Greetings from Drug Information Bulletin!

One recent estimate showed that about 700000 people are dying of drug resistant infection due to overuse in humans, livestock and agriculture globally. It is also predicted that this number could skyrocket and may reach 10 million deaths annually by 2050 resulting in a deep financial crisis. The widespread irrational use of antimicrobial medications needed to combat such diseases as tuberculosis, malaria and MRSA has made these infections more resistant to traditional treatment. A few examples of misuse include cold or flu sufferers taking antibiotics without realizing that such drugs are incapable of killing viruses and farmers using antibiotics to promote growth or prevent the spread of disease among animals such as chickens, pigs and cows. When microbes come into unnecessary contact with antimicrobials, they have more chances to adapt to specific strains, increasing the likelihood of genetic mutations that undercut the medications’ effectiveness. In order to combat AMR several steps have already been taken which are-1. National Policy for combating AMR. 2. Steps for restricting irrational use of Antimicrobials 3. Framing legislation for restricting self-medication. 4. Guidelines for rational prescribing. Scattered steps were taken to resolve these health problems, but recently it has been suggested to adopt “one health approach”- human health, animal health and environmental health. COVID pandemic has already proved that concerted effort from the highest level is effective to manage pandemic. On 28th March WHO has published the “WHO implementation hand book for national action plan on AMR: guidance for the human health sector” with the purpose of proper implementation of NAP. It will be of great help to the national government for implementation of NAP.
MINISTRY OF HEALTH AND FAMILY WELFARE

(Department of Health and Family Welfare)

NOTIFICATION

New Delhi, the 9th February, 2022

S.O. 553(E).—Whereas, there is an outbreak of COVID-19 pandemic throughout India, resulting into dangerous and opportunistic infections, disease like Mucormycosis, etc., due to which emergency has arisen to make available new drugs for treatment or management of COVID-19 and related diseases;

Whereas, the Central Government is satisfied that making available suitable new drugs is essential to meet the requirements of emergency arising due to pandemic COVID-19, and in public interest it is necessary and expedient to regulate the manufacture and stock for sale or distribution of such new drugs for prevention and treatment of COVID-19 and associated infection;

Now, therefore, notwithstanding anything contained in the Drugs Rules, 1945 and New Drugs and Clinical Trials Rules, 2019, for the purposes of making available suitable drugs to meet the requirements of emergency arising due to COVID-19, in exercise of the powers conferred by section 26B of the Drugs and Cosmetics Act, 1940 (23 of 1940), the Central Government, hereby notifies the following, namely:

(a) In case a person intends to manufacture and stock a new drug for COVID-19, which is under clinical trial for marketing authorisation for sale or distribution, then, such person shall have to obtain permission in Form CT-06 to conduct clinical trial of such drug and on successful completion of the clinical trial and after obtaining permission in Form CT-23 from the Central Licensing Authority under the New Drugs and Clinical Trials Rules, 2019, he shall make an application under rule 69 or rule 70A or rule 75 or rule 75A of the Drugs Rules, 1945, as the case may be, to the concerned Licensing Authority appointed by the State Government along with the permission obtained for conducting clinical trial in Form CT-06 under the New Drugs and Clinical Trials Rules, 2019, for grant of license to manufacture and stock the drug for sale or distribution under the provisions of the Drugs and Cosmetics Act, 1940 (23 of 1940) (hereinafter referred to as the said Act) and the rules made thereunder:

Provided that the requirement of prior permission from the Central Licensing Authority under rule 81 of the New Drugs and Clinical Trials Rules, 2019 to manufacture the new drug as required under rule 83 of the said rules shall be deferred in public interest to meet the emergent situation arisen out of COVID-19 and such person shall obtain the said permission after successful completion of the clinical trial and submission of application along with fees, data and particulars in accordance with the provisions of the New Drugs and Clinical Trials Rules, 2019.

(b) The Central License Approving Authority or the State Licensing Authority, as the case may be, if satisfied that requirements under the provisions of the said Act and the Drugs Rules, 1945 and the New Drugs and Clinical Trials Rules, 2019 have been complied with, grant License in accordance with the provisions of the Drugs Rules, 1945 to manufacture and stock the new drug subject to the condition that the licensee shall sell or distribute the new drug only after obtaining permission for such new drug in Form CT-23 from the Central Licensing Authority under the New Drugs and Clinical Trials Rules, 2019.

2. In case of any inconsistency between this notification and any rule made under the said Act, the provisions of this notification shall prevail over such rule in public interest so as to meet the emergency which has arisen due to COVID-19 pandemic.

3. This order shall come into force on the date of its publication in the Official Gazette.

[F. No. X.11014/02/2020-DRS]

Dr. MANDEEP K BHANDARI, Jt. Secy.
By being heat stable, Carbetocin is better for Low and Middle Income countries

The advantage of carbetocin is that it is heat stable. Oxytocin is not and will decay if stored at room temperature.

Access to effective uterotonic agents is the key to prevent atony postpartum hemorrhage. However, quality issues of uterotonic agents are prevalent in low- and middle-income countries. According to latest evidence, due to insufficient amounts of active ingredient, nearly 45.6% to 74.2% of oxytocin samples failed quality tests in these countries. Therefore, improving the quality and efficacy of uterotonic agents for prevention of postpartum hemorrhage becomes a critical issue. Carbetocin has advantages over Oxytocin for prevention of postpartum hemorrhage. Compared with Oxytocin, heat stable Carbetocin does not need cold-chain transport and storage. Therefore, it is convenient to be stored in facilities at room temperature in low and middle income countries where cold-chain transport and storage are not available.

