



**ClearMedi Healthcare**

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**NEWSLETTER**



## **Cancer may not kill you Your own thoughts can.**

In recent years, the rates of cancer survival have increased significantly over time, but it can be hard to feel hopeful when you have just been diagnosed with cancer. Worrying about the future is natural. Treatments are improving constantly, and even if the cancer can't be controlled, symptoms can be relieved to make life more comfortable. It can be very confronting to think about your own mortality, even if the outlook for your type of cancer is reassuring. Talk to your Oncologist about what the diagnosis means for you and what the future may hold. Knowing more about the illness may help ease this fear.

If you've been told the cancer is advanced, you may find it harder to feel hopeful but, in some cases, advanced cancer can be controlled for many years. When time is limited, people often focus on goals such as visiting special places or spending time with family and friends.

### **You Have Cancer: Now What?**

Diagnosis: Your head is spinning, and you feel like the wind has been sucked out of you. In a split second, life as you knew it is gone. The first things you should do (after taking a deep breath and trying to chill)

## **OVERVIEW**

- **CANCER MAY NOT KILL YOU  
YOUR OWN THOUGHTS CAN.**
- **CHEMOTHERAPY**
- **SARS-COV-2**
- **CENTRAL VENOPLASTY IN  
HAEMODIALYSIS PATIENT**
- **RHEUMATOLOGICAL DISEASES!  
VARIED MANIFESTATIONS**

- Find the best doctor for your disease: Be willing to travel to make sure that you're getting the best treatment.
- Focus on lifestyle changes: "The only thing that you can control is what you eat, what you drink and how you move. One shall explore healthy diets, exercise and alternative therapies such as massage, yoga and meditation to boost and maintain your physical and emotional well-being.
- Create a support system: Nobody understands you quite like another cancer survivor. There is incredible strength in that."
- Live! "Don't wait for permission to live. Just because you have cancer does not mean that your life is over,". "Start living. It's that simple."



## Ask your Oncologist

- Studies show that cancer (and other) patients who arm themselves with information typically fare better and experience fewer side effects than those who simply follow doctors' orders, no questions asked.
- Being informed gives them some control over their disease—and that feeling of empowerment plays a role in the healing process.
- No. 1 rule: do not be cowed by your doctor. Ask him or her to explain anything and everything you don't understand.
- Prepare questions in advance of appointments (to reduce stress and the odds of forgetting any)—and bring a notebook to jot down answers and other important info

## Dr. Amba Prasad Dubey

Consultant – Medical Oncology

SMH Cancer Centre – Delhi



## Chemotherapy

### What is chemotherapy?

A healthy body constantly replaces cells through a process of dividing and growing. When cancer occurs, cells reproduce in an uncontrolled manner.

As a part of the body produces more and more cells, they start to occupy the space that useful cells previously took up.

Chemotherapy uses drugs that kill dividing cancer cells and prevent them from growing. A person will often have chemotherapy as part of an overall treatment, which may also include surgery and radiation therapy. These treatments are effective in many cases of cancer. However, their effectiveness will often depend on the stage of the cancer, among other factors. Talking to their doctor will help a person understand what to expect from chemotherapy.

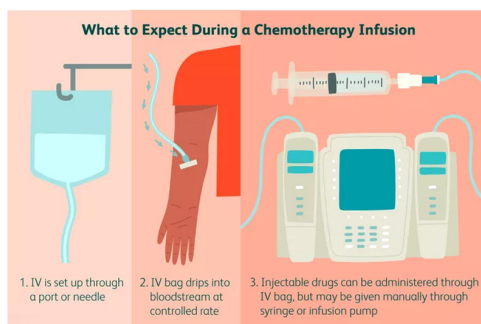
#### Treatment can either:

- attack cancer cells throughout the body or
- target specific sites or processes

