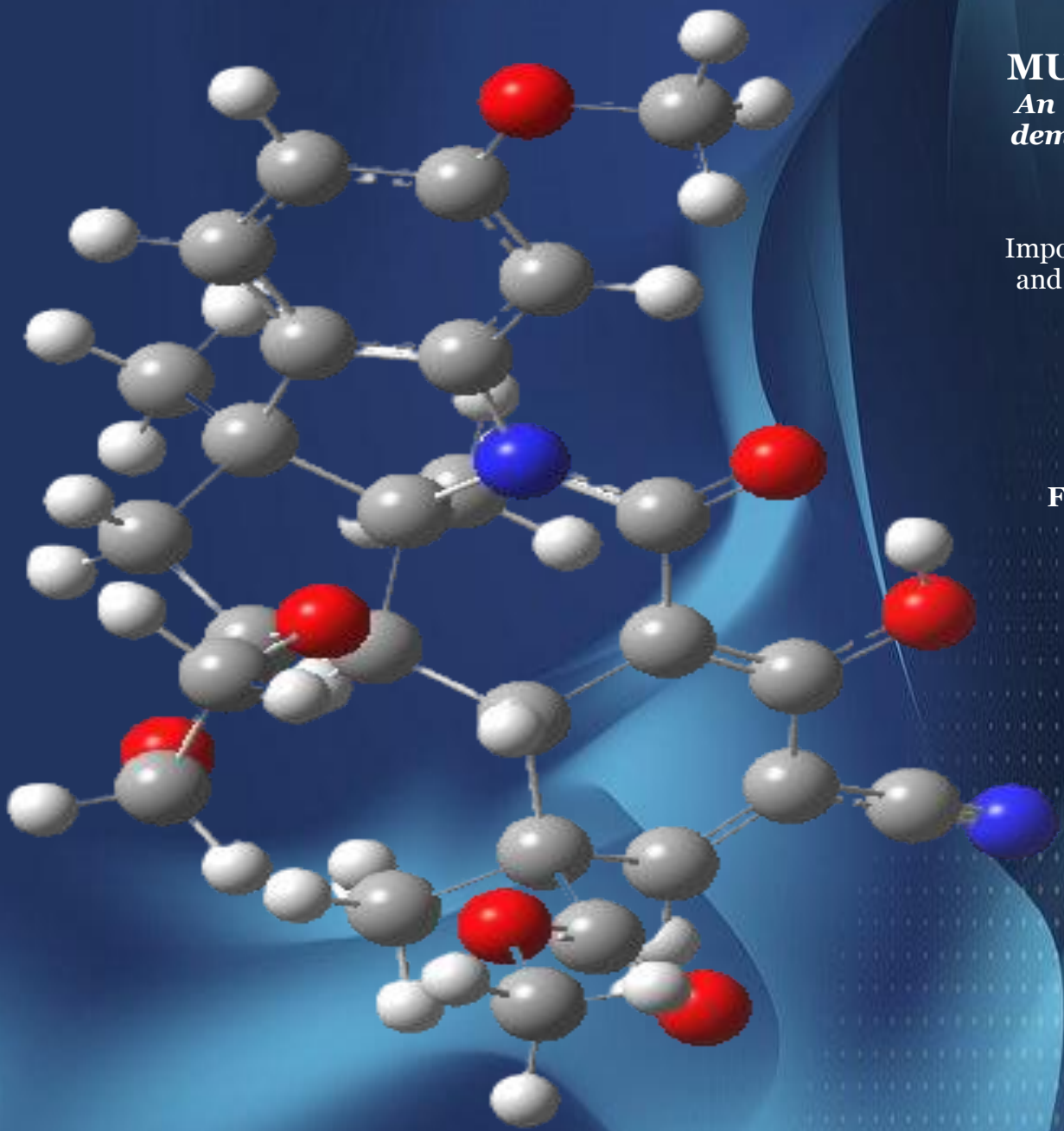
The Learning and Development Journal

QualPharma

Volume 4, Issue 7 July 2021, 40/-



MUCORMYCOSIS
An Uncontrollable Epidemic Affecting Masses

Importance of Oral Hygiene and different phases of life

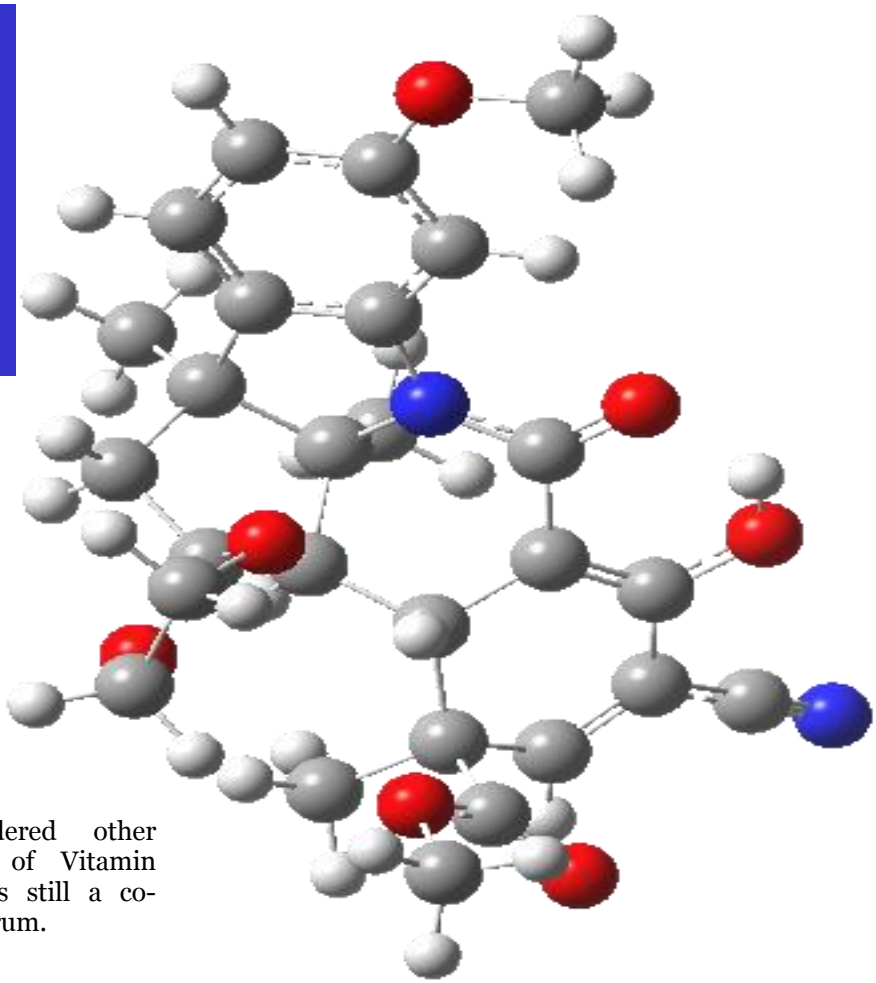
Scope of plastics in Pharmaceutical Packaging

Feed your Brain with Happy Thoughts

WHY BAN ON METHYLCOBALAMIN???

When thousands of Brand already available in Market
A fight since June 2019
No scientific response from FSSAI

Why Ban on Methylcobalamin A never ending SAGA



From Editor-in Chief pen

In 2021, FSSAI has circulated notification related to the RDA of vitamins, proteins and aminoacids for the third time. Specifically for methylcobalamin, QualPharma is in talks with FSSAI since June 2019 (approximately 2 years) and also later to the Chemical and Fertilization ministry when no proper response received from the regulatory authority. The first notification of the year was published on 7th of January 2021 which was based on RDA 2010 published by Indian Council of Medical Research [ICMR]. In that notification the RDA for Vitamin B12 was specified as 1 mcg [It is to be noted that no specific type of Vitamin B12 mentioned]. Later in RDA 2020, ICMR has assessed only Cyanocobalamin which over a period of time will cause huge confusion and later on lead to a pressure on manufacturer of dietary pills to stop manufacturing other forms of Vitamin B12. According to FSSAI standards of Health Supplements, Nutraceuticals, Food for special dietary use, Food for special Medical Purpose, Functional Foods and Novel Food Cyanocobalamin and Hydroxycobalamin are approved. ICMR should atleast assess those type of Vitamin B12 which are considered to be approvied by FSSAI i.e cyanocobalamin and hydroxycobalamin. Why ICMR has not considered other form of Vitamin B12 is still a conundrum.

