



YOUR WONDERFUL IMMUNE SYSTEM

HOW TO GIVE YOUR BODY THE BEST OPPORTUNITY TO THRIVE

IMMUNITY

INNATE

NONSPECIFIC
fast response (0-4 hours)

MONONUCLEAR PHAGOCYTE SYSTEM



macrophage



dendritic cell



monocyte



complement
protein



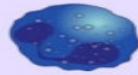
natural killer
cell



mast cell



basophil



eosinophil



neutrophil

granulocytes

ADAPTIVE

SPECIFIC
slow response (4-14 days)

HUMORAL



B cell



antibodies

CELLULAR



T lymphocyte

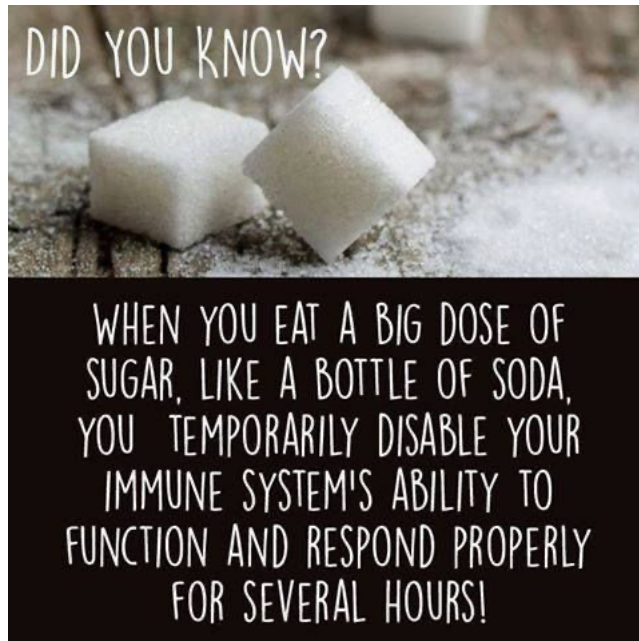


CD4+



CD8+

DO HEALTHY THINGS



- Decreases WBC Count
- Decreases neutrophil function
- Damages blood vessels
- Increased inflammation

The effect of gluten-free diet on mean platelet volume, neutrophil and neutrophil/lymphocyte ratio in children with celiac disease

● Mehmet Agin¹, ● Yusuf Kayar², ● Ramazan Dertli², ● Sevki Konur³, ● Neslihan Surmeli⁴,
● Adnan Ozkahraman³

¹Department of Pediatric Gastroenterology, Hepatology and Nutrition, Van Education and Research Hospital, Van, Turkey

²Department of Gastroenterology, Van Education and Research Hospital, Van, Turkey.

³Department of Internal Medicine, Van Education and Research Hospital, Van, Turkey.

⁴Nutrition and Diets Unit, Health High School, Van Yuzuncu Yil University, Van, Turkey

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Abstract

Aim: Celiac Disease (CD) is a chronic, autoimmune and systemic disease. In the present study, the purpose was to investigate the effect of a gluten-free diet on Mean-Platelet-Volume (MPV), neutrophil and neutrophil/lymphocyte Ratio (NLR).