### What does chemotherapy do?

#### Chemotherapy drugs can:

- Prevent Cell division
- Target the cancer cells' food source (the



Characteristics / Information	Frequency (%)	
<b>Diagnosis</b>		
Gynecological cancer	39	19.5
Gastrointestinal cancer	48	24.0
Breast cancer	35	17.5
Head and neck cancer	12	6.0
Lungs cancer	33	16.5
Blood cancer	27	13.5
Others (sarcoma, ca urinary bladder, ca bone)	6	3.0
<b>No. of cycle of chemotherapy</b>		
Second	54	27.0
Third	41	20.5
Fourth	25	12.5
Fifth	30	15.0
Sixth	22	11.0
Seventh	7	3.5
Eighth	8	4.0
Ninth	3	1.5
Tenth and above tenth	10	5.0

enzymes and hormones they need to grow)

- Trigger apoptosis, or the "suicide" of cancer cells

### Why use chemotherapy?

A doctor may recommend chemotherapy:

- To Shrink a tumour before surgery
- After surgery or remission, to remove any remaining cancer cells and delay or prevent a recurrence
- To slow disease progression and reduce symptoms in the later stages, even if a cure is unlikely.

### What to expect?

Chemotherapy is an invasive treatment that can have severe adverse effects both during the therapy and for some time after. This is because the drugs often target both cancer cells and healthy cells.

However, early treatment involving chemotherapy can sometimes achieve a complete cure. This makes the side effects worthwhile for many. Also, most of the unwanted symptoms go away after treatment finishes.





## How long does chemo last?

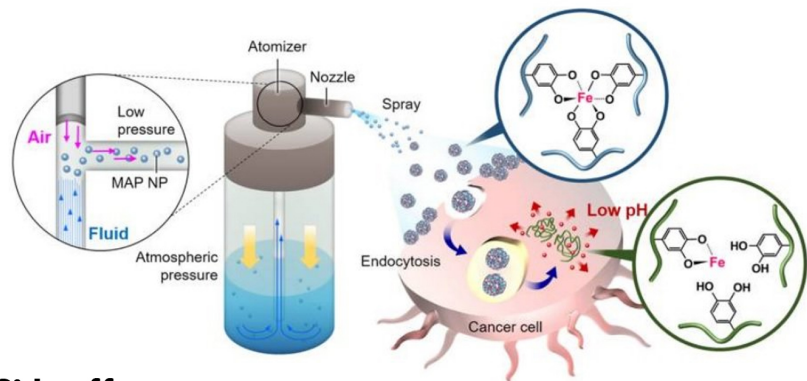
The doctor will make a plan with the individual that specifies when treatment sessions will occur and how many they will need. A course of treatment can range from a single dose on one day to a few weeks, depending on the type and stage of cancer. Those who need more than one course of treatment will have a rest period to allow their body to recover.

## How is the dose given?

Most people will receive chemotherapy in a clinical setting, but sometimes a person can take it at home.

### Ways of taking chemotherapy include:

- By mouth, as tablets, liquid or capsules
- Intravenously, as an injection or infusion
- Topically, onto the skin



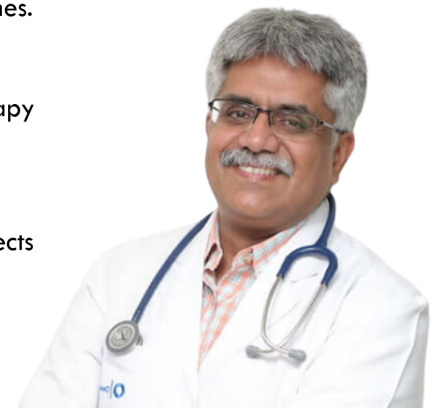
## Side effects

Chemotherapy can produce adverse effects like fatigue, anaemia, vomiting etc. that range from mild to severe, depending on the type and extent of the treatment. Some people may experience few to no adverse effects. A person may need to adjust their lifestyle or work routine during treatment. However, these usually resolve after treatment finishes.