On continous follow-ups for the status of Methylcobalamin, in December 2019, former CEO Mr Pawan Agarwal confirmed that
Quote
"Methylcobalamin has been okayed by scientific panel. However for this to come into effect it has to go through a process, hence will take some time. We will try and expedite it as much as possible"
Unquote

Neither ICMR nor FSSAI has considered the recommendation of ex CEO commitments. Also industry has not yet notified about the discussion and consideration of the scientific panel who has okayed methylcobalamin.

The second circular of FSSAI was circulated on 16th of July 2021 where on the basis of RDA 2020, the RDA value of Vitamin B12 was increased to 2.5 mcg from previous 1 mcg[as per RDA 2010 of ICMR]. Further, in less than a month, ICMR has revised the proposed guidelines and reduced the RDA value from 2.5 mcg to 2.2 mcg which is again issued on 2nd of August 2021. What is happening and why it is happening is quite annoying and presenting the incompetence of our supreme regulators

QualPharma as a representative of nutraceutical industry are standing on the same platform where we were standing two years back. Though regulators and ICMR are revising RDA of Vitamin B12 again and again but the industry is not getting any information whether methylcobalamin is ban or not. The gazette of standards of Health Supplements, Nutraceuticals, Food for special dietary use, Food for special Medical Purpose, Functional Foods and Novel Food still mentioned that only Cyanocobalamin and Hydroxycobalamin are approved and banned methylcobalamin which is the active form of Vit B12. Nonetheless thousands of manufactures are manufacturing methylcobalamin freely far beyond the mentioned RDA. Not to forget all these brands are approved by FSSAI which claims to ban the

same product. All this has become a Khichadi where no one knows what is happening and what is to be done. Without understanding the concerns of the stakeholders such decisions are being made.

WHY NUTRACEUTICALS SHOULD BE SHIFTED TO DRUGS FROM FOOD?

A layman's understanding of a drug and food is very clear. A food or food supplement is one, which you take in order to fill your stomach, to gain nutrients and also to please yourself. For example a protein supplement, Horlicks or Complan can be considered as food supplements. However a drug is one advocated by physicians for specific purposes. A vitamin combination in therapeutic/ prophylactic dosage forms cannot be deemed as food supplement. The definition of drug in the Drugs and Cosmetics Act is wide enough to cover nutraceuticals

Section 3(b) of Drugs and cosmetic act defines "drug as-

(i) all medicines for internal or external use of human beings or animals and all substances intended to be used for or in the diagnosis, treatment, mitigation or prevention of any disease or disorder in human beings or animals, including preparations applied on human body for the purpose of repelling insects like mosquitoes;

The definition of 'drug' would show that it took within its fold 'medicines' as well as 'substances' used for treatment, mitigation or prevention of disorders in human beings as well as in animals. Under clause (1) all medicines for internal or external use of human beings or animals and all substances intended to be used for or in the diagnosis, treatment, mitigation or prevention of any disease or disorder in human beings or animals including preparations applied on human body for the purpose of repelling insects like mosquitoes are drugs. **Thus it would be clear that a substance intended to be used for mitigation or prevention of any disease or disorder in human beings is a 'drug' notwithstanding the fact that it is not a 'medicine' which is to be applied for diagnosis or treatment of diseases**

