

Hindustan Times

Sun, 09 May 2021

DCGI gives emergency approval of DRDO-developed anti-Covid oral drug

The oral drug has been developed by Institute of Nuclear Medicine and Allied Sciences, a lab of DRDO, in collaboration with Dr Reddy's Laboratories, Hyderabad. Phase III clinical trial results have shown that this molecule helps in faster recovery of hospitalised patients and reduces supplemental oxygen dependence

By Shishir Gupta

New Delhi: The Institute of Nuclear Medicine and Allied Sciences (Inmas) in collaboration with Dr Reddy's Laboratories, Hyderabad, devloped an anti-Covid-19 therapeutic application of the drug 2-deoxy-D-glucose (2-DG). The third phase of the clinical trial results have shown that this molecule helps in faster recovery of hospitalised patients and reduces supplemental oxygen dependence. Higher proportion of patients treated with 2-DG showed RT-PCR negative conversion in patients infected with coronavirus.

Responding to Prime Minister Narendra Modi's call for preparedness against the pandemic, the DRDO took the initiative of developing anti-Covid therapeutic application of 2-DG (File photo)

Responding to Prime Minister Narendra Modi's call for preparedness against the pandemic, the DRDO took the initiative of developing anti-Covid therapeutic application of 2-DG. In April 2020, when the first wave of pandemic struck India, scientists at DRDO's laboratory, INMAS, conducted experiments with the help of Hyderabad-based Centre for Cellular and Molecular Biology (CCMB) and found that this molecule works effectively against SARS-CoV-2 virus and inhibits the viral growth. Based on these results, Drugs Controller General of India's (DCGI) Central Drugs Standard Control Organisation (CDSCO) permitted Phase-II clinical trial of 2-DG in Covid-19 patients in May 2020.

DRDO along with its industry partner Dr Reddy's Laboratories started the clinical trials to test the safety and efficacy of the drug in Covid-19 patients.

"In Phase-II trials (including dose ranging) conducted between May and October 2020, the drug was found to be safe in Covid-19 patients, and showed significant improvement in their recovery. Phase IIa was conducted in 6 hospitals and Phase IIb (dose ranging) clinical trial was conducted at 11 hospitals all over the country. Phase-II trial was conducted on 110 patients. In efficacy trends, the patients treated with 2-DG showed faster symptomatic cure than Standard of Care (SoC) on various endpoints. A significantly favourable trend (2.5 days difference) was seen in terms of the median time to achieving normalization of specific vital signs parameters when compared to SOC," a top DRDO official said on Saturday.

The official further said that based on successful results, the DCGI then permitted the phase III of clinical trials in November 2020. It was conducted on 220 patients between December 2020 and March 2021 at 27 Covid-19 hospitals across Delhi, Uttar Pradesh, West Bengal, Gujarat, Rajasthan, Maharashtra, Andhra Pradesh, Telangana, Karnataka and Tamil Nadu.

"The detailed data of phase-III clinical trial was presented to DCGI. In 2-DG arm significantly higher proportion of patients improved symptomatically and became free from supplemental oxygen dependence (42% vs 31%) by Day-3 in comparison to SOC, indicating an early relief from Oxygen therapy/dependence. The similar trend was observed in patients more than 65 years also," the DRDO official said.

The DCGI had on May 1 granted permission for emergency use of the drug as adjunct therapy in moderate to severe Covid-19 patients. Being a generic molecule and analogue of glucose, it can be easily produced and made available in plenty in the country, the DRDO said.

The drug comes in sachet in the form of powder which is taken orally by dissolving it in water. It accumulates in the virus-infected cells and prevents virus growth by stopping viral synthesis and energy production. The selective accumulation in virally infected cells makes this drug unique.

At a time when the second wave of the coronavirus pandemic hammers the country and a large number of patients are requiring severe oxygen dependency and hospitalisation, the drug is expected to save precious lives due to the mechanism of operation of the drug in infected cells. This also reduces the hospital stay of Covid-19 patients and burden on health infrastructure of the country.

https://www.hindustantimes.com/india-news/dcgi-gives-emergency-approval-of-drdo-developed-anti-covid-oral-drug-101620461286695.html

THE TIMES OF INDIA

Sun, 09 May 2021

Potential cancer drug repurposed for Covid-19 by DRDO, Dr Reddy's gets DCGI nod for emergency use

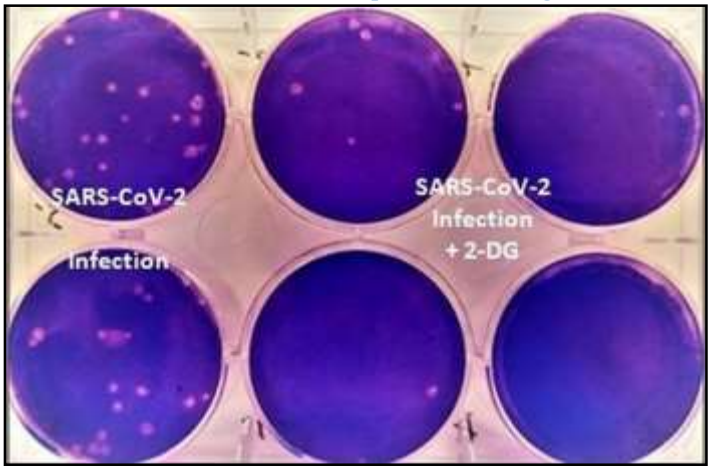
By Swati Bharadwaj

Hyderabad: A potential cancer drug repurposed for Covid-19 treatment -- 2-deoxy-D-glucose (2-DG) – has received the Drugs Controller General of India (DCGI) nod for emergency use as adjunct therapy for hospitalized moderate to severe Covid-19 patients.

Representative image

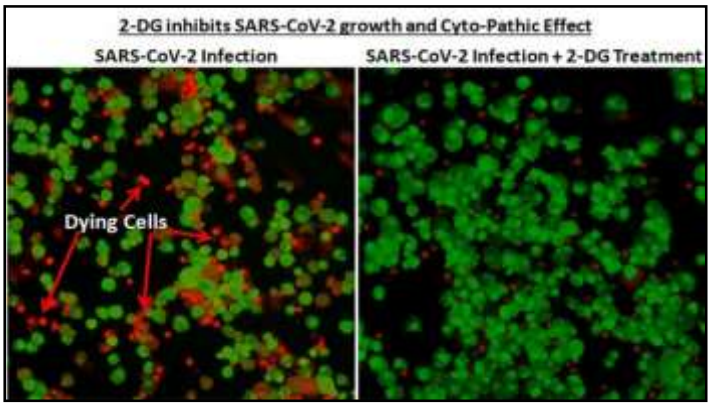
The anti-Covid-19 therapeutic application of the drug was developed by the Institute of Nuclear Medicine and Allied Sciences (INMAS), a Defence Research and Development Organisation (DRDO) lab, in collaboration with pharma major Dr Reddy's Laboratories.

The drug, which comes in a sachet in powder form, has to be taken orally by dissolving it in water. The drug works by accumulating in the virus infected cells and prevents virus growth by stopping viral synthesis and energy production.



"It's selective accumulation in virally infected cells makes this drug unique. Higher proportion of patients treated with 2-DG showed RT-PCR negative conversion in Covid-19 patients," INMAS-DRDO said.

According to INMAS-DRDO, the clinical trial results showed that the molecule helps in faster recovery of hospitalised patients and reduces their dependence on supplemental oxygen.



"In the ongoing 2nd wave of the pandemic, a large number of patients are facing severe oxygen dependency and need hospitalization. This drug is expected to save precious lives due to the mechanism of operation of the drug in infected cells. As it reduces the hospital stay of Covid-19 patients, it will also help reduce the burden on the country's health infrastructure," it explained.

Being a generic molecule and analogue of glucose, it can be easily produced and made available in plenty in the country, INMAS-DRDO added.

Research into repurposing the drug for Covid-19 was started by INMAS-DRDO scientists in April 2020, during the first wave of pandemic, and laboratory experiments were conducted with the help of the Centre for Cellular and Molecular Biology (CCMB), Hyderabad.

The Phase-II trials conducted on 110 patients in 17 hospitals found that patients using the drug showed a faster recovery and a 2.5 days difference in terms of the median time for achieving normalization of certain vital parametres as compared to standard of care (SoC).

The Phase III clinical trial showed that a significantly higher proportion of patients that took the drug improved symptomatically and became free from supplemental oxygen dependence (42% vs 31%) by Day-3 in comparison to SoC, indicating an early relief from oxygen dependence.

The Phase III study was conducted on 220 patients during December 2020 to March 2021 period at 27 Covid hospitals in states like Delhi, UP, West Bengal, Gujarat, Rajasthan, Maharashtra, Andhra Pradesh, Telangana, Karnataka and Tamil Nadu.

https://timesofindia.indiatimes.com/india/potential-cancer-drug-repurposed-for-covid-19-by-drdo-dr-reddys-gets-dcgi-nod-for-emergency-use/articleshow/82478947.cms

हिन्दुस्तान

Sun, 09 May 2021

कोरोना के इलाज में DRDO की दवा 2-DG का होगा इमरजेंसी इस्तेमाल, DGCI ने दी मंजूरी

नई दिल्ली: **कोरोना वायरस से की दूसरे लहर से जूझ रहे भारत के लिए एक अच्छी खबर सामने आई है। डीआरडीओ की एक लैब इंस्टीट्यूट ऑफ न्यूक्लियर मेडिसिन एंड एलाइड साइंसेज द्वारा डॉक्टर रेड्डी की लैब के साथ मिलकर बनाई गई कोरोना की ओरल दवा- 2- डिऑक्सी-डी-ग्लूकोज को भारत में आपात इस्तेमाल की मंजूरी दे दी गई है। दवा के क्लिनिकल ट्रायल के नतीजे बताते हैं कि यह दवा अस्पताल में मौजूद कोरोना के मरीजों की जल्दी रिकवरी में सहायक है और इसी के साथ ही यह दवा मरीजों की ऑक्सीजन की जरूरत को भी कम करती है।**

बताया गया है कि इस दवाई को लेने वाले कोरोना मरीजों की रिपोर्ट आरटी-पीसीआर टेस्ट में निगेटिव आई है। इस महामारी मे कोरोना वायरस से जूझ रहे लोगों के लिए यह दवाई काफी फायदेमंद साबित हो सकती है। पीएम मोदी की कोरोना महामारी के खिलाफ तैयार होकर रहने की बात पर अमल करते हुए डीआरडीओ ने कोरोना की दवा- 2-डीजी बनाने का कदम उठाया।