Before starting treatment, a person may

-Wish to discuss with their doctor:

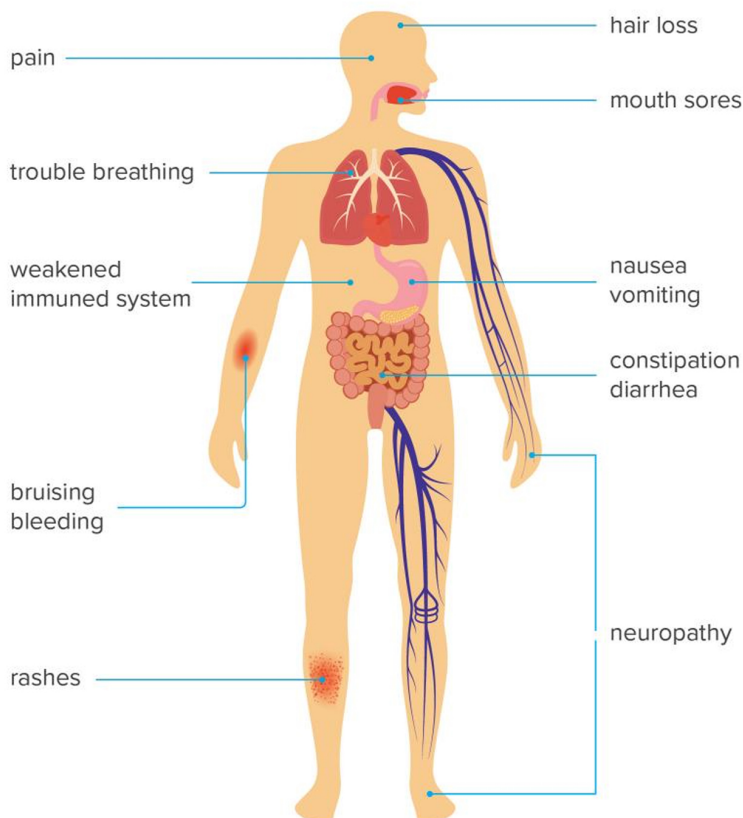
- Why they are recommending chemotherapy
- What the other options are
- Which types are available
- How much it will cost
- What to expect in terms of adverse effects



## Dr. Sameer Khatri

HOD & Sr. Consultant – Medical Oncology  
SMH Cancer Centre – Delhi

## Effects on the Body Chemotherapy



## Facts About Cancer

- 1 Worldwide, in 2018, the 5 most common types of cancer that kill men are (in order of frequency): lung, liver, stomach, colorectal and prostate cancers.
- 2 Between 30-50% of cancers are preventable. Tobacco use is the single largest preventable cause of cancer in the world, and is responsible for approximately 22% of all cancer-related deaths.
- 3 In 2017, less than 30% of low-income countries reported treatment services were generally available, compared to more than 90% of high-income countries.

Source: WHO



## SARS-CoV-2

### Introduction

Covid-19 is known as "Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2)" is a novel RNA Beta corona-virus. It has presented an unprecedented challenge for the healthcare community across the whole world because of: -

- High infectivity
- Ability to get transmitted even during Asymptomatic phase.
- Relatively low virulence.

### Pathophysiology

#### Acute Cardiac injury

- Significant rise in Cardiac Troponins
- MC cardiac abnormalities in Covid-19
- App. 8-12% of all pts. (more than a quarter of critical cases)
- Direct Cardiomyocytes (ACEa2 receptor) viral injury.
- Effect of systemic inflammation (SIRS).

### Cardiovascular System

- Cardiovascular complication occurring in about 10-20% of hospitalized patients.
- Pre-existing heart disease, Predisposed to

- (A) Heart attack
- (B) Congestive heart failure

Rapid Cardiovascular worsening is likely due to: -

- (A) Severe viral inflammation.
- (B) Increased workload on heart due to fever induced tachycardia.
- (C) Compounded by low O<sub>2</sub> level due to pneumonia (lung injury).
- (D) Increased propensity of blood clot formation & plaque rupture leading to Acute Coronary Syndrome in patients with CAD.
- (E) Acute Myocarditis has also been observed in Covid-19 patients either due to direct effect on heart muscle (Cardiomyocytes ACE2 receptor induced) or overactive immune response.