Comparison of RDA values issued by ICMR

Age Groups	Category of Work	Body Wt	2nd August 2021	16th July 2021	7th January 2021	US-FDA
			µg	µg	µg	
		(kg)				
Men	Sedentary	65	2.2	2.5	1.0	2.4
	Modern					
	Heavy					
Women	Sedentary	55	2.2	2.5	1.0	2.4
	Modern					
	Heavy					
	Pregnant Woman	55+10	+0.25	+0.25	1.2	2.6
	Lactation 0-6 m 7-12 m		+1.0	+1.0	1.5	2.8
Infant	0-6 m	5.8	1.2	1.2	0.2	0.4
	6-12 m	8.5				0.5
Children	1-3y 4-6y 7-9y	12.9 18.3 25.3	1.2 2.2 2.2	1.2 1.2 2.5	0.2-1.0	0.9 1.2 1.2
Boys	10-12y	34.9	2.2	2.5	0.2-1.0	1.8
Girls	10-12y	36.4	2.2	2.5	0.2-1.0	1.8
Boys	13-15y	50.5	2.2	2.5	0.2-1.0	2.4
Girls	13-15y	49.6	2.2	2.5	0.2-1.0	2.4
Boys	16-18y	64.4	2.2	2.5	0.2-1.0	2.4
Girls	16-18y	55.7	2.2	2.5	0.2-1.0	2.4

It was and is a well known fact that the FSSAI Act in its present structure is inadequate to regulate the quality of nutraceuticals pills. If it is agreed that there is need for regulation of Nutraceuticals, then the question and challenge are how? Surely the so-called Nutraceuticals are enjoying exemption from the Drugs and Cosmetics Act and FSSAI regulations are less stringent and easy to follow.

In India, food and drugs are regulated by different bodies in most States, while they are regulated by one combined administration in a few states which is also a case of conflict of interest. Like in Gujarat, FDCA is handling drug as well as food including nutraceuticals. Methylcobalamin in drugs are well approved and accepted in high doses whereas in food, methylcobalaim is banned. How a single FDCA Gujarat authority is handling two different baseless regulation? It is time that all states follow a uniform system and the preferable option would be to have joint administration that would enable minimizing duplication of infrastructure facilities and make optimum use of the available man power and equipments. One panel should examine the status of nutraceuticals and classify them and also prepare standards for them. These can be classified accordingly in the Drugs and Cosmetics Act and appropriate regulatory provisions can be incorporated. The only option therefore is to classify and regulate them effectively under the Drugs and Cosmetic Rules and any further delay in doing so will harm the interests of the consumer at large.

Justification as per Law of India

In the case of Cadila Pharmaceuticals Ltd. vs State Of Kerala And Ors. on 2 April, 2002, the question arises for consideration whether EC 350 (Vitamin E and Vitamin C capsules) and Cecure (Multi-Vitamin Capsules) manufactured by the petitioner and sold in the market through medical shops as "Dietary Supplements" falls within the definition of "drug" requiring licence under the Drugs arid Cosmetics Act, 1940. Referring to Section 3 of the Act it is stated that whether an article, substance or device is a drug or not is decided by the intention of the use of the same, that the word 'drug' has an inclusive definition and all medicines are drugs, but 'medicine' is not defined in the Act that **medicine is a common man's word, a capsule is a medicine for any common man and that one of the basic difference between food and drug is that drug has a definite dosage, but food has not.**

It is stated that E.C. 350 capsules and Cecure capsules are manufactured by a Pharmaceutical Company, distributed by their authorised distributors, stored and sold along with other drugs under the same invoices, promoted through medical representatives, advertised through medical journals like Indian Drug Review and through promotional literature like Cecure News, prescribed by Doctors, sold through retail medical stores and consumed by patients only to the knowledge of the respondents. The petitioner very well know that they are drugs and that they have violated the provisions of Drugs and Cosmetics act and Drugs (Prices Control) Order and only tries to escape prosecution. Even if empty gelatin capsules are packed and labelled, it is 'drug', that drugs called placebos, without any active ingredients, are prescribed to patients and so when vitamins are filled inside capsules there need not be any doubt, that they are drugs. It is also stated that in India we have either 'drugs' or 'food', that 'dietary supplement' is a new terminology in India, and that the licence produced is only a food licence. Various other circumstances are also stated.