अप्रैल 2020 में, महामारी की पहली लहर के दौरान INMAS-DRDO वैज्ञानिकों ने हैदराबाद के सेंटर फॉर सेल्युलर एंड मॉलिक्यूलर बायोलॉजी (CCMB) की मदद से प्रयोगशाला में प्रयोग किए गए और पाया कि यह अणु SARS-CoV-2 वायरस के खिलाफ प्रभावी ढंग से काम करता है और वायरस की वृद्धि को रोकता है। इन परिणाणों के आधार पर DCGI ने मई, 2020 में इस दवा के दूसरे चरण के ट्रायल करने की मंजूरी दी थी।

DRDO ने अपने उद्योग भागीदार डॉ रेड्डीज लैबोरेटरीज (DRL, हैदराबाद) के साथ मिलकर COVID-19 रोगियों में दवा की सुरक्षा और प्रभावकारिता का परीक्षण परीक्षण शुरू किया। मई से अक्टूबर 2020 के दौरान किए गए चरण- II के परीक्षणों में, दवा COVID-19 रोगियों में सुरक्षित पाई गई, और उनकी रिकवरी में महत्वपूर्ण सुधार हुआ।

चरण 2A 6 अस्पतालों में आयोजित किया गया था और चरण 2B (खुराक लेकर) ks नैदानिक परीक्षण पूरे देश के 11 अस्पतालों में आयोजित किए गए थे। चरण- II का परीक्षण 110 रोगियों पर किया गया।

प्रभावकारिता के रुझानों में, जिन रोगियों का इलाज 2-डीजी के साथ किया गया था। उन रोगियों ने विभिन्न बिंदुओं पर मानक देखभाल (SoC) की तुलना में तेजी से सुधार देखा गया।

https://www.livehindustan.com/national/story-drdo-drug-2-dg-to-be-used-emergencyly-in-treatment-of-corona-dcgi-approves-4019082.html

Sun, 09 May 2021

DRDO की कोरोनारोधी दवा के आपात इस्तेमाल को मिली मंजूरी, आसानी से ली जा सकेगी खुराक

रक्षा अनुसंधान एवं विकास संगठन (DRDO) द्वारा विकसित कोरोना रोधी दवा को मरीजों के लिए आपात इस्तेमाल को मंजूरी मिल गई है। यह दवा एक पाउडर की तरह सैशे में आती है, जिसे आसानी से पानी में घोलकर लिया जा सकेगा।

By विष्णु सोम

नई दिल्ली: रक्षा अनुसंधान एवं विकास संगठन (DRDO) द्वारा विकसित कोरोना रोधी दवा को मरीजों के लिए आपात इस्तेमाल को मंजूरी मिल गई है। यह दवा एक पाउडर की तरह सैशे में आती है, जिसे आसानी से पानी में घोलकर लिया जा सकेगा। शोध के दौरान बड़ी संख्या में ये दवा लेने वाले शख्स आरटीपीसीआर टेस्ट (RT-PCR tests) में निगेटिव पाए गए। देश में कोरोना से रिकॉर्ड मौतों और रोजाना 4 लाख से ज्यादा मामलों के बीच देश की सबसे सबसे बड़े औषधि नियामक ने इस कोरोना रोधी दवा को हरी झंडी दी है। यह दवा पाउडर की तरह एक सैशे में आती है, जिसे भी कोई भी आसानी से पानी में घोलकर ले सकता है।

ड्रग कंट्रोलर जनरल ऑफ इंडिया यानी भारत के औषधि महानियंत्रक (DCGI) ने कोविड-19 का मुकाबला करने वाली इस दवा को मरीजों पर आपात इस्तेमाल की स्वीकृति दी है। इस दवा का नाम 2-डीजी (deoxy D glucose) है। यह दवा डॉक्टरों की सलाह पर और इलाज के प्रोटोकॉल के तहत मरीजों को दी जा सकेगी। डीआरडीओ (DRDO) की लैब इन्मास (INMAS) ने डॉ. रेड्डीज लैब के साथ मिलकर ये दवा विकसित की है। यह अस्पताल में भर्ती कोरोना मरीज के तेजी से स्वस्थ होने में मदद करती है और ऑक्सीजन पर उसकी निर्भरता को कम करती है। यह दवा इलाज के दौरान कोरोना के मध्यम और गंभीर मरीजों को दी जा सकती है।

भारत में अभी तक कोरोना के गंभीर मरीजों के इलाज में रेमडेसिविर, फेबिफ्लू जैसी दवाओं के साथ कुछ नेजल स्प्रे को भी डॉक्टरी सलाह और कोविड प्रोटोकॉल के तहत इस्तेमाल किया जा रहा है। अप्रैल के बाद से कोरोना के नए मामलों की सुनामी सी आ गई है और इस कारण दिल्ली से लेकर बेंगलुरु तक अस्पतालों में ऑक्सीजन का संकट गहरा रहा है। अगर ये दवा कोरोना मरीजों के ऑक्सीजन की जरूरत को कम करती है तो मौजूदा संकट में भी यह मददगार साबित होगी।

https://ndtv.in/india-news/approval-of-emergency-use-of-drdo-anti-covid-drug-dissolve-in-water-and-easily-take-dose-2437748

Hindustan Times

Sun, 09 May 2021

How will DRDO's anti-Covid drug work? All you need to know

2-DG can be produced in bulk in the country as it is a generic module and analogue of glucose

Edited by Poulomi Ghosh

The Drug Controller General of India has approved an anti-Covid oral drug for emergency use as an adjunct therapy. So far, there was no drug to treat Covid-19 specifically. The treatment revolved around addressing the symptoms of Covid-19 through drugs like Ivermectin. As2-DG's use has been approved as an adjunct therapy, the drug will be used along with the primary treatment.

Here is everything you want to know about 2-DG

- The name of the drug is 2-deoxy-D glucose or 2-DG. It has been developed by the Defence Research and Development Organisation, Institute of Nuclear Medicine and Allied Sciences and Dr Reddy's Laboratories.
- This will help in a faster recovery of Covid-19 patients who are hospitalised.
- This will also ensure that Covid-19 patients do not need oxygen supplement.
- The drug is expected to be effective in patients aged more than 65 years.
- DRDO scientist Dr Anant Narayan Bhatt told ANI that the drug is expected to be effective on different variants also.
- The drug can be produced in bulk in the country as it is a generic module and analogue of glucose.
- The drug accumulates in the cells affected by the virus and stops the growth of the virus. It stops viral synthesis and energy production.
- The drug comes in powder form inside sachets. The patients will have to take it orally dissolving it in water.

What next?

Dr Anant Narayan said work is on to bring the drug to the market in cooperation with Dr Reddy's Laboratories. It will be available soon, Dr Bhatt said.

https://www.hindustantimes.com/india-news/how-will-drdo-s-anti-covid-drug-work-all-you-need-to-know-101620485063697.html

INDIA TODAY

Sun, 09 May 2021

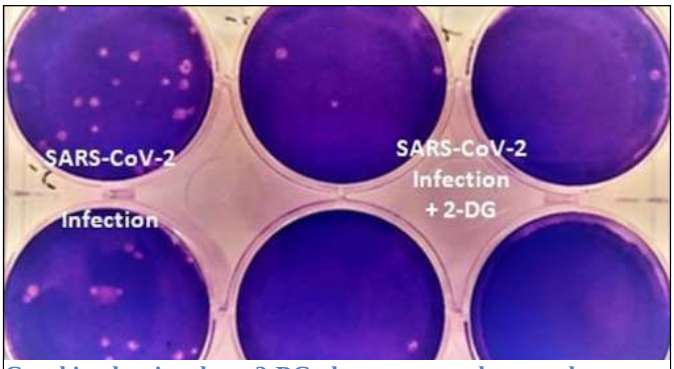
Easy to produce, easier to consume: DRDO's 2-DG drug for treatment of Covid patients | FAQs

The DCGI has granted emergency use approval to DRDO's 2-DG drug for treatment in moderate to severe cases of Covid-19. Here are answers to all your questions about the drug

Highlights

- ***DCGI granted emergency use approval to DRDO's 2-DG drug on Saturday***
- ***2-DG helps in faster recovery of hospitalized patients and reduces supplemental oxygen dependence***
- ***Phase-III trials for 2-DG drug were conducted at 27 Covid hospitals across the country***

New Delhi: With the country battling the second wave of Covid-19 infections, The Drugs Controller General of India (DCGI) on Saturday approved a drug developed by the DRDO for emergency use. The drug - 2-deoxy-D-glucose (2-DG) - has been approved as an adjunct therapy in moderate to severe cases of coronavirus.



Graphic showing how 2-DG drug reacts when used to treat SARS-CoV-2 infection (Credits: PIB)

"Clinical trial results have shown that this molecule helps in faster recovery of hospitalized patients and reduces supplemental oxygen dependence," an official of the Defence Research and Development Organisation (DRDO) was quoted as saying.

In April of this year, the DCGI granted emergency approval to a similar drug produced by pharma giant Zydus Cadila. The drug - Virafin - was shown to reduce the need for oxygen support among moderate cases of Covid-19, along with improving recovery time.

Here are answers to all your questions about the 2-DG drug.

Who developed 2-DG?

The drug 2-deoxy-D-glucose (2-DG) has been developed by DRDO's Institute of Nuclear Medicine and Allied Sciences (INMAS) in collaboration with Hyderabad-based Dr Reddy's Laboritories.

What do we know about clinical trials for 2-DG?

Phase-II trials for the 2-DG drug were conducted between May and October of last year. Six hospitals were part of the Phase-II (a) trials and 11 hospitals were part of the Phase-II (b) trials to determine dose range.

A total of 110 patients were part of the Phase-II clinical trials of this drug. In terms of improvement in vital signs of symptomatic patients who were administered the drug, a difference of 2.5 days was seen compared to Standard of Care (SoC).

Approval for Phase-III trials was given in November of last year. These trials were conducted at 27 Covid hospitals in Delhi, Uttar Pradesh, West Bengal, Gujarat, Rajasthan, Maharashtra, Andhra Pradesh, Telangana, Karnataka and Tamil Nadu.

Data pertaining to these trials showed reduced dependence on oxygen among moderate cases of Covid-19, even in patients aged 65 and above.

How does 2-DG work?

According to the official statement, "clinical trial results have shown that this molecule helps in faster recovery of hospitalised patients and reduces supplemental oxygen dependence."

"Higher proportion of patients treated with 2-DG showed RT-PCR negative conversion in COVID patients. The drug will be of immense benefit to the people suffering from Covid-19," the statement goes on to say.

How can 2-DG be consumed?

The 2-DG drug, which comes in powder form in sachets, has to be taken orally by dissolving it in water.

"It accumulates in the virus infected cells and prevents virus growth by stopping viral synthesis and energy production," said the official statement by the Government of India.

Will 2-DG have a significant impact?