Here, Covid-19 triggers marked inflammation of the heart muscles by Antihypertensive medication called- "ACE binding to ACE2 receptors, leading to acute heart attack &/or acute congestive heart failure.

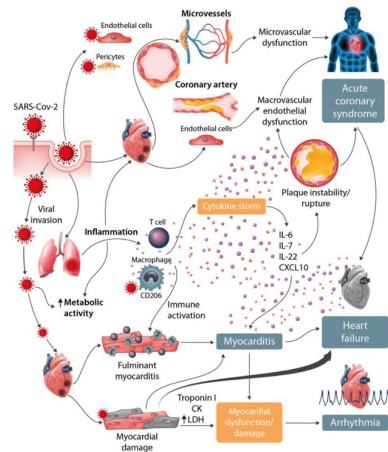
Increased serum Cardiac enzymes levels (Troponin) found due to heart muscle damage. ECG changes also noted due to myocardial injury. It may lead to lethal Cardiac arrhythmia due to weak, inflamed Cardiac muscle. All the above associated with increased risk of death in heart patients with Covid-19 infection. The patient with Adult Congenital Heart disease is also at increased risk of becoming sick, if infected with COVID-19.

- Single ventricles or those palliated with a Fontan circulation.
- Chronic cyanosis (SpO<sub>2</sub> < 8%)
- Symptomatic Cardiomyopathy on T/t
- Cardiac defects referring medication
- Pul. artery hypertension.
- Heart Transplants
- Associated Comorbidities
- Patient with reduced immunity i.e.

(A) Down syndrome

(B) DiGeorge syndrome

(C) Asplenia



About 10% mortality occurs in Covid-19 patients with Pre-existing Cardiovascular disease (only 1% in otherwise healthy people).

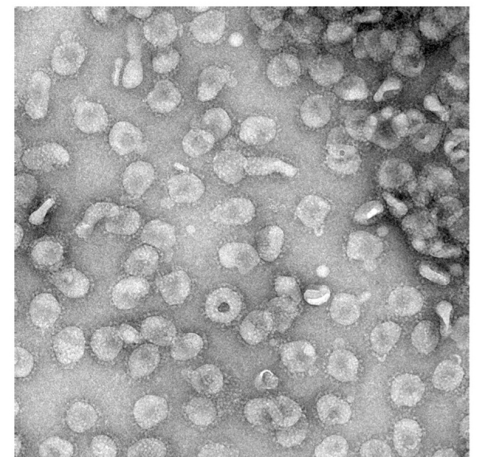
Increased risk in hypertensive patients on antihypertensive treatment also, though cause not clear why?

Some experts have suggested ACE inhibitors & ARBs" cause increased numbers of ACE2 receptors availability for COVID-19, leading to more adherence of

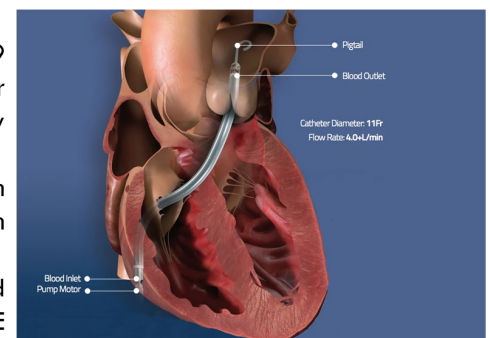
COVID-19 to ACE2 receptors in lung and heart. As COVID-19 has propensity to adhere with ACE2 receptors thus leading to increased heart & lung disease i.e. myocarditis & pneumonia respectively in ACE inhibitors & ARBs users.

### .Note.

As of today this is insufficient evidence of either harm or benefit of ACE inhibitors & ARBs. Therefore, it is recommended that we neither stop the use of ACE inhibitors & ARBs in pts already taking them nor prescribe them now.