Some of the widely sold brands approved by FSSAI and available in the drug retail supply chain are

- **Organic B12 500 mg**
- **Health Aid Vitamin B12 (methylcobalamin) 1500 mcg,**
- **Nature Made Vitamin B12-1000 mcg,**
- **B-12 dots by Twinlab-500 mcg,**
- **Jarrow Formulas, Methyl B-12-1000 mcg,**
- **Nature's Bounty Vitamin B-121000 mcg**
- **Source naturals methylcobalamin Vitamin B12-5000 mcg,**
- **solgar sublingual methylcobalamin supplement-1000 mcg,**
- **Cobaforte CD3 plus tablet-1500 mcg,**
- **Nocob methylcobalamin 1500mcg,**
- **Unived methylcobalamin 1500mcg,**
- **Bhumija Lifesciences vitamin B12 1500 mcg,**
- **Bluebonnet liquid methylcobalamin - vitamin B12 1000 mcg,**
- **EZ Melts B12 as methylcobalamin, 2,500 mcg and**
- **Garden of Life Vitamin Code vitamin B12-1000 mcg**

Conclusion

- **FSSAI must clarify whether methylcobalamin is approved or not and if not then Why?**
- **Why so many methylcobalamin brands are available over the counter?**
- **Why RDA is enforced on the manufacturers.**
- **And if 2.2 mcg is the RDA why so many brands are approved by FSSAI upto 500 mg.**

~ By Anshu Yadav

MUCORMYCOSIS

An Uncontrollable Epidemic Affecting Masses

In the midst of the second wave of Covid 19, which has already entered the market, the third wave is presently moving forward in a few parts of the world. **Mucormycosis,** often known as **Black Fungus**, is another major infection that has recently begun to spread. A rare and deadly fungal infection affecting the large number of covid involved patients in India. According to union health ministry and ICMR, there is a release on the advisory by May 9th, 2021- the screening, diagnosis, and management of Mucormycosis. If we do not treat this infection, then humans who have uncontrolled diabetes are likely to get affected to a large extend.

A Brief on the Mucormycosis

Mucormycosis (previously called zygomycosis) is a serious but rare fungal infection caused by a group of molds called **mucormycetes**. **Mucormycosis** mainly affects people who have health problems or take medicines that lower the body's ability to fight germs and sickness.

The Black Fungus, clinically termed as Mucormycosis, is a serious threat to humankind. Mucormycetes live throughout the environment and is ubiquitous in nature. It can affect areas from where it can be inhaled like through the nose, sinus and lungs. If it enters from a wound or skin, then it can cause local infection, but if it enters from the sinus, it can affect the eyes and the brain. Poor control of diabetes is the biggest cause for the rising numbers, especially post-covid. Also, patients with immunocompromised systems, or those who have undergone a transplant, are on immunosuppressants, or have been on a ventilator for a long period of time, are at higher risk.

Historical Perspective

In 1885, German pathologist Paltauf, reported the first case of mucormycosis in humans and later published a case of upper airway mucormycosis entitled: "mucormycosis mucorina" in the Virchows archives of pathology and anatomy.

In 1943, Gregory et al described the first case of rhino-orbital cerebral mucormycosis associated with diabetes

The term "mucormycosis" was coined by an American pathologist R. D. Baker.

Types of mucormycosis

Rhinocerebral (sinus and brain) mucormycosis is an infection in the sinuses that can spread to the brain. This form of mucormycosis is most common in people with uncontrolled diabetes and in people who have had a kidney transplant.

Pulmonary (lung) mucormycosis is the most common type of mucormycosis in people with cancer and in people who have had an organ transplant or a stem cell transplant.

Gastrointestinal mucormycosis is more common among young children than adults, especially premature and low birth weight infants less than 1 month of age, who have had antibiotics, surgery, or medications that lower the body's ability to fight germs and sickness.