The half-life of carbetocin is 40 minutes, which is 4-10-fold longer than that of oxytocin, and the duration of action is 2 hours after an intramuscular injection, avoiding side effects of intravenous injection.

Carbetocin is also included in the WHO Model list of Essential Medicines. So Carbitocin can play important role in decreasing maternal mortality in India by preventing Post Partum Haemorrhage.

COVID-19 Vaccine Corbevax gets DCGI nod for emergency use in 12-18 year olds

The Drug Controller General of India on February 21 gave emergency use approval to Biological E’s coronavirus vaccine Corbevax for use on children aged 12 years and above.

Nearly two months after Corbevax, the COVID-19 vaccine developed by the Hyderabad-based Biological E was approved for adults in the country, the vaccine has now received regulatory approvals for administration in the 12-18-year age group.

This comes nearly a week after the Central Drug Standard Control Organisation’s subject expert committee on COVID-19 had recommended the receptor-binding domain (RBD) protein subunit vaccine for administration in adolescents.

The development comes even as the government is yet to decide on the expansion of the ongoing national immunisation campaign against coronavirus for kids and adolescents under 15 years.

Nano-curcumin as a nutritional strategy in children with cystic fibrosis

Cystic fibrosis (CF) is a common autosomal recessive genetic disorder in Caucasian populations, which reduces the life span among those affected. Severe inflammation on pulmonary, gastrointestinal, and systemic levels was observed in CF patients. In CF lung pathology and diseases progression, inflammation plays a very important role. The chloride ion transport in the epithelial cells is altered due to the abnormal function of cystic fibrosis transmembrane conductance regulator (CFTR). This results in the dehydration of the liquid in the airway surface, causes thickening of the secreted mucin and obstructs the airway. This triggers the inflammation.

Newer modified CFTR protein drugs such as ivacaftor, lumacaftor, tezacaftor reduce airway inflammation, but complete elimination is not possible and these drugs also affects the specific mutations and do not cover all patients with various mutations. Hence, as an alternative some natural anti-inflammatory moieties have been studied for the treatment of inflammation in CF. Curcumin obtained from turmeric has potent anti-inflammatory activity. Curcumin is chemically \[1,7\text{-bis (4-hydroxy-3-methoxyphenyl)-1,6-heptadiene-3,5-dione}\], a polyphenolic compound isolated from the rhizomes of \textit{Curcuma longa}. The CFTR is a well-studied ion channel target for curcumin and substantially impacts on the reduction of inflammatory factors. Studies by Egan et al. have proved that curcumin induced accumulation of complex-glycosylated F508 CFTR and increased cell surface density, it acts as a sarcoplasmic/endoplasmic reticulum calcium (SERCA) pump inhibitor and could increase the appearance of functional DF508 CFTR on the plasma membrane cells and suppressed the endogenous calreticulin mRNA.
transcription. Also, it was observed that Cystic fibrosis patients had chances of bacterial infection due to the absence of CFTR protein, which causes demethylation of DNA at the specific CpG sites which overlaps a minimal region to maintain activity of TLR2 promoter. Curcumin can degrade specificity protein 1 (SP1) via oxidative and proteasome degradation pathways. A double blind control trial was conducted at the Akbar Children’s Hospital in Mashhad, Iran, where children with CF were included and treated for 3 months with Placebo and curcumin with the maximum dose of 80 mg based on the body surface of the patients. Curcumin in the form of Nano-curcumin (Exir Nano Sina Drug Company, Iran) was prepared as nano micelle in the form of 70 mg of drops in 1 cc, and the placebo with the same color, taste, and odor. The primary outcome of the study was to evaluate inflammation based on serum Interleukin-6, interleukin-10, and hs-CRP, stool calprotectin, and neutrophil count of nasopharyngeal swab. The secondary outcome studied was clinical assessment via spirometry, anthropometrics, and quality of life. The outcomes were studied from before 3 months to after 3 months of continuing curcumin therapy. The study concluded that Curcumin owing to its multifarious effects on CF disease could serve as a potent nutritional strategy in the treatment of cystic fibrosis.

Thus to conclude, curumin in the form of nano formulation results in the increased bioavailability of curcumin and enhances its anti-inflammatory processes and can prove to be effective in treating cystic fibrosis.

References:
Source: eMediNexus.

Comments on Editorial......

Thank you Dr. Mandal for sharing the 22nd issue of the 15th year of Drug Information Bulletin. Your comment in the editorial that most of the decisions in India are executed by bureaucrats and not by technocrats is very valid. This is in spite of the fact that most of the successful and game changing reforms in our country have been done by technocrats e.g., Milk revolution (Dr. Kurien), Green revolution (Dr. Swaminathan), CSIR (Dr. Mashelkar), Aadhar (Nandal Nelakhani), Super computer (Dr. Bhatkar), Space research (Vikram Sarabhai, Homi Bhaba and others), IT Software (Narayan Krishnamurthy & others) and many more. Government has to take a reality check and course correct.
Even in a so called progressive state like Maharasthra, the State FDA Commissioners for the past over two decades have been non technical persons, mostly IAS officers. At one point of time even an IPS Police Commissioner was appointed as FDA Commissioner. Sad state of affairs.
-Dr. Ajit Dangi

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