**Figure:** Characteristic structure of betacoronavirus. Negative stain electron microscopy showing a betacoronavirus particles with club-shaped surface projections surrounding the periphery of the particle, a characteristic feature of coronaviruses. The photograph depicts a murine coronavirus. Kindly provided by Professor David Bhella, Scottish Centre for Macromolecular Imaging; MRC Centre for Virus Research; University of Glasgow.



The U.S. Food and Drug Administration (FDA) issued an emergency use authorization (EUA) June 1, allowing the Abiomed Impella RP catheter-based heart pump to be used in COVID-19 patients with PE and right heart failure.





## Investigation

### A) All inflammatory markers

- CRP, D-dimer, LDH
- Ferritin, Troponin, CPK-MB

Rising markers with clinical worsening will qualify for advanced T/t.

### B) Pharyngeal Swab – rRT-PCR test.

If (-ve), repeat only one more time.

### C) HRCT/CECT- Chest.

### D) Complete Clotting Profile.

### E) ECG- changes found in myocardial injury,&

### F) 2D Echocardiography- to see RWMA, Valves, & LVEF.

#### Risk factors

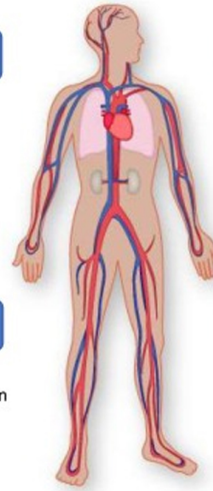
- Advanced age
- Hypertension
- Obesity
- Diabetes mellitus
- Pre-existing cardiovascular disease

#### Cardiac dysfunction

- Myocardial supply-demand mismatch
- Acute coronary syndrome
- Microvascular insufficiency
- Myopericarditis
- Arrhythmia
- Cardiomyopathy
- Heart failure/cardiogenic shock

#### Dysregulated pathways in COVID-19

- Immune system
- Inflammatory cascade/cytokine storm
- Fibrinolytic system



#### Vascular dysfunction

- Deep vein thrombosis
- Pulmonary embolism
- Microvascular thrombosis
- Endothelial injury

## Treatment

### - Supportive T/t

#### 1. - Basic T/t – Antibiotics

- (Ceftriaxone/Azithromycin),
- Hydroxychloroquine
- Methylprednisolone/ Antivirals.
- Anticoagulation

#### 2. Advanced T/t – IVIG & Anakinra

- (IVIG seems to be helping so far)
- O2 supplement
- Ventilation support (if ARDS)

### - Preventive T/t

1. There is no special protocols for high-risk cardiac patient to prevent COVID-19 exposure. But should be very careful to follow the CDC recommendation i.e.

- Frequent handwashing
  - Physical distancing (Safe distancing from others)
  - Face Mask use(to prevent droplet infection)
2. Important to stay up to date on the flu and pneumonia vaccines to prevent any infection.
  3. Avoid close contact with children < 18 yrs. (may be asymptomatic carriers).  
To Bolster the immune system
    - Get enough sleep
    - Manage stress
    - Eat a balanced diet

After all, once the pandemic has subsided, we will still have heart disease to contend with.



FFP3  
0.023 micron



FFP2  
0.3 micron



N95  
0.3 micron



Surgical Mask  
2 micron



Powered air-purifying respirator (PAPR)

## Conclusion

The COVID-19 infected patients with cardiovascular comorbidities are at higher risk of morbidity and mortality. Finally, on the bright side, there are number of promising treatments and vaccines under investigation, but none with proven clinical efficacy at this time.



**Dr. Sudhir Kr. Shahi**  
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(SMH Heart Centre - Delhi)





## Rheumatological Diseases

Rheumatology is a field of medicine which deals with musculoskeletal problems. It just doesn't deal with arthritis, as it is actually thought, but is connected to Connective tissue diseases, present all over the body. It deals with autoimmune diseases, which may be confined to one system or often involves many systems.