The DRDO says that the 2-deoxy-D-glucose (2-DG) drug can easily be produced and made available in plenty in the country since it is a generic molecule and analogue of glucose.

https://www.indiatoday.in/coronavirus-outbreak/story/drdo-2dg-corona-drug-medicine-approved-emergency-use-covid-patients-how-made-consumed-1800348-2021-05-08

Mon, 10 May 2021

New Anti-Covid drug that reduces dependence on oxygen will be out in a month: DRDO Scientist

News 18 in an exclusive with the DRDO Project Director and Scientist of 2-DG, Dr Sudhir Chandana explains how anti-Covid-19 therapeutic application of the drug will work on patients

By Neeraj Kumar

The new anti-Covid oral drug developed by the DRDO will help hospitalised patients and reduce their supplemental oxygen dependence. The drug 2-deoxy-D-glucose (2-DG) has been developed by the Institute of Nuclear Medicine and Allied Sciences (INMAS), a leading laboratory of Defence Research and Development Organisation (DRDO), in collaboration with Dr Reddy's Laboratories (DRL) in Hyderabad. The drug, which comes in powder form in a sachet and is taken orally by dissolving it in water, was approved by the Drugs Controller General of India (DCGI) for emergency use as an adjunct therapy.

News18, in an exclusive with the DRDO Project Director and Scientist of 2-DG, Dr Sudhir Chandana, explains how anti-Covid-19 therapeutic application of the drug will work on patients.

Q: How did you develop the 2-DG drug?

Dr Sudhir Chandana: We started working on 2 DG when the first wave of Covid-19 hit India in April 2020. We found that the drug stops the spread of coronavirus inside the body cells. After the findings, we asked the DCGI for permission to conduct clinical trials. In May 2020, we got permission for the clinical trials. By the end of October 2020 we had completed the second phase of trials, and the results were very good. Using standard care, the 2 DG will be more beneficial for the Covid-19 patients.

Q2: What do you mean by standard care?

Dr Sudhir Chandana: Standard care is the primary medicine used in hospitals for treating Covid patients.

Q3: Will the 2-DG drug be effective for patients with mild symptoms or moderate and serious symptoms?

Dr Sudhir Chandana: Our trials were conducted on moderate and serious covid patients who were admitted to hospitals. All the patients benefitted, and no side effects were found. So it's a safe medicine. In the phase two trials, we found that the recovery rate of the patients was higher and in the third phase, we observed reduced dependence on supplemental oxygen.

Q: How 2-DG drugs control the coronavirus and reduce the dependence on oxygen?

Dr Sudhir Chandana: The 2 DG drug, like glucose, spreads through the body, reaches the virus-infected cells and prevents virus growth by stopping viral synthesis and destroys the protein's energy production. The drug also works on virus infection spread into lungs which help us to decrease patients dependability on oxygen.

Q: When will this drug be available to patients?

Dr Sudhir Chandana: Our Industry partner is Dr Reddy's Laboratories. We are working and trying together to expedite manufacturing. In a few weeks or within a month time, the medicine will be available for the patients.

Q: Are the raw materials needed for 2-DG drug available in India, or will they be imported?

Dr Sudhir Chandana: As per my knowledge, there is no problem with the availability of raw materials for the drugs. Reddy lab can give more details.

Q: Will the 2 DG dug affect the surge in Covid cases and prevent deaths?

Dr Sudhir Chandana: All patients who participated in the trials have recovered from covid-19. Therefore, we hope that Covid patients will be benefitted from this drug.

https://www.news18.com/news/india/2-dg-drug-that-will-reduce-oxygen-dependence-to-be-available-in-a-month-drdo-scientist-3721130.html

INDIA TV

Sat, 08 May 2021

DRDO develops AI tool for COVID detection in chest X-rays

DRDO has developed an Artificial Intelligence algorithm that can detect the presence of COVID-19 disease in Chest X-rays

New Delhi: DRDO has developed an Artificial Intelligence algorithm that can detect the presence of COVID-19 disease in Chest X-rays. Named ATMAN AI, the tool was developed by DRDO's Centre for Artificial Intelligence and Robotics (CAIR), with the support of 5C Network & HCG Academics.

COVID-19 patients undergo treatment at DRDOs Sardar Vallabhbhai Patel Covid Hospital, in New Delhi. Image Source: PTI

The ATMAN AI is an artificial intelligence tool for chest X-ray screening as triaging tool in COVID-19 diagnosis which is a method for rapid identification and assessment of lung involvement, according to a statement issued by HCG Academics on Friday.

This would be utilised by 5C Network, the country's largest digital network of radiologists, with support of HCG Academics, the statement said. Triaging COVID suspect patients using X-ray is fast, cost-effective and efficient. "It can be a useful tool especially in smaller towns in our country owing to lack of easy access to CT scans," it said. This would also reduce the existing burden on radiologists and make CT machines being used for COVID be utilised for other diseases and illnesses owing to overload for CT scans, it said. The novel feature namelyBelievable AI, along with existing ResNet models, has improved the accuracy of the software and being a machine learning tool, the accuracy would improve continually, the statement said.

Chest X-Rays of RT-PCR positive hospitalised patients in various stages of disease involvement were retrospectively analysed using Artificial Intelligence (Deep Learning & Convolutional Neural Network) models by an indigenously developed deep learning application by CAIR-DRDO for COVID-19 screening using digital chest X-rays.

The algorithm showed an accuracy of 96.73 per cent, it said.

Director of CAIR, DRDO, U K Singh was quoted as saying: The development of ATMAN, an Artificial Intelligence-based diagnostic tool for Chest X-ray screening is a part of DRDOs effort to help clinicians and partners on the frontline to have the tools they need to rapidly diagnose and effectively treat COVID-19 patients."

Given the limited testing facilities for coronavirus, there is a rush to develop AI tools for quick analysis using X-rays. The tool would help in automatically detecting radiological findings indicative of COVID-19 in seconds, enabling physicians and radiologists to more effectively triage the cases, especially in an emergency environment", he added.

CEO of 5C network Kalyan Sivasailam said,We are excited to develop Atman AI for COVID detection in Chest X-rays. Utilising the algorithms for chest X-ray is an effective triaging tool which can be accessible to the common man in remotest districts of this country."

"This will have a significant impact on timely care and appropriate treatment," he said. With the ongoing second wave of infections, this application can help with a more directed and focused approach, the statement said.

5C Network, which is connected to over 1,000 hospitals across the country, would now make ATMAN available to state-run and private hospitals, it was stated.

https://www.indiatvnews.com/news/india/drdo-develops-ai-tool-for-covid-detection-in-chest-x-rays-703212

The Indian EXPRESS

Sat, 08 May 2021

DRDO develops artificial intelligence algorithm to detect Covid-19 presence from chest X-rays

"It can be a very useful tool especially in smaller towns in our country owing to lack of easy access to CT scans."

By Ralph Alex Arakal

Bangalore: In a development expected to help diagnose Covid-19 in suspected patients faster, the Defence Research and Development Organisation (DRDO) and Centre for Artificial Intelligence and Robotics (CAIR) have created an artificial intelligence (AI) algorithm to help detect Covid-19 from chest X-rays.

A doctor checks an X-ray of a patient suffering from the coronavirus. (Photo: Reuters)

According to its developers, the tool named Atman AI used for Chest X-ray screening has shown an accuracy rate of 96.73 per cent. Dr U K Singh, Director, CAIR, DRDO said the development of the diagnostic tool was part of DRDO's effort to help clinicians and partners on the frontline to help rapidly diagnose and effectively treat COVID-19 patients.

"Given the limited testing facilities for coronavirus, there is a rush to develop AI tools for quick analysis using X-rays. The tool will help in automatically detecting radiological findings indicative of Covid-19 in seconds, enabling physicians and radiologists to more effectively triage the cases, especially in an emergency environment," he explained.

The team behind the initiative further noted that triaging using X-ray was observed to be fast, cost-effective and efficient. "It can be a very useful tool especially in smaller towns in our country owing to lack of easy access to CT scans. This will also reduce the existing burden on radiologists and make CT machines which are being used for COVID be used for other diseases and illness owing to overload for CT scans," the developers claimed.

Developers added that chest X-Rays of RT-PCR positive patients were retrospectively analysed in various stages of disease involvement using AI models. "A deep learning application indigenously developed by CAIR-DRDO for COVID -19 screening using digital chest X-Rays was used to do so," they explained.

Meanwhile, 5C Network, a digital network of radiologists in the country, has decided to use the tool in nearly 1000 hospitals in the country with the support of HCG Academics. "Utilising the algorithms for chest X-ray is an effective triaging tool which can be accessible to the common man in remotest districts of this country. This will have a significant impact on timely care and appropriate treatment." Kalyan Sivasailam, CEO of 5C network said.

Meanwhile, Dr Vishal Rao, Dean Academics, Centre of Academic Research, HCG Cancer Hospital said the new tool would improve efficacy in hospitals "without increasing the financial burden for patients and healthcare systems." He added that similar methods would also become useful in assessing predominant respiratory diseases.

https://indianexpress.com/article/india/drdo-develops-artificial-intelligence-algorithm-to-detect-covid-19-presence-from-chest-x-rays-7305758/

Hindustan Times

Mon, 10 May 2021

DRDO hospital to be operational in Kashi from today: Yogi

Chief minister Yogi Adityanath on Sunday said the Pandit Rajan Mishra Covid hospital, a 750-bed temporary hospital developed by DRDO (Defence Research and Development Organisation) at the Banaras Hindu University (BHU) amphitheatre ground here, will start functioning from Monday

Varanasi: Chief Minister Yogi Adityanath on Sunday said the Pandit Rajan Mishra Covid hospital, a 750-bed temporary hospital developed by DRDO (Defence Research and Development Organisation) at the Banaras Hindu University (BHU) amphitheatre ground here, will start functioning from Monday.

The Chief Minister was here to review the Covid-19 situation in Varanasi and the adjoining districts in a meeting with senior administrative and health officials at the BHU central office auditorium. He also inspected the hospital.

"The 750-bed hospital developed by DRDO is ready. It has 250 ventilator beds, 250 oxygenated beds, and 250 normal beds. It will start functioning from Monday," he said, addressing media persons at BHU.

He thanked Prime Minister Narendra Modi for the setting up of the hospital and ensuring oxygen supply to the state through Oxygen Express trains.

Like the rest of the state, the number of Covid-19 positive cases had decreased in Varanasi in the last eight days, he noted. The number of cases fell by 9285 in Varanasi division and there was a decline of about 4500 cases in Varanasi district alone during the same period, he said.

While on normal days, there was a requirement of around 400 metric tonnes of oxygen which medical colleges used to meet from air separators and liquid medical oxygen plants, the demand had increased in the state due to the second wave of Covid-19, he said.

At present, the state government was ensuring supply of 1000 metric tonnes of oxygen to different areas of the state, he added.

He also said, "We are making efforts to increase infrastructure and resources."

The Chief Minister praised health workers for striving to control and break the chain of the Covid-19 infection.

He appealed to people to follow the Covid-19 protocol and get themselves vaccinated, adding that the jabs will be given to people in the 18-44 age group in 11 more districts from Monday in addition to seven districts, including Varanasi, in which beneficiaries in this age group were being inoculated since May 1.

