

# Results interpretation

## 1. Inflammatory Indexes : definition and calculations

The indexes quantify the balance between inflammation and the immune response (innate and adaptive). As the inflammatory level increases, the immune level deteriorates.

They are calculated from the blood count (CBC) :

Neutrophils, lymphocytes, monocytes and blood platelets, expressed in Giga/L.

**SII = Systemic Immune Inflammation Index** :  $\text{Neutrophils} \times \text{Platelets} / \text{Lymphocytes}$

It measures the inflammatory level and should ideally be below 520.

**SIRI = Systemic Immune Response Index** :  $\text{Neutrophils} \times \text{Monocytes} / \text{Lymphocytes}$

It measures the level of the immune response and should ideally be lower than 1,1.

*In case of high indexes:*

High indexes reflect a degraded terrain and therefore a higher risk of complication or failure.

Very low indexes can indicate a failure of the immune system (with higher lymphocytes).

In case of abnormal indexes, it's more prudent to postpone the surgery, and improve the health first.

## 2. Interrogation to be conducted in case of high indexes

### • Eliminate a false positive:

- A recent infectious episode :

After an infectious or flu episode, neutrophils and lymphocytes remain high for a few weeks.

→ Transitory increase of indexes.

- A recent surgical intervention : inflammation is mandatory after surgery.

→ Systematic increase of post-operative indexes.

- An allergic ground : allergy increases the level of inflammation.

### • **General condition** :

- Tobacco : Active smoking (> 10 cig/day) increases the level of neutrophils.

- Unbalanced diabetes : induces inflammation and therefore increased indexes.

### • **Oral condition** :

A very degraded periodontal state or an apical infection increase the level of neutrophils.

### • **Drug prescriptions** :

- Some treatments interfere with NFS:

IV lipid emulsions, cephalosporins, chemo/biotherapies or contrast products.

- Corticosteroids : increase the level of neutrophils.

- Immunosuppressants : lower the level of lymphocytes.

- Anticoagulants : can modify platelet levels.

- Lithium/drugs of the nervous system : increases the platelet rate.

### • **Nutrition** :

- Industrial food & ultra-processed foods :

These foods undergo important processes (chemical, physical, biological) and contain modified industrial ingredients (hydrogenated oils, glucose-fructose syrup, modified starches)

→ Destruction of the intestinal microbiota → Inflammation → Increased indexes.

- A lot of red meat = source of cholesterol.

- Alcohol = increase in cholesterol and triglycerides.

- Slow transit, irritable bowel syndrome = witness of a disturbed intestinal flora

### • **Physical activity** :

Walking is the only activity that stimulates the immune system and reduces inflammation.