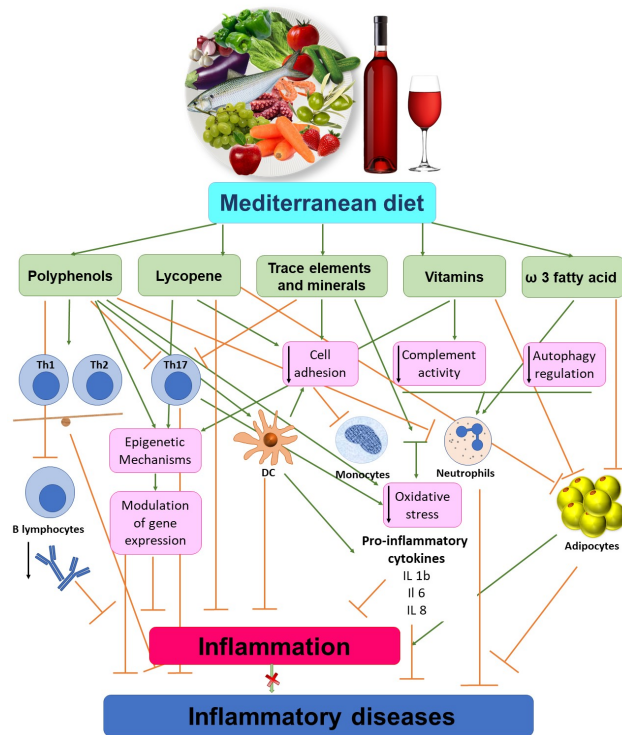
Material and Methods: A total of 106 patients who were diagnosed with CD and who were followed-up by the Pediatric Gastroenterology Clinic of the Hospital, and 50 healthy children were included in the study. The demographic data of the patients and the neutrophil, lymphocyte, platelet, NLR were recorded before the diagnosis and one-year after gluten-free diet. The hematologic parameters of the patients were compared with the healthy control group at the diagnosis time. Following a one-year gluten-free diet, the hematologic parameters of the patients were compared with the parameters at the diagnosis time.

Results: The mean age of the patients was 12.1±3.2 years (7-16 years), and the mean age of the control group was 14.5±4.1 years (12-16 years). A total of 48% (51/106) of the patients were female and 34% (17/50) of the control group was female. Hematological parameters of patients compared pre-dietary and post-dietary; lymphocyte and platelet ratios were significantly higher, whereas neutrophils, MPV and NLR were significantly lower. Neutropenia was detected in 15 patients before the diet. It was observed that neutrophil level reached the normal range after gluten-free diet in patients with neutropenia.

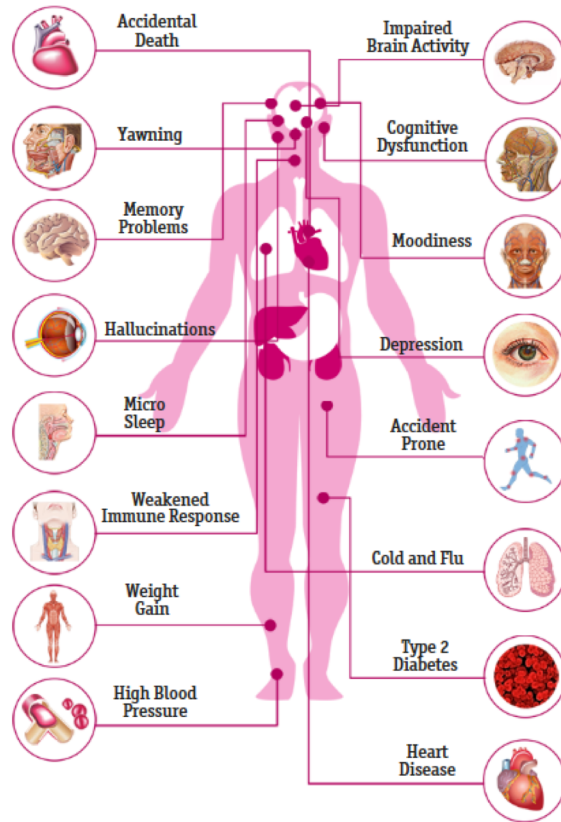
Conclusions: The MPV, neutrophil and NLR values, that was low during the diagnosis, may be ameliorative with the gluten-free diet. In addition, CD should be considered in the differential diagnosis of neutropenic patients.



SO WHAT SHOULD I EAT????



- Beneficial effects on inflammation
- Beneficial effects on cognition
- Beneficial effects on longevity



ZZZZZZZZZ.....