IMS-BHU team visits new hospital

Prof BR Mittal, director of Institute of Medical Sciences-Banaras Hindu University (IMS-BHU) along with a team of senior doctors, visited the Pandit Rajan Mishra Hospital on Sunday. The team comprised Prof KK Gupta, medical superintendent of Sir Sundar Lal Hospital, and Prof Saurabh Singh, in-charge of Trauma Centre. Major General Dr SK Singh, nodal officer of the hospital, briefed the IMS-BHU team about different sections of the new hospital.

https://www.hindustantimes.com/cities/others/drdo-hospital-to-be-operational-in-kashi-from-today-yogi-101620574273749.html

ZEE उत्तर प्रदेश उत्तराखंड

Sun, 09 May 2021

वाराणसी: DRDO ने तैयार कर दिया 750 बेड का अस्थाई अस्पताल, मिलेंगी ये सुविधाएं

वाराणसी जिलाधिकारी कौशल राज शर्मा ने जानकारी दी है कि 11 मई से अस्पताल की शुरुआत हो जाएगी और मरीजों को राहत मिलेगी। सेना के डॉक्टर के अलावा BHU के सीनियर डॉक्टरों की देख रेख में यहां मरीजों का इलाज होगा।

वाराणसी: कोरोना संकट के बीच मरीजों और तीमारदारों को थोड़ी राहत देने के लिए DRDO ने एक और अस्थाई अस्पताल तैयार किया गया है। राजधानी लखनऊ के बाद अब वाराणसी के BHU के एम्फीथिएटर मैदान में इस अस्पताल की शुरुआत हो रही है। यह अस्पताल पद्मभूषण पंडित राजन मिश्र को समर्पित किया गया है। आपको बता दें, पंडित राजन मिश्र बनारस संगीत घराने के पुरोधा संगीत साधक हैं।

पंडित राजन मिश्र भी थे कोरोना संक्रमित

गौरतलब है कि बीते शुक्रवार, अस्पताल पूरा होने के बाद बाहर पंडित कोविड अस्पताल का बोर्ड लगाया गया। बोर्ड पर एक तरफ राजन मिश्र और दूसरी तरफ प्रधानमंत्री नरेंद्र मोदी की फोटो है। आपको बता दें, पंडित राजन मिश्र का कोरोने के बाद आए हार्ट अटैक से निधन हुआ था। वह दिल्ली के प्राइवेट अस्पताल में भर्ती थे। उनके निधन की खबर पर पीएम मोदी ने भी ट्वीट कर शोक व्यक्त किया था।

10 मई को पीएम मोदी कर सकते हैं उद्घाटन

DRDO द्वारा बनाए गए इस कोविड अस्पताल का उद्घाटन पीएम मोदी वीडियो कॉन्फ्रेंस के माध्यम से वर्चुअल तरीके से करेंगे। इस समारोह में सीएम योगी भी मौजूद रहेंगे। इसकी तैयारी के लिए अधिकारी जुटे हुए हैं। कल से अस्पताल में 2 दिन का ड्राई रन शुरू हो रहा है। यह ट्रायल रन आज ही शुरू होने वाला था, लेकिन कुछ दिक्कतों की वजह से इसे एक दिन आगे बढ़ा दिया गया है। इस दौरान सभी मशीनों को जांचा जाएगा। ड्राई रन की सक्सेस के बाद अस्पतालों में मरीजों का इलाज शुरू हो जाएगा।

आर्मी डॉक्टर्स के साथ BHU डॉक्टर्स करेंगे इलाज

मीडिया रिपोर्ट्स के मुताबिक, वाराणसी जिलाधिकारी कौशल राज शर्मा ने जानकारी दी है कि 11 मई से अस्पताल की शुरुआत हो जाएगी और मरीजों को राहत मिलेगी। सेना के डॉक्टर के अलावा BHU के सीनियर डॉक्टरों की देख रेख में यहां मरीजों का इलाज होगा। ऐसी भी संभावना जताई जा रही है कि पीएम मोदी वर्चुअल माध्यम से इसका उद्घाटन कर अस्पताल जनता को समर्पित कर सकते हैं।

ये होंगी सुविधाएं

बढ़ते हुए कोरोना की वजह से मरीजों को होने वाली समस्या से निजात दिलाने के लिए प्रधानमंत्री नरेंद्र मोदी के आदेश के पर डीआरडीओ ने बीएचयू स्थित स्टेडियम में अस्थाई 750 का ऑक्सीजन युक्त कोविड अस्पताल तैयार किया है। इस अस्पताल को पीएम केयर फंड के तहत बनाया गया है।

3 जोन में बंटा अस्पताल

16 दिन में तैयार हुए इस अस्पताल में 750 बेड हैं। जिसमें 500 बेड पर ऑक्सीजन की सुविधा और 250 बेड ICU की भी सुविधा दी जा रही है। अस्पताल में 250 बेड का एक जोन होगा। इसमें वेंटिलेटर से लेकर सभी जीवनरक्षक इंतजाम किए गए हैं। अन्य दो जोन में ऑक्सीजन के बेड हैं। उन पर भी एचएफएनसी और बाईपेप का इंतजाम इमरजेंसी के लिए रहेगा।

https://zeenews.india.com/hindi/india/up-uttarakhand/varanasi/varanasi-drdo-750-bed-temporary-hospital-in-bhu-ground-to-be-started-by-11-may-pm-modi-will-inaugurate-upns/897112

Sun, 09 May 2021

Uttarakhand: DRDO setting up COVID care hospitals in Haldwani, Rishikesh

In view of rising cases of COVID-19, DRDO is building two COVID care hospitals in Haldwani and Rishikesh in Uttarakhand

In view of rising cases of COVID-19, DRDO is building two COVID care hospitals in Haldwani and Rishikesh in Uttarakhand. According to the DRDO officials, the hospital in Haldwani will have 500 beds, with 375 oxygen beds and 125 ventilator beds while the one in Rishikesh will have 400 oxygen beds and 100 ventilator beds.

DRDO building two COVID care hospitals in Uttarakhand. Image Credit: ANI

Earlier, DRDO had set up a 750-bedded makeshift COVID hospital at Banaras Hindu University premises and has started construction of a 500-bed COVID-19 hospital in Budgam district to ramp up medical infrastructure. The Drugs Controller General of India (DCGI) has also approved emergency use of an anti-COVID drug - 2-deoxy-D-glucose (2-DG) - developed by the Institute of Nuclear Medicine and Allied Sciences (INMAS), a lab of DRDO in collaboration with Dr Reddy's Laboratories, Hyderabad as an adjunct therapy in moderate to severe COVID-19 cases.

In a statement, the DRDO informed that clinical trial results have shown that this molecule helps in faster recovery of hospitalized patients and reduces supplemental oxygen dependence. A higher proportion of patients treated with 2-DG showed RT-PCR negative conversion in COVID patients. The drug will be of immense benefit to the people suffering from Covid-19 in the ongoing pandemic, it added.

Uttarakhand reported 8,390 new COVID-19 cases and 118 deaths in the last 24 hours, said the state control room on Saturday. With this, the case tally reached 2,38,383. (ANI)

(This story has not been edited by Devdiscourse staff and is auto-generated from a syndicated feed.)

https://www.devdiscourse.com/article/health/1565833-uttarakhand-drdo-setting-up-covid-care-hospitals-in-haldwani-rishikesh

DAILYEXCELSIOR.COM

Sat, 08 May 2021

DRDO starts constructing 500-bed Corona hospital in Jammu

Will be equipped with all facilities

By Govind Sharma

Jammu: Amid shortage of ICU and oxygen supported beds in Government as well as private hospitals in Jammu, Defence Research and Development Organisation (DRDO) has started construction work of a 500-bed COVID-19 hospital at Bhagwati Nagar here.

Sources told Excelsior that the Hospital is being set up by the DRDO at State land near Amarnath Yatri Niwas, Bhagwati Nagar. It is a joint initiative of the DRDO and the UT of J&K, they said, adding, the work on the Hospital has been initiated and by the end of the month, the Hospital will be handed over to the J&K Health Department for running.

Men and machinery at work near Amarnath Yatri Niwas, Bhagwati Nagar in Jammu where DRDO is setting up a 500-bed hospital.— Excelsior/Rakesh

They said after approval of the design of the Hospital, engineers of the DRDO have started construction work. The leveling of the land has almost been done, sources said and revealed that the Hospital will be a prefabricated structure having all COVID facilities. It will have 500 Isolation beds having oxygen support including 125 fully equipped ICU beds.

"The Hospital will have also 50-double room accommodation facility for doctors and paramedics staff and at least two liquid oxygen tanks each of 20 kl capacity will be in place to provide high flow of oxygen at every bed," sources disclosed and added that the Hospital is being constructed in the most crucial hour as the number of oxygen supported beds in Jammu hospitals has dropped sharply in last one week and the number of people affected by/succumbed to the dreaded virus is increasing day by day.

Sources said this Hospital will certainly prove to be a lifeline for many COVID-19 patients who need ICU facilities. They further shared that Divisional Commissioner Jammu Dr Raghav Langer along with a team of officers today visited the site of the Hospital and took stock of the ongoing construction work.

When contacted, the Divisional Commissioner said, "Construction of this 500-bed hospital was mooted last month keeping in view sharp rise in COVID cases in Jammu and accordingly the demand was taken up with Union Home Secretary Ajay Bhalla, who gave nod to set up two such hospitals, one in Jammu and other in Kashmir".