Aetiology of autoimmune diseases are multiple, often not clearly known.

There are various theories, which explain infections as predominant cause / trigger of autoimmunity. Hormones, especially estrogens also play a vital role in the autoimmune process and is most important factor in women being affected much more than men, that too of reproductive age group. Less is known about malignancy as a cause of autoimmunity.

### Symptoms of autoimmune diseases:

- Joint pain and swelling
- Rashes
- Prolonged fever
- Hairloss
- Bluish discolouration of fingers on exposure to cold
- Non healing ulcers
- Muscle weakness
- Polyserositis

### Examples of autoimmune diseases:

- Rheumatoid arthritis
- SLE
- Sjogrens syndrome
- Progressive systemic sclerosis
- Inflammatory myositis
- Sarcoidosis

They do not have a specific pattern or manifestation. The symptom complex can be overlapping amongst various diseases, which can be a single disease or overlapping of multiple diseases, or overlying a malignancy or occurs as a consequence of drugs used to treat a malignant lesion.

Case 1: 63 year old male, admitted with history of multiple fluid filled lesions over the face, neck, limbs, flexures – all over the body, with few lesions on the buccal mucosa. He also had patchy hair loss over the scalp.

He denied history of drug intake prior to the occurrence of these lesions, nor fever / loss of appetite / weight. He had no gastrointestinal or urinary or musculoskeletal complaints.

On preliminary evaluation, he was found to have severe pancytopenia, with near normal bone marrow analysis. Viral markers were negative. Urine analysis was normal. Ultra sound abdomen was done to look for organomegaly, but it was found to be normal except for mild ascites and mild pleural effusion bilaterally.

Liver function test did not show major abnormality except hypoalbuminemia. Dermatologist consult was sought, suspecting bullous pemphigoid. He was advised skin biopsy, but was deferred due to very low platelet count (<1000). As a part of workup for pancytopenia, his autoimmune work up was asked. His antinuclear antibodies were positive in high titres, with multiple antibodies positive in the immunoblot. His complement levels were checked, and were found to be critically low. Diagnosis of SLE was made as per the SLICC criteria. He was started on steroids, after which his WBC count started improving. But his platelet count remained low until Revolade (Thrombopoietin receptor analogue) was started. After about 10 days of Revolade, his platelet count started improving. Skin lesions also showed good clearing. He was started on Mycophenolatemofetil. He showed steady progress in his general condition, as well as the skin lesions and blood counts. Autoimmune diseases, especially LUPUS is 9 times more commoner in women than men. However when it affects males, it has a very different and weird presentation and the disease is very aggressive in males. The disease aggravates / flares up on sun exposure, on discontinuation of treatment, stress and in presence of infections. This patient was followed up closely, every monthly for about 4 months, and 3 monthly thereafter. His blood counts reverted to normal in 2 months and his skin was almost normal at the end of 3months.



Before



**Dr. Sangeetha K. N.**  
MBBS, DNB (internal medicine)  
Consultant Rheumatologist  
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## ClearMedi in India

**ClearMedi is amongst India's fastest growing healthcare service provider offering full turnkey solutions and are steadily emerging to be amongst the Largest Oncology Care Providers in India.**



### **i About us**

Clearmedi has been in the business of managing complex clinical services and equipment needs of a hospital. We do the design, development and management of complex medical equipment needs of hospitals and private/public healthcare facilities. ClearMedi has been vendor neutral and thus deploys equipment from all the suppliers in consultation with the hospital. From managing a particular department we have now further progressed, and have moved into managing the entire running and operations of full-fledged hospital services.

Considering the dynamic involved in India every hospital act as a unique set-up and we have been able to achieve a good working partnership model with close to some 20 plus hospitals in India and our partners are rapidly growing.



# ClearMedi Healthcare

[www.clearmedi.in](http://www.clearmedi.in)