Dr Sanjay Agrawal
Dr Sanjay Agrawal founded PHARMA CONSULTANTS and INVENTOR in 2005 to assist pharmaceutical companies around the globe. He has actively worked in pharmaceutical and related industries for more than 28 years. He is Editor-in-Chief of renowned IJM Today and honorable member of the editorial board of QualPharma and The Antiseptic. Dr Sanjay Agrawal is also the illustrious member of the National Geographic Society and ex- member of scientific committee of IDMA. His prestigious articles are published in various magazines and websites for example—The Antiseptic, NuFFooDS Spectrum, Pharmabiz

Dr. Agrawal had received various awards for his valuable support and contributions in healthcare and pharmaceutical sector .Dr. Agrawal obtained his postgraduation in Biochemistry from prestigious institution, completed MBBS and MBA from IMT. He has worked with many international and national Pharmaceutical company. Dr. Sanjay Agrawal is the patent holder of many research formulations which are successfully commercialized.

Currently besides his core jobs, Dr Agrawal devotes his time for the benefit of pharma fraternity. He has raised his voice against the ban imposed on methylcobalamin manufacturing. He has been asking to the regulators from more than a year about

- Why Methylcobalamin is not added in the gazette yet when promised by the former CEO Mr Pawan Agrawal Ji?
- Why cyanocobalamin is promoted even though there is a cyanide group attached to it?
- Why 1 mcg RDA limit is imposed on methylcobalamin for nutraceutical manufacturer?
- Technical aspect of damage caused when 500 mcg of methylcobalamin is taken as prophylactic use?
- Why should we have faith in FSSAI when every time we have to go to ICMR for clarification?

WHAT IS MUCORMYCOSIS ?

- Mucormycosis is commonly known as black fungus. It is found in soil and on black surface.
- Is rare but is now seen in Covid and post Covid patients.
- Affects nose, eye, brain and lungs.

SYMPTOMS

- It can occur in patients with Covid –19 infection (active/recovering / post discharge)
- There can be nasal discharge, facial/eye/jaw pain, swelling, headache, toothache, loosening of teeth, fever.

PATIENTS AT HIGH RISK

- Those on high dosages of steroids for more than 25 days.
- Diabetic patients with poorly controlled blood sugar.
- Immunocompromised patients like HIV, cancer and other auto immune disorders.

DIAGNOSIS

MRI-PNS (paranasal sinuses) with brain contrast study

TREATMENT

- Control of diabetes
- Reduce steroids
- Reduce immunosuppressive drugs

surgery

PREVENTION

- Good sugar control
- Use of steroids only in patients with low saturation of oxygen
- Covid appropriate behavior like wearing mask

MYTHS

Spreads from person to person
Spreads by oxygenation, humidifier or water

Cutaneous (skin) mucormycosis: occurs after the fungi enter the body through a break in the skin (for example, after surgery, a burn, or other type of skin trauma). This is the most common form of mucormycosis among people who do not have weakened immune systems.

Disseminated mucormycosis occurs when the infection spreads through the bloodstream to affect another part of the body. The infection most commonly affects the brain, but also can affect other organs such as the spleen, heart, and skin.

Symptoms of Mucormycosis

- Headache
- Nasal congestion
- Facial pain
- Pain in the eyes or loss of vision
- Swelling in cheeks and eyes
- Black crusts in the nose

If we don't treat it, it may remove the nose, blindness, jaw-bone, or even death.

Prevention measures of Mucormycosis

- It is essential to wear a mask before coming across any garden, dusty areas, rotting garbage, and food.
- Try to wear clothes that don't show your skin or show a little bit as possible.
- By controlling the sugar levels and blood glucose is a must for diabetic patients.
- Patients or commoners who are taking steroids prescribed by a doctor should be constantly monitored, and the dosage should be reduced in consultation with your doctor.

Adjustment to life after the Surgery

If a patient has gone through surgery due to mucormycosis, patients may lose their upper jaw or eyes or even nose portions to stop the spread of the disease. Apart from simply chewing and swallowing, facial aesthetics and self-esteem are badly impacted in the patients who underwent surgery. Though facial substitute are available for both eyes and jaws.

As per the updated report from the health domain, it is stated that the replacement of the artificial substitutes can bring in once the patient is stabilized after the surgery gets over. The reassuring for patients such invention makes a lot of difference and eliminates the panic due to sudden loss.