Dr Raghav Langer said that the Hospital is being set up at 40 kanal State land at Bhagwati Nagar in Jammu. He said it will be a prefabricated structure which will be completed by the DRDO within 15-20 days. He said as the work on the Hospital has been started by the DRDO, it will be ready to use by last week of this month. "Once ready to use, this Hospital will go a long way in easing the problems of COVID patients in the Jammu region where the number is surging day by day," he added.

https://www.dailyexcelsior.com/drdo-starts-constructing-500-bed-hospital-in-jammu/

जागरण

Sat, 08 May 2021

DRDO ने शुरू किया जम्मू के भगवती नगर में Covid अस्पताल का निर्माण कार्य, इन स्वास्थ्य सुविधाओं से होगा लैस

केंद्र शासित प्रदेश जम्मू और कश्मीर में डिफेंस रिसर्च और डेवलपमेंट आर्गेनाइजेशन (डीआरडीओ) ने कश्मीर के बाद जम्मू में भी 500 बिस्तरों की क्षमता वाले कोविड अस्पताल को तैयार करने का काम शुरू कर दिया है। अस्पताल जम्मू के भगवती नगर में बनाया जा रहा है।

By Vikas Abrol

जम्मू: केंद्र शासित प्रदेश जम्मू और कश्मीर में डिफेंस रिसर्च और डेवलपमेंट आर्गेनाइजेशन (डीआरडीओ) ने कश्मीर के बाद जम्मू में भी 500 बिस्तरों की क्षमता वाले कोविड अस्पताल को तैयार करने का काम शुरू कर दिया है। अस्पताल जम्मू के भगवती नगर में बनाया जा रहा है।

केंद्रीय गृह सचिव अजय भल्ला के निर्देशों के बाद यह अस्पताल बनाए जा रहे हैं। कश्मीर संभाग में रेशीपोरा बड़गाम में अस्पताल बनाया जा रहा। वहीं जम्मू में तीन दिन पूर्व ही भगवती नगर में अस्पताल बनाने के लिए जगह का चयन किया गया था। शुक्रवार को अस्पताल का काम शुरू हो गया। इस अस्पताल का निर्माण कार्य दो सप्ताह के भीतर पूरा होने की उम्मीद है। अच्छी बात यह है कि अस्पताल में आइसोलेशल बेड के अलावा ऑक्सीजन की व्यवस्था करने का प्रावधान है।

500 में से 125 आइसीयू के विस्तर बनाए जाएंगे

500 में से 125 आइसीयू के विस्तर बनाए जाएंगे। इस समय जम्मू में सबसे बड़ी दिक्कत मरीजों को आइसीयू में बिस्तर न मिलने की है। अभी जिस प्रकार की विशेषज्ञ आशंका जता रहे हैं तो कोरोना मरीजों की संख्या अभी लगातार बढ़ेगी। इसे देखते हुए इस अस्पताल के निर्माण से 500 अतिरिक्त विस्तरों की क्षमता हो जाएगी। अभी तक सिर्फ मेडिकल कॉलेज जम्मू में सबसे अधिक कोविड के मरीजों के लिए 410 बिस्तर रखे गए हैं।प्रधानमंत्री कार्यालय में राज्यमंत्री डा. जितेंद्र सिंह ने भी जम्मू के भगवती नगर में कोविड अस्पताल बनने की जानकारी सांझा की है।

https://www.jagran.com/jammu-and-kashmir/jammu-drdo-started-construction-of-covid-hospital-in-bhagwati-nagar-jammu-to-be-equipped-with-these-health-facilities-21623905.html

THE HINDU

Sat, 08 May 2021

DRDO to set up oxygen plant in Anantapur

This could be their first project in State: MP Talari Rangaiah

Anantapur: The Defence Research and Development Organisation (DRDO) is planning to set up an oxygen generation plant on the Government General Hospital premises in Anantapur soon.

More details Awaited

Anantapur MP Talari Rangaiah, who spoke to DRDO Chairman G. Satheesh Reddy over phone on Friday and got a confirmation on this project from him, told *The Hindu* that he had not enquired about the details of the project, but had got in-principle approval from Mr. Satheesh Reddy.

"This could be the first project in Andhra Pradesh to be taken up by them," Mr. Rangaiah added.

Minister M. Sankaranarayana (centre), SP B. Satya Yesu Babu and District Collector Gandham Chandrudu addressing the media in Anantapur on Friday. | Photo Credit: R.V.S. PRASAD

The DRDO recently set up two oxygen plants on the AIIMS premises in New Delhi and they were operationalised on Wednesday. Each has a flow rate of 1,000 litres per minute and can cater to 190 patients at a time. The DRDO plans to set up a similar one at other locations too.

Meanwhile, private hospitals in Anantapur had stopped admitting patients on Friday following shortage of oxygen supply.

Review meeting

On Friday, District Collector Gandham Chandrudu, Superintendent of Police B. Satya Yesu Babu and Roads and Buildings Minister Malagundla Sankaranarayana held a review meeting on the COVID situation in the district and announced that four new oxygen generation units, one each at Super Speciality Hospital(Anantapur), Guntakal Government Hospital, Kadiri and Hindupur Hospitals would be set up.

All these plants, to be built at an estimated cost of ₹8 crore, will have a capacity of supplying 1,000 litres per minute, they said.

Special arrangements would be made for providing hospital beds to the police, journalists, government officials, and other frontline workers. Adequate medical and paramedical staff were being recruited and any dereliction of duties by any official was being viewed seriously, they said.

The District Collector on Friday suspended Divisional Cooperative Officer and COVID Nodal officer V. Rajendra Prasad for Hindupur Government Hospital for his lack of coordination with the medical staff and dereliction of duties.

https://www.thehindu.com/news/national/andhra-pradesh/drdo-to-set-up-oxygen-plant-in-anantapur/article34509968.ece

THE TIMES OF INDIA

Sun, 09 May 2021

DRDO hosp may take direct admission soon

Lucknow: The makeshift Covid-19 hospital set up by the Defence Research & Development Organisation (DRDO) at Awadh Shilpgram is likely to admit patients directly, subject to the availability of beds.

Currently, the 500-bed facility is taking admission through the Integrated Covid Command Centre (ICCC).

The hospital, which became functional on May 5, also recorded its first discharge on Friday when a Muslim woman walked out amid PPE wearing staff clapping for her resilience to beat the virus.

Inside view of Atal Bihari Vajpayee Covid Hospital which has been established for Covid-19 patients at Awadh Shilpgram in Lucknow.

"The Lucknow-based DRDO hospital discharged its first patient on Friday. It will soon start admitting whoever is coming to the hospital even directly," DRDO director Narendra Kumar Arya told TOI.

However, till late Friday night, no confirmation on direct admissions could be received from district administration, ICCC in charge or district Covid in charge.

The hospital has 150 ICU/ventilator beds and 350 general oxygen supported beds. It has been established by DRDO and the medical operations are being carried out by the armed forces.

As of now, admissions are being made through ICCC (0522-4523000). Two helpline numbers are also being run for attendants to take stock of the health status of patients (9519109239 and 9519109240).

https://timesofindia.indiatimes.com/city/lucknow/drdo-hosp-may-take-direct-admission-soon/articleshow/82470220.cms

अमर उजाला

Sat, 08 May 2021

चंडीगढ़ के सेक्टर-38 बी में डीआरडीओ बनाएगा कोविड क्वारंटीन केयर सेंटर

चंडीगढ़: शहर में कोविड के बढ़ते मरीजों की संख्या को देखते हुए अब रक्षा मंत्रालय का रक्षा अनुसंधान और विकास संगठन (डीआरडीओ) भी आगे आया है। डीआरडीओ ने प्रशासन से सेक्टर-38बी के बिल्डिंग नंबर-1100 में एक कोविड केयर सेंटर बनाने की इजाजत मांगी, जिसे शुक्रवार को मंजूरी दे दी गई।

डीआरडीओ सेक्टर-38बी में करीब 50 बेड का केयर सेंटर बनाएगा, जहां 80 प्रतिशत बेड पर ऑक्सीजन की सुविधा होगी। यहां पर कोरोना के कम गंभीर पॉजिटिव मरीजों को रखा जाएगा और उन्हें दवाओं से लेकर खाने-पीने की सुविधा मुहैया कराई जाएगी। प्रशासन ने कहा है कि डीआरडीओ को बेड, गद्दे, तकिए, चादर, खाने-पीने का सामान, डॉक्टर, नर्स, सिक्योरिटी गार्ड, सफाई कर्मी, पीपीई किट, ग्लब्ज-मास्क, मिनी कोविड केयर सेंटर की देखरेख के लिए एक मैनेजर आदि की व्यवस्था करनी होगी। इसके अलावा प्रशासन की तरफ से सेंटर की मंजूरी, स्थापित करने में मदद, सिर्फ जांच के लिए सरकारी अस्पतालों के डॉक्टर, मरीजों को लाने-ले जाने के लिए एंबुलेंस और कूड़ा उठाने की व्यवस्था की जाएगी।

सीएचबी के सीईओ यशपाल गर्ग ने पीसीएस सौरभ अरोड़ा को इस काम में मदद करने की जिम्मेदारी सौंपी है। गौरतलब है कि प्रशासन ने अब तक कुल सात जगह पर मिनी कोविड केयर सेंटर व अस्पताल बनाने की मंजूरी दी है। इनमें बाल भवन, इंदिरा हॉलीडे होम, पीजीआई का इंफोसिस सराय, सेक्टर-8बी स्थित गवर्नमेंट गर्ल्स सीनियर सेकेंडरी स्कूल, सेक्टर-27ए स्थित अरबिंदो स्कूल, सेक्टर-43 का स्पोर्ट्स कांप्लेक्स और सेक्टर-38बी का बिल्डिंग नंबर-1100 है। हालांकि, अभी तक श्री गुरु ग्रंथ साहिब सेवा सोसाइटी का बाल भवन और कोंपिटेंट फाउंडेशन का इंदिरा हॉलीडे होम में ही सेंटर शुरू हो पाया है। इसके अलावा अन्य सेंटर बनाने का काम जारी है।

https://www.amarujala.com/chandigarh/drdo-to-build-kovid-quarantine-care-center-in-sector-38b-chandigarh-chandigarh-news-pkl4126844130

जागरण

Sun, 09 May 2021

आक्सीजन प्लांट की स्थापना का कार्य शुरू, कोयम्बटूर से आएगा संयंत्र

शासन के निर्देश पर स्थापित हो रहे आक्सीजन प्लांट में प्रतिमिनट 960 लीटर आक्सीजन का उत्पादन होगा। इसका सयंत्र कोयम्बटूर से यहां लाया जा रहा है। इंजीनियरों की टीम ने सुबह इमरजेंसी वार्ड के बगल बने पुराने भवन को ढहाने के बाद स्थल पर निशान लगाए और अपनी देखरेख में इसकी खोदाई कराई।

सुलतानपुर: कोरोना संक्रमितों की जीवन रक्षा के लिए आवश्यक आक्सीजन की आपूर्ति के लिए प्लांट की स्थापना का कार्य शनिवार को शुरू हो गया है।

अफसरों की देखरेख में अस्पताल की इमरजेंसी वार्ड के बगल इसका चिन्हांकन हुआ और जेसीबी से खोदाई चालू कर दी गई। रक्षा अनुसंधान एवं विकास संगठन (डीआरडीओ) ने इसके लिए राष्ट्रीय राजमार्ग प्राधिकरण को जिम्मा सौंपा है। उम्मीद है कि जल्द ही सयंत्र की स्थापना का कार्य पूरा हो जाएगा।

शासन के निर्देश पर स्थापित हो रहे आक्सीजन प्लांट में प्रतिमिनट 960 लीटर आक्सीजन का उत्पादन होगा। इसका सयंत्र कोयम्बटूर से यहां लाया जा रहा है। इंजीनियरों की टीम ने सुबह इमरजेंसी वार्ड के बगल बने पुराने भवन को ढहाने के बाद स्थल पर निशान लगाए और अपनी देखरेख में इसकी खोदाई कराई। बताया जा रहा है कि करीब 60 वर्ग मीटर क्षेत्र में इसकी स्थापना की जाएगी। प्लांट संचालन के लिए 100 किलोवाट विद्युत आपूर्ति की जरूरत पड़ेगी। तकनीकी विशेषज्ञों के अनुसार इस प्लांट से तकरीबन 93 प्रतिशत विशुद्ध आक्सीजन प्राप्त होगी। सयंत्र स्थापना के बाद अस्पताल के सभी वार्ड व बेड पर सीधे आक्सीजन की आपूर्ति हो सकेगी।