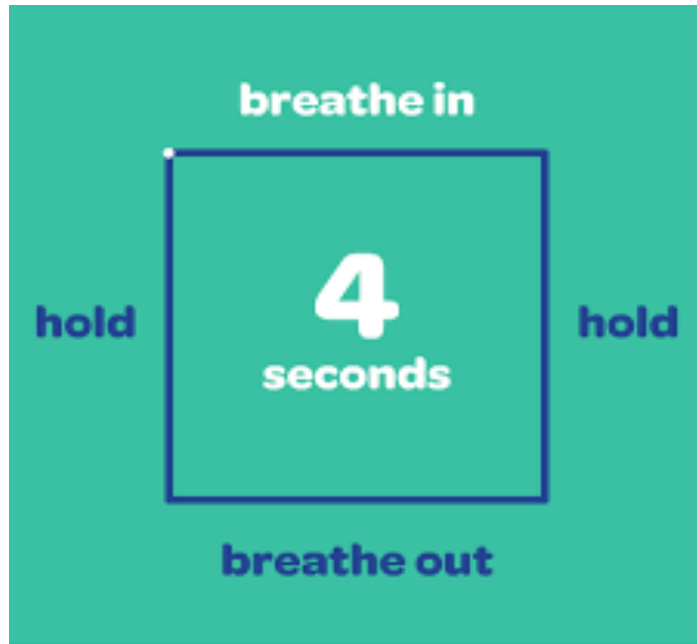
- Be consistent. Go to bed at the same time each night and get up at the same time each morning, including on the weekends
- Make sure your bedroom is quiet, dark, relaxing, and at a comfortable temperature
- **Remove electronic devices, such as TVs, computers, and smart phones, from the bedroom**
- Avoid large meals, caffeine, and alcohol before bedtime
- Get some exercise. Being physically active during the day can help you fall asleep more easily at night.



SLEEP AND YOUR NEUTROPHILS

- **Sleep deprivation alters neutrophil functions and levels of Th1-related chemokines and CD4⁺ T cells in the blood**

JUST BREATHE



- Promoting the release of toxins from your bloodstream and tissue.
- Lowering blood pressure by increasing circulation.
- Boosting your immune system.
- Improving digestion by reducing stress on your liver and kidneys.
- Reducing physical and emotional stress.
- Increasing mental clarity and creativity.
- Creating new neuropathways in your brain.

