Risk Factors for More Severe Cases of COVID-19 in Lymphedema Patients

“The current pandemic of COVID-19 and the risk of SARS-CoV-2 poses a particular risk to people living with preexisting conditions that impair immune response or amplify pro-inflammatory response.”

Permanently Impaired Immune Systems – 100% of patients

Additional Cancer-Related Immunosuppression – up to 66% of patients

Lymphedema patients have permanently impaired immune function. The lymphatic system directly and indirectly regulates immune response. Even in secondary lymphedema, abnormal lymphatic function is systemic. Cancer patients and survivors, who comprise two-thirds of all lymphedema patients, often have additional long-term or even permanent immunosuppression.

Obesity – at least 65% of patients

The prevalence of obesity within the lymphedema population is more than double that of the general population. Obesity is both a cause of lymphedema and can also be the result of lymphedema. Informal assessments in the US have estimated that 50-80% of American lymphedema patients are obese. A formal study in the United Kingdom found 64.6% of lymphedema patients to be obese, 2.32 times higher than the prevalence of obesity in their general population.

Age 60 or Older – more than 50% of patients

Half of all lymphedema patients are seniors on Medicare, an estimated 1.5-3 million Americans.

Additional Risk Factors – 100% of patients

Lymphedema patients carry excess fluid loads and suffer from chronic inflammation. Lymphedema is characterized by persistent swelling in one or more parts of the body due to impaired lymph transport, and also results in localized as well systemic inflammation.

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1 COVID-19 and the role of chronic inflammation in patients with obesity - https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7224343/
2 Regulation of Immune Function by the Lymphatic System in Lymphedema - https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6431810/
3 Modulation of Immunity by Lymphatic Dysfunction in Lymphedema - https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6361763/
4 T-regulatory cells mediate local immunosuppression in lymphedema - https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5794510/
9 Significant Impairment in Immune Recovery Following Cancer Treatment - https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2777669/
13 IL-6 Regulates Adipose Deposition and Homeostasis in Lymphedema - https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4024716/
16 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3652571/#R1
17 Lymphedema diagnosis, treatment, and follow-up from the viewpoint of physical medicine and rehabilitation specialists - https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6657795/
18 Inflammatory Manifestation of Lymphedema - https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5297803/
19 Cytokines are Systemic Effectors of Lymphatic Function in Acute Inflammation - https://www.ncbi.nlm.nih.gov/pmc/articles/23764549