रंग लाया सांसद का प्रयास:

आक्सीजन प्लांट की स्थापना के लिए सांसद मेनका गांधी कई दिनों से प्रयासरत थी। यूपीडा के सहयोग व डीआरडीओ की देखरेख में इस सयंत्र की स्थापना ट्राइडेंट कंपनी करेगी। सांसद से जानकारी मिली है कि कोयम्बटूर से चले आक्सीजन प्लांट के कलपुर्जे रविवार रात तक यहां पहुंच जाएंगे। सांसद प्रतिनिधि रणजीत कुमार ने बताया कि डीआरडीओ के दिशा निर्देश पर एनएचएआई की कार्यदायी संस्था जीआर इनफ्रा ने निर्माण कार्य शुरू किया। सांसद की पहल का भाजपा जिलाध्यक्ष डा. आरए वर्मा, करुणा शंकर द्विवेदी, पूर्व विधायक अर्जुन सिंह, गिरीश नारायन सिंह, प्रवक्ता विजय रघुवंशी, डा. सीताशरण सिंह, ऋषिकेश ओझा, प्रवीन अग्रवाल, विजय त्रिपाठी, संजय सोमवंशी, मणिभद्र सिंह, शशिभद्र, रामचंद्र आदि ने सराहना की है।

https://www.jagran.com/uttar-pradesh/sultanpur-drdo-installing-oxigent-plant-very-soon-in-sultanpur-21627337.html

TSG SundayGuardianLive

Sun, 09 May 2021

DRDO's intervention timely and effective in combating Covid-19

DRDO had developed On-Board Oxygen Generating System (OBOGS) for fighter aircraft which had an offshoot in the form of Medical Oxygen Plants (MOP). This technology was leveraged to alleviate the oxygen crisis by developing Medical Oxygen Plants

By Arvind Kumar

The Defence Research and Development Organisation (DRDO), an important R&D wing of Ministry of Defence, has not only spearheaded a number of strategic projects including ballistic missiles, but has risen to the nation's requirements both in peacetime and during crisis. When India is being engulfed with a deadly variant of the Covid-19 pandemic, DRDO has come up with significant contributions in combating it. Moreover, its contributions are not known to the masses and hence it would be a worthwhile exercise to acknowledge these contributions and also apprise the rest of the world on how India is attempting to address the challenges domestically.

DRDO-built hospital.

At a time when the world does not have any experience about handling a crisis of this scale, the timely intervention by DRDO and its far-sightedness is proving to be a great respite for India. The DRDO has always made a modest attempt to fulfil its obligations of empowering India with cutting edge defence technologies and a mission to achieve self-reliance in critical defence technologies and systems. Over the years, DRDO got expanded and now it has become a network of more than 50 laboratories which are making India prepared for moving in the direction of complete self-reliance. Technically speaking, DRDO has become an amalgamation of almost all the disciplines including life sciences.

The current strides DRDO has made in combating Covid-19 waves and preparing India for the third wave is something to be proud of. The DRDO has constructed medical oxygen plants, a number of hospitals, cylinders for storing oxygen and also flow meter-based oxygen cylinders. DRDO has also developed equipment to fight Covid-19. During the first wave itself, DRDO stepped in and took initiatives in developing a number of sanitisation products including 3-ply N95 and N99 masks, hand sanitisers, personnel sanitisation systems and also area sanitisation systems. All these products were distributed to the needy across India.

The DRDO has been transitioning India on the path of self-reliance and has shown that it can develop the relevant gadgets that will be useful in addressing the need of the hour. While India was under a complete lockdown last year, DRDO was working round the clock and came up with a number of products that were not only useful but vital for combating Covid-19. The PPE products which included face protection shield, aerosol protection enclosure and PPE coverall suit were developed by DRDO at par with world standards. It must be mentioned that the production level of PPE has grown manifold and right now more than a lakh DRDO-designed PPEs are being produced on a daily basis.

The DRDO has also achieved mastery in harnessing spin-off products from various technologies. The intensification of all its efforts in an integrated fashion is a testimony of DRDO's success in making India confident in the current situation. Through such integrated efforts, the DRDO has built world class ventilators, medical aid kit and also multi-patient ventilators. It has contributed significantly in the production and distribution of packed food and juices. The credit should also go to DRDO for making 11 variants of UV disinfection devices.

DRDO undertook this challenge within a definite timeline when the global supply for PPEs, N95 respirators and ventilators was slowing down and there was an urgent necessity to fill the void. Obviously, the priority was to protect healthcare professionals first and prepare India for managing the Covid-19 disaster. The question was how the DRDO could leverage its knowledge pool and existing resources in making India self-sufficient.

The singular challenge faced by DRDO was to indigenize the mass production of medical grade PPEs, N95/N99 respirators and medical grade ventilators. How India could keep itself away from imports became a major part of its plan of action mainly depicting its "Aatmanirbharta" as a part of its strategy. From being a net importer of PPEs and masks, India soon transition itself to a net exporter where it also started leveraging its national interest by providing these to needy countries across the globe. The self-sufficiency in these fields provided a space for India to promote its diplomatic interests both in its immediate and extended neighbourhood as well as in countries across Indian Ocean littorals.

The rapid surge of the first wave and an even more deadly second wave overwhelmed the hospital capacities for ICU beds and beds with Oxygen Supply. It was a situation that warranted DRDO's expertise in systems engineering and improvising for critical components. DRDO had never made hospitals, but when the need arose, DRDO leveraged its extensive program management capability and designed massive negative pressure biohazard containment makeshift Covid-19 hospitals on a war footing. The first project, a 500-bed hospital at Delhi was built in 11 days. DRDO's biowarfare expertise was now saving countless lives. Nine makeshift hospitals with a staggering 1,275 ICU beds (with ventilators) and 3,925 beds with oxygen supply are being commissioned to combat the second wave. All this was completed within six weeks.

The nature of Covid-19 is such that demand for oxygen increased manifold. The DRDO has addressed this with utmost care and within a definite time frame. Patients were coming to the hospitals with oxygen saturation levels as low as 60 and since oxygen was in short supply, it was a race against time to tackle the three problems of oxygen generation, oxygen transport and reduce oxygen wastage.

DRDO had developed On-Board Oxygen Generating System (OBOGS) for fighter aircraft which had an offshoot in the form of Medical Oxygen Plants (MOP). This technology was leveraged to alleviate the oxygen crisis by developing Medical Oxygen Plants. To ensure hospitals have their own oxygen generation capability, DRDO designed 1,000 litres per minute oxygen generation plants. Mass production was set into motion along with industry collaboration through zero cost technology transfer for the establishment of 380 plants in a span of 3 months. To avoid wastage of oxygen from the cylinder-based oxygen support system, a closed loop SPO2 based automatic regulator was designed for use at home, at Covid-19 care centres and hospitals. The system would dynamically increase or decrease the flow based on the patient's SPO2 levels. To alleviate the challenges of cylinder shortage, DRDO mobilised more than 1,000 large cylinders for oxygen storage and transport.

The organisation gave the best when the nation needed the most. DRDO has spread the message of hope with its nimble transformation from missiles-maker to mask-designer and main battle tank designer to innovating for saving lives.

It must be mentioned here that DRDO did what the nation needed while combating Covid-19. It somehow never advertised its accomplishments. All this was made possible because of the teamwork of the scientists and engineers and their work various industries for mass production. The technological knowhow and sharing of knowledge with industry by DRDO is a testimony of India's dream of strengthening public-private partnership. It is high time for India to appreciate the

efforts of DRDO and more particularly its Chairman, Dr G. Satheesh Reddy who through his vision, leadership, able guidance and more importantly the team leader who remains in the background and never seeks publicity helped India slowly and steadily get prepared to overcome this ongoing crisis.

(Dr Arvind Kumar is Professor at School of International Studies (SIS), JNU and specialises in the field of the complementarity between technology and strategy. He is currently the Chairperson of the Centre of Canadian, US and Latin American Studies at SIS, JNU, New Delhi.)

https://www.sundayguardianlive.com/opinion/drdos-intervention-timely-effective-combating-covid-19

Defence News

Defence Strategic: National/International

Press Information Bureau
Government of India

Ministry of Defence

Sat, 08 May 2021 5:03PM

First batch of women military police inducted into the Indian Army

The Corps of Military Police Centre & School (CMP C &S) at Bengaluru held the attestation parade of the first batch of 83 women soldiers at the Dronacharya Parade Ground on 08 May 2021. The parade was conducted as a low key event while observing all COVID protocols.

The Commandant of the CMP Centre & School while reviewing the parade complimented the newly attested women soldiers for their impeccable drill and congratulated them on their successful completion of the intense 61 weeks of training on aspects related to Basic Military training, Provost training to include all forms of policing duties and management of prisoners of war, ceremonial duties and skill development to include driving and maintenance of all vehicles and signal communications. While extolling the virtues of dedication to duty, righteousness and selfless service to the nation, he expressed his confidence that the training imparted to them and the standards achieved would hold them in good stead and help them prove to be a force multiplier at their new units, located across varied terrain and operational conditions in the country.

https://pib.gov.in/PressReleasePage.aspx?PRID=1717027

पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

Sat, 08 May 2021 5:03PM

महिला सैन्य पुलिस का पहला बैच भारतीय सेना में शामिल

बेंगलुरु स्थित कोर्स ऑफ मिलिट्री पुलिस सेंटर एंड स्कूल (सीएमपी सी एंड एस) ने दिनांक 8 मई, 2021 को द्रोणाचार्य परेड ग्राउंड में 83 महिला सैनिकों के पहले जत्थे की अनुप्रमाणन परेड का आयोजन किया। सभी कोविड संबंधी प्रोटोकॉल का पालन करते हुए इस परेड का आयोजन नियंत्रित ढंग से किया गया था।

सीएमपी सेंटर एंड स्कूल के कमांडेंट ने परेड की समीक्षा करते हुए नवप्रमाणित महिला सैनिकों को उनकी त्रुटिहीन ड्रिल के लिए बधाई दी, साथ ही 61 सप्ताह के कड़े प्रशिक्षण- आधारभूत सैन्य प्रशिक्षण, प्रोवोस्ट ट्रेनिंग जिसमें सभी प्रकार की पुलिस संबंधी ड्यूटी एवं युद्धबंदियों का प्रबंधन शामिल है, वाहनों के रखरखाव एवं ड्राइविंग से जुड़ा कौशल विकास एवं सिग्नल संचार शामिल है- के पूरा होने पर शुभकामनाएं प्रेषित की। राष्ट्र के प्रति कर्तव्य, धार्मिकता और निस्वार्थ सेवा के प्रति समर्पण का गुणगान करते हुए उन्होंने विश्वास व्यक्त किया कि उन्हें दिए गए प्रशिक्षण और प्राप्त मानकों से उन्हें बेहतर स्थिति में आने में सहायता मिलेगी एवं स्वयं को देश के विभिन्न भू-भाग और सामरिक परिस्थितियों में स्थित अपनी नई इकाइयों में एक फ़ोर्स मल्टीप्लायर साबित करने में मदद मिलेगी।

https://www.pib.gov.in/PressReleasePage.aspx?PRID=1717078

Hindustan Times

Sun, 09 May 2021

Indo-Pacific in mind, Navy pitches for six nuclear attack submarines

The nuclear powered attack submarines will give Indian Navy the much needed long legs for deterrent patrols and access denial in the Indo-Pacific without giving away its position

By Shishir Gupta

New Delhi: With Quad, European Union and the United Kingdom recognising the Indo-Pacific as the new strategic frontier, the Indian Navy has apprised the government of its requirement to build six nuclear-powered attack submarines (SSNs) to counter the challenge on high seas in a post pandemic world.