How can Mucormycosis be treated?

Mucormycosis is an anti-fungal that needs surgery in a severe case of spread infection. Surgeries are the only option in this case to stop the spread of the disease. As per the medical experts controlling diabetes, reducing the use of steroids and immunomodulation drugs are crucial to such cases. As a part of the treatment, the patients will be infused with the normal saline or the IV and Amphotericin B and anti-fungal therapy for one to one and half months. This way, the hydration is well maintained.

The active medication agents against Aspergillus, such as Voriconazole, are not much active against **Mucormycetes.** Evidence suggests that pre-exposure to the Voriconazole is seamlessly associated with an increase of Mucormycosis among the patients. The surgical debridement of the infected tissue will be necessary for the rhino-cerebral, cutaneous and gastrointestinal infection. The underlying immune-compromised condition should be looked at with much importance. The efficacy of the other treatments like hyperbaric oxygen therapy is much uncertain in this case.

The prognosis is largely dependent on the following factors;

- Rapid diagnosis and treatment
- Infection sites
- The overall mortality rate is approximately 50%, where early identification and treatment are crucial for the solution.

The risk groups for the Mucormycosis are:

- Uncontrolled diabetes
- Malignancy
- Hematopoietic stem cell transplant or solid organ transplant
- Persistent neutropenia
- Prolonged corticosteroid therapy
- Skin trauma, burns, or surgical wounds
- Iron overload
- Intravenous drug use
- Malnourishment
- Premature infants

Latest updates on Mucormycosis and Covid 19

Honestly, India has had a much larger incidence in spreading this fungal infection than other countries. Even before the pandemic ended, the prevalence of the Mucormycosis in India was less in percentage, but the crucial point is, it was present. Covid left a stronger impact on the masses, the people are now held with the common risk factor of Mucormycosis. However, in Europe and the USA, hematological malignancies and organ transplant cases take the lead.

The occurrence of this fungal infection is much variable as the 3rd-week onset of the symptoms of Covid 19. As per the latest update, India is facing 71% of the global cases of Mucormycosis among Covid patients. The main reasons contributing to such a case are acute conditions of uncontrolled sugar, hypoxia, misuse of irrational steroids, and not cleaned oxygen cylinders.

The cases of black fungus disease are on the rise. States like Maharashtra, Gujarat, and Bihar are increasing day by day. The shortage of black fungus drugs issue will resolve soon, says the health center. Until then, we must be vigilant and strengthen our body immune systems. If you recover from Covid-19 infection, use a spike protein antibody test to determine how many antibodies you have developed post-Covid.

~ By Dr. Sanjay Agrawal

QualPharma

MONTHLY MAGAZINE

ADVERTISEMENT RATE CARD

Make your presence in Pharma World

POSITIONS		
Size	**Monthly**	**Annually**
Full size A4 page Full size A4 page [Spread]	5,000/-	30000/-
2/3 Page	4,500/-	27000/-
½ size A4 page [Horizontal/Vertical]	3,000/-	18000/-
¼ size A4 page	2,000/-	12000/-
Back side cover Back Inside cover Front inside cover	10,000/-	60000/-
Foot band	750/-	5500/-

Material Required : High resolution Soft copy in JPEG/PDF with colour proofs to be supplied by the advertiser.

MECHANICAL DATA

Size	Horizontal	Vertical
Full size A4 page	8.5”	11”
2/3 Page	8.5”	7.25”
½ size A4 page [Horizontal]	8.5”	5.5”
½ size A4 page [Vertical]	4.25”	11”
¼ size A4 page	4.25”	5.5”
Foot band	8.5”/2.75”	3.25”/11”

Please enlist my subscription from…….... to ……

Bank Details
Account Name - QualPharma International
Bank Address - Sterling Urban Cooperative Bank Ltd
Account Number - 1001014100519
IFSC Code - HDFC0CSTUCB

Online transaction is acceptable at this ID.
Note: Please intimate at qualpharmainternational@gmail.com post payment done.

CONTACT FOR MORE INFO….
91-9958855039