FREE YOUR MIND



- Win Hoff Method
- Balance
- Calm
- Headspace

**Think of exercise as medicine
and take your daily prescription.**

Steven Magee - QUOTESTATS.COM

Moderate Exercise can Enhance Immune Functioning

Society for
NeuroSports
from cell level to weight loss



↑
Natural Killer
(NK) cell number
and function



↑
Telomere
lengthening in
leukocytes



↑
number of
lymphocytes



↑
number of
neutrophils

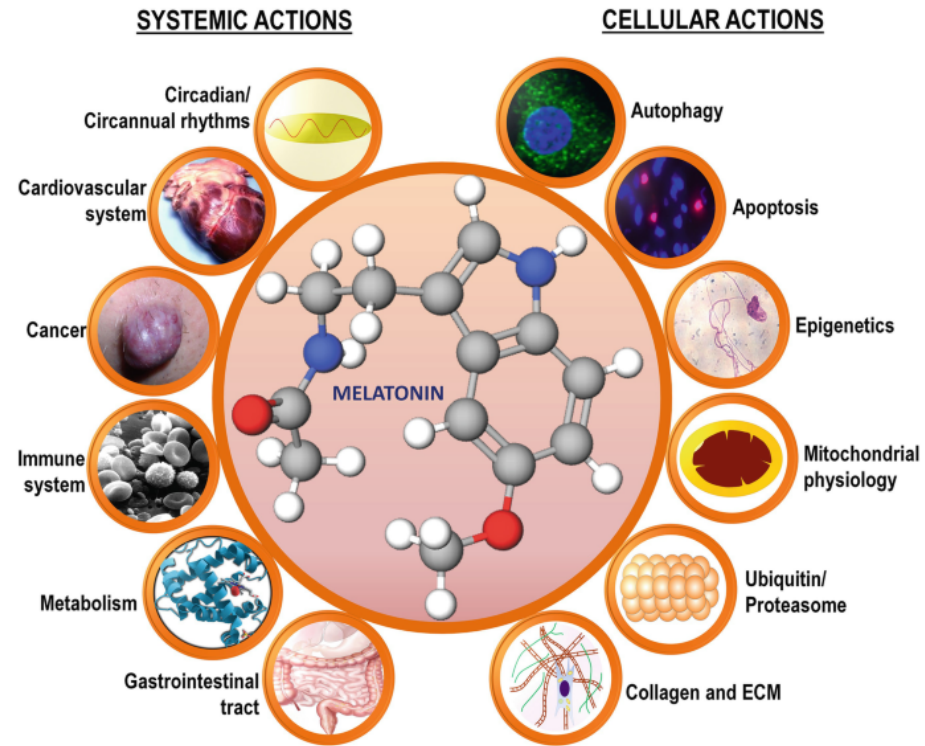


↑
number of
monocytes

WHAT ABOUT SUPPLEMENTS?!



MELATONIN



- **Melatonin restores neutrophil functions and prevents apoptosis amid dysfunctional glutathione redox system**
- Somanathapura K. NaveenKumar, Mahadevappa Hemshekhar, Swamy Jagadish, Kurnegala Manikanta, Gopalapura J. Vishalakshi, Kempaiah Kemparaju, Kesturu S. Girish
- First published: 29 June 2020
- <https://doi.org/10.1111/jpi.12676>
- Citations: 35

MEDICINAL MUSHROOMS

Medicinal Mushrooms

In addition to being rich sources of vitamins, minerals, amino acids, and fiber, medicinal mushrooms have numerous documented health benefits. Find them as teas, powders, capsules, and tinctures or cook them fresh.

SHIITAKE

- cardiovascular health
- antioxidant support
- gut health



REISHI

- antioxidant support
- longevity
- immunity



LIONS MANE

- cognition & mood
- mental clarity
- nerve health



CHAGA

- respiratory health
- antioxidant support
- liver detoxification



CORDYCEPS

- cardiovascular health
- energy & stamina
- longevity



MAITAKE

- blood sugar regulation
- cardiovascular health
- immunity



TURKEY TAIL

- gut & microbiome health
- immunity
- liver detoxification



Medicinal mushrooms are not ideal for everyone, including those with autoimmune issues. Work with your health professional to ensure they are safe for you.

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• Immunomodulatory Properties of *Coriolus versicolor*: The Role of Polysaccharopeptide

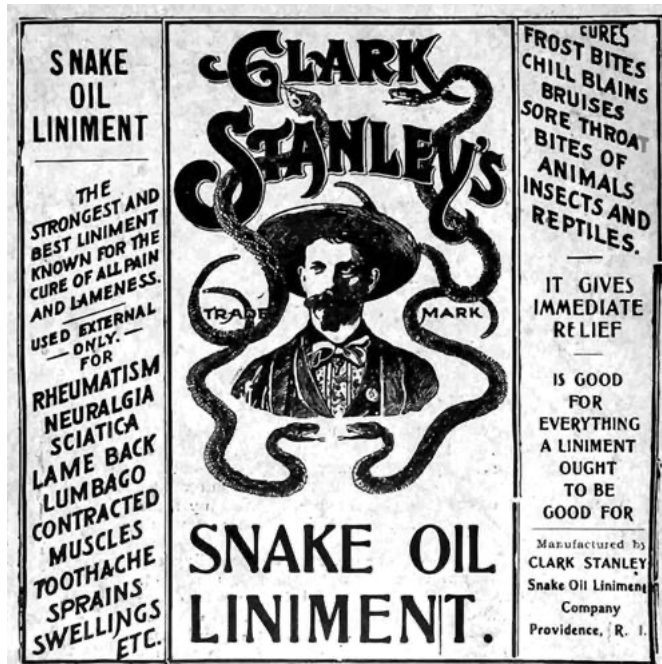
- Front Immunol. 2017; 8: 1087.
- Published online 2017 Sep 6. doi: [10.3389/fimmu.2017.01087](https://doi.org/10.3389/fimmu.2017.01087)

GLYCINE



- Glycine induces enhancement of bactericidal activity of neutrophils

IF IT SOUNDS TOO GOOD TO BE TRUE...



- www.ifm.org