After the March 4 Combined Commanders Conference at Kevadia in Gujarat, Navy Chief Admiral Karambir Singh mentioned the requirement of SSNs to Prime Minister Narendra Modi on May 3 while discussing the Indian Navy's operation Samudra Setu II to garner much-needed oxygen from India's close allies in West Asia. The Naval warships are also involved in providing medical support to its Island territories in Lakshwadweep and Andaman and Nicobar Islands.

Prime Minister Narendra Modi interacts with Chief of Naval Staff Admiral Karambir Singh to discuss initiatives taken by Indian Navy to tackle coronavirus pandemic situation in the country. (File photo)

The nuclear powered attack submarines will give Indian Navy the much needed long legs for deterrent patrols and access denial in the Indo-Pacific without giving away its position. "The future not only lies in the Indo-Pacific but also the arctic route that will open up due to receding snow fields," said a serving admiral.

The SSNs only need to surface for food supplies and other logistics and can go for long distance patrols with conventional weapons and missiles on board. As of now, India has one Akula class SSN, which is on lease from Russia, and one indigenously build ballistic missile submarine (SSBN) with another joining the strategic forces command next year.

While the Navy is still to approach the Union ministry of defence for acceptance of necessity, a term for need to buy, the national security planners are concerned about China adding 12 SSNs to its fleet apart from seven ballistic missile submarines to its strike force.

It is not for any other reason that French SSNs base at Toulon and French SSBN base at Brest was on the agenda of Prime Minister Narendra Modi during his now cancelled visit to France around the May 8 India-EU summit at Lisbon. While the India-EU summit was reduced to virtual summit, the physical bilateral visit to France was postponed to a later date.

Although the Indian Navy has no preferences, the national security planners are looking at France, the UK, the US and Russia as possible partners for joint development of SSNs in India under Atmanirbhar Bharat programme.

The French Naval Group is one of the key contenders for the SSN project as France is one of the most trusted allies of India since post 1998 nuclear tests sanction days. Unlike the US, France does not have any regulatory regime that can stall the on-going program using international traffic in arms regulations (ITAR). Finally, France has offered to jointly develop the SSN with India with full transfer of technology. It is already building six diesel attack submarines (called Kalvari class) for India which will be retrofitted with air independent propulsion technology developed by the Defence Research and Development Organization (DRDO).

Earlier this week, Admiral Singh called on Prime Minister Modi and briefed him about various initiatives being taken by the Indian Navy to assist the people of the country during the pandemic.

The Admiral said the Navy has reached out to all state administrations and have offered help to set up hospital beds, transportation and conduct of vaccination drives and deploying its ships to ferry oxygen containers and essential medical supplies from various countries.

https://www.hindustantimes.com/india-news/indopacific-in-mind-navy-pitches-for-six-nuclear-attack-submarines-101620527543449.html

The EurAsian Times

Sat, 08 May 2021

Pakistan Navy get another booster-shot from Turkey with third Jinnah-class warship

By Ayush Jain

Turkey laid the keel for a new Pakistani warship at the Istanbul Naval Shipyard in a ceremony attended by many high-ranking officials last week. This is the third Jinnah-class multipurpose corvette of the Pakistan Navy. The warship was a part of a contract signed between Islamabad and Istanbul in July 2018 for the acquisition of four MILGEM type corvettes for the Pakistan Navy.

This was the largest single military export deal of Turkey worth $1.5 billion. It involves the construction of two vessels in Turkey and the other two in Karachi Shipyard & Engineering Works, Pakistan, along with a transfer of technology.

Coinciding with the commissioning ceremony of TCG Kınalıada attended by Turkish President Recep Tayyip Erdoğan, the steel cutting ceremony for the first MILGEM ship for the Pakistan Navy was also held there on September 29, 2019.

The Pakistani iteration of the MILGEM-class would differ slightly from the Turkish ones with the addition of Chinese or Turkish weapon systems.

Jinnah-Class Corvettes

Designated Jinnah-class by the Pakistan Navy after the first President Mohammad Ali Jinnah, these MILGEM-class ships are multipurpose corvettes and frigates that can be deployed in a range of missions, including reconnaissance, surveillance, early warning, anti-submarine warfare, surface-to-surface and surface-to-air warfare, and amphibious operations.

A Pakistan Navy statement highlighted the capabilities the MILGEM would bring to its surface fleet. It said: "The MILGEM-class Corvettes will be one of the most technologically advanced stealth surface platforms of Pakistan Navy Fleet. The vessel is equipped with state-of-the-art weapons & modern sensors including surface to surface, surface to air missiles, anti-submarine weapons, and Command & Control system. Induction of these ships in Pakistan Navy would significantly add to the lethality of Pakistan Navy's capabilities and contribute in maintaining peace, security, and balance of power in Indian Ocean Region."

However, the vessel's exact configuration for the Pakistan Navy hasn't been made public yet. But some information, given in a public statement by Admiral Abbasi during the Aman Naval Exercise held in 2019, mentioned that the ships [Pakistan Navy configuration] will be equipped with a 16-Cell VLS behind the main gun for Chinese-made medium-range air defense missiles, probably LY-80/HHQ-16 variant, according to Naval News.

The report also speculated the main armament of the vessel to be the Turkish-made Harbah or the Chinese C-802 anti-ship missiles. The ship could also feature the Turkish Aselsan built Gökdeniz close-in weapon system in place of the RAM missile launcher of the Turkish Navy ships.

Turkey and Pakistan share deep military and diplomatic relations. Apart from being united by the cultural and religious ties, Turkey also supports Pakistan's position of holding a plebiscite under the UN to decide if Kashmir wants to join Pakistan, a position which Turkish President

Erdogan reaffirmed in a joint address to the Pakistani parliament and which was attended by Pakistan's military high command.

Pakistan and Turkey also signed an agreement to buy 30 T-129 ATAK attack helicopters made by Turkish Aerospace Industries. But, the deal stalled due to licensing issues for the necessary export permit from the US Department of Defense for the LHTEC T800-4A engine for the T129.

https://eurasiantimes.com/pakistan-navy-get-another-booster-shot-from-turkey-with-third-jinnah-class-warship/

Science & Technology News

PHYS.ORG

Sat, 08 May 2021

Chiral Faraday effect breakthrough, thanks to helices made of nickel

Physicists at Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU) have for the first time been able to prove a long-predicted but as yet unconfirmed fundamental effect. In Faraday chiral anisotropy, the propagation characteristics of light waves are changed simultaneously by the natural and magnetic-field induced material properties of the medium through which the light travels. The researchers obtained proof that this is the case by conducting experiments using nickel helices at the nanometer scale. Their findings have now been published in the academic journal *Physical Review Letters*.

Credit: CC0 Public Domain

Light is transmitted as sine waves consisting of crossed electric and magnetic fields and interacts with matter. This interaction can be influenced, in particular, by external magnetic fields. One of the most well-known examples of this magneto-optical activity is the Faraday effect: if light is directed through a magnetic medium, such as a crystal, the polarization plane of the light waves tilts at a certain angle. This phenomenon is caused purely due to the magnetic field and becomes more pronounced if the light passes through the medium again in the opposite direction. The rotation effect can only be neutralized if the direction of the magnetic field is changed as well.

The opposite effect is seen in the natural optical activity of chiral mediums without a magnetic field, in which the rotation of the polarization plane is canceled out when the light passes through the medium once more in the opposite direction. Chiral means that molecules or figures have a mirror image which cannot be superimposed onto it simply by rotation. Examples are a human's left and right hands or snail shells with spirals running in opposite directions. Sugar molecules are

also chiral. The way they interact with light can be used, for example, to determine the concentration of sugar in grapes.

Following in the footsteps of Louis Pasteur

Scientists have been aware of both phenomena—natural and magnetic optical activity—for more than 150 years, and for almost the same time, scientists have been sure that a combination of the two must exist. "Even Louis Pasteur, the famous French scientist, tried to prove a correlation using various different experiments," explains Vojislav Krsti, Professor of Applied Physics at FAU. "Of course, Pasteur didn't have the sensitive instruments for measuring frequency which we have today. But even using this technology, proof has still remained elusive, largely due to the fact that no one has designed a suitable experiment setup."

An international collaboration led by Vojislav Krsti has now succeeded where Pasteur and many other researchers have failed. They have become the first to confirm "Faraday chiral anisotropy' in an experiment, providing one of the last missing pieces in fundamental magneto-optical theory. Their success was due to a unique experiment setup based on nickel helices. The researchers produced spirals spiraling in a clockwise and and in an anticlockwise direction, similar in form to Italian fusilli pasta, at the nanometre scale by vaporizing nickel and bringing atoms back together on a revolving disk. "The rotation of the disk means that the nanostructures take on a screw shape instead of forming into pillars as is usually the case," explains Krsti.

A 'forest' of helices as a chiral medium

For the experiment itself, a "forest" of magnetic nickel helices was set up on a layer of silver. In one part of the experiment, only anti-clockwise spirals were used, and in the second only clockwise ones. The helices acted as a chiral medium, and the layer of silver reflected the beam of light directed at it. "The fact that we reflected the light instead of simply directing it through the medium was a deciding factor," says Vojislav Krsti.

The idea behind the experiment was that if the light passes through the helices both on the outward and the return journey, and if the direction of the magnetic field is changed with a great degree of precision, then in theory the two fundamental effects should cancel each other out, no matter whether the helices are clockwise or anti-clockwise. If both phenomena influence each other, however, then a net signal should be left over which behaves in the opposite fashion for clockwise and anti-clockwise helices. Krsti notes, "We did indeed measure a net signal just like this, thereby proving the correlation of the chiral and magnetic effect. It was one of those 'Eureka!' moments every researcher dreams of."

Astro research in the laboratory and impulses for quantum electronics

With their research, the researchers led by Vojislav Krsti have not only succeeded in providing experimental proof of a magneto-optics theory which has long been predicted. Their approach also means that researchers will be able to research certain astrophysical phenomena on Earth. It is thought, for example, that Faraday chiral anisotropy takes place in magnetized gas clouds in which certain astroparticles modify the light spectrum radiated out by galactic and intergalactic media. The findings could also give new impulses for further study of quantum technologies for electronic switches, as the described optomagnetic process is also found analogously during electronic excitation in solid bodies.

More information: José M. Caridad et al, Detection of the Faraday Chiral Anisotropy, *Physical Review Letters* (2021). DOI: 10.1103/PhysRevLett.126.177401

Journal information: *Physical Review Letters*

https://phys.org/news/2021-05-chiral-faraday-effect-breakthrough-helices.html

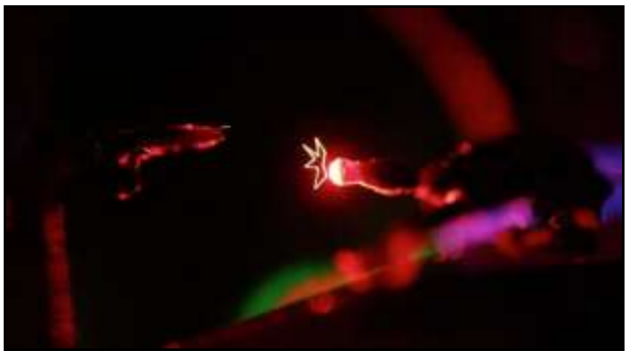
PHYS.ORG

Sat, 08 May 2021

Hologram experts can now create real-life images that move in the air

By Todd Hollingshead

They may be tiny weapons, but Brigham Young University's holography research group has figured out how to create lightsabers—green for Yoda and red for Darth Vader, naturally—with actual luminous beams rising from them.



A tiny Starship Enterprise fires on a tiny Klingon Battle cruiser with real animated images created in thin air. Credit: BYU

Inspired by the displays of science fiction, the researchers have also engineered battles between equally small versions of the Starship Enterprise and a Klingon Battle Cruiser that incorporate photon torpedoes launching and striking the enemy vessel that you can see with the naked eye.

"What you're seeing in the scenes we create is real; there is nothing computer generated about them," said lead researcher Dan Smalley, a professor of electrical engineering at BYU. "This is not like the movies, where the lightsabers or the photon torpedoes never really existed in physical space. These are real, and if you look at them from any angle, you will see them existing in that space."

It's the latest work from Smalley and his team of researchers who garnered national and international attention three years ago when they figured out how to draw screenless, free-floating objects in space. Called optical trap displays, they're created by trapping a single particle in the air with a laser beam and then moving that particle around, leaving behind a laser-illuminated path that floats in midair; like a 3D printer for light.

The research group's new project, funded by a National Science Foundation CAREER grant, goes to the next level and produces simple animations in thin air. The development paves the way for an immersive experience where people can interact with holographic-like virtual objects that co-exist in their immediate space.

"Most 3D displays require you to look at a screen, but our technology allows us to create images floating in space—and they're physical; not some mirage," Smalley said. "This technology can make it possible to create vibrant animated content that orbits around or crawls on or explodes out of every day physical objects."

To demonstrate that principle, the team has created virtual stick figures that walk in thin air. They were able to demonstrate the interaction between their virtual images and humans by having a student place a finger in the middle of the volumetric display and then film the same stick finger walking along and jumping off that finger.

Smalley and Rogers detail these and other recent breakthroughs in a new paper published in Nature's *Scientific Reports* this month. The work overcomes a limiting factor to optical trap displays: wherein this technology lacks the ability to show virtual images, Smalley and Rogers show it is possible to simulate virtual images by employing a time-varying perspective projection backdrop.

"We can play some fancy tricks with motion parallax and we can make the display look a lot bigger than it physically is," Rogers said. "This methodology would allow us to create the illusion of a much deeper display up to theoretically an infinite size display."

More information: Wesley Rogers et al, Simulating virtual images in optical trap displays, *Scientific Reports* (2021). DOI: 10.1038/s41598-021-86495-6

Journal information: *Scientific Reports*

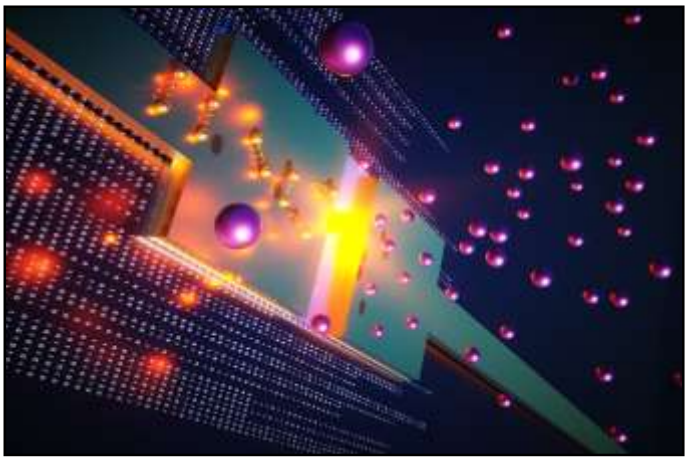
https://phys.org/news/2021-05-hologram-experts-real-life-images-air.html

Sat, 08 May 2021

Capturing a single photon of light: Harnessing quantum's 'noise problem'

Scientists at Raytheon BBN Technologies have developed a new way to detect a single photon, or particle of light—a development with big applications for sensors, communications and exponentially more powerful quantum computer processors.

The team has published its work, which centers on the use of a component called a Josephson junction, in the academic journal *Science*. The discovery builds on the same team's previous research into a microwave radiation detector 100,000 times more sensitive than existing systems.



This illustration depicts a newly developed component, known as a Josephson junction that can detect a single photon of light. The research, led by Raytheon Intelligence & Space, has potential applications for sensors, communications and quantum computers. Credit: Raytheon BBN Technologies

"A Josephson junction in quantum computing is analogous to a transistor for modern electronics, so they are super important," said Kin Chung Fong, a quantum information processing scientist at Raytheon BBN Technologies and a research associate at Harvard University. "Our new device enables this basic unit in quantum computing to communicate through as little as one photon. It will improve the speed in the communication and can make quantum networking and sensing possible."

Researchers and labs around the world have started building larger quantum computers, seeking to unlock the promise of faster processing.

"In theory quantum computers can take over where traditional computers would run out of processing power," said Brad Tousley, president of Raytheon BBN Technologies. "Quantum computers are particularly good at solving critical optimization problems. One example would be for a computer-aided design of a large system like an aircraft. Quantum computing allows for more finite analysis of something like a wing shape than ever before. Fundamental everyday processing optimization is the first problem we'd like to tackle with quantum computing."

The technical limitation has been the background noise that causes qubits to lose memory, creating errors in the processing. While other researchers see the noise as problem, Fong and his team see opportunity.

Their method works a little like a highway, where superconducting charges play the role of cars. In principle, they can move very fast without bumping into each other. Background noise is like a broken-down car in the center lane—it breaks the flow of traffic.

"The interruption could destroy the data in quantum computing applications," Fong said. "However, we can utilize this same phenomenon to detect a single photon, allowing the traffic to continue to speed along."

The discovery is part of a research effort at Raytheon BBN Technologies, a subsidiary of Raytheon Intelligence & Space. Raytheon BBN has been providing advanced technology research and development for more than 70 years, often serving as a crucial link between the military and researchers at universities. As an example, it was one of the first nodes in the ARPANET, the precursor of the internet funded by the Defense Advanced Research Projects Agency, or DARPA. Scientists at Raytheon BBN work in broad-reaching portfolios, while quantum engineering and computing continues to show promise for next-generation capabilities.

"This discovery is going to open up quantum processors to be connected like never before," Tousley said. "The next step is characterizing performance and scaling up to more than one device in parallel or linking multiple devices."

The Raytheon BBN team believe they have the systems engineering expertise to take this basic research to more practical applications.

"We've filled a technological void with the first Josephson junction to detect a single photon," said Fong. "It's an enabling technology for networking, communication and computation. We are really just scratching the surface."

More information: Evan D. Walsh et al. Josephson junction infrared single-photon detector, *Science* (2021). DOI: 10.1126/science.abf5539

Journal information: *Science*

https://phys.org/news/2021-05-capturing-photon-harnessing-quantum-noise.html

COVID-19 Research News

The Indian EXPRESS

Sun, 09 May 2021

New research: Non-steroidal inflammatory drugs are safe for patients with Covid-19

Early in the pandemic, there was debate on whether the use of such drugs increased the severity of Covid-19, which led to urgent calls for investigations

Pune: The use of non-steroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen, does not lead to higher rates of death or severe disease in patients who are hospitalised with Covid-19, according to a new observational study of more than 72,000 people in the UK published in The Lancet Rheumatology journal.

NSAIDs are common treatments for acute pain and rheumatological diseases such as rheumatoid arthritis and osteoarthrosis. Early in the pandemic, there was debate on whether the use of such drugs increased the severity of Covid-19, which led to urgent calls for investigations.

The ISARIC CCP-UK (International Severe Acute Respiratory and emerging Infection Consortium Clinical Characterisation Protocol United Kingdom) study found evidence that the continued use of NSAIDs in patients with Covid-19 is safe.

Early in the pandemic, there was debate on whether the use of such drugs increased the severity of Covid-19, which led to urgent calls for investigations. (Unsplash)

In the study, around a third of patients (30.4%. 1,279 out of 4,211) who had taken NSAIDs prior to hospital admission for COVID-19 died, a rate which was similar (31.3%. 21,256 out of 67,968) in patients who had not taken NSAIDs. In patients with rheumatological disease, the use of NSAIDs did not increase mortality.

In a press release from the journal publishers, Prof Ewen Harrison of the University of Edinburgh, lead author of the study, was quoted as saying: "NSAIDs are commonly used to treat people all over the world for a range of conditions, from minor aches and pains to chronic conditions such as arthritis and cardiovascular disease. Many people rely on them to be able to carry out their day-to-day activities. When the pandemic began over a year ago, we needed to be sure that these common medications would not lead to worse outcomes in people with COVID-19. We now have clear evidence that NSAIDs are safe to use in patients with COVID-19, which should provide reassurance to both clinicians and patients that they can continue to be used in the same way as before the pandemic began."

The study collected data on the medication patients had been prescribed, were currently taking, or had taken within 14 days prior to being admitted to hospital, as well as demographic information, and medical history. The study cohort included patients with confirmed or highly suspected Covid-19 infection admitted to 255 healthcare facilities in England, Scotland, and Wales, between January and August 2020.

https://indianexpress.com/article/explained/explained-non-steroidal-inflammatory-drugs-are-safe-for-patients-with-covid-19-study-finds-7306402/