

Oral Tolerance

Oral tolerance is a state in which the immune system is unresponsive towards antigens introduced via feeding.

Mucosal Immune System

The immune system of the GIT is first and foremost formed by the mucosal epithelia. They provide mechanical barrier against invading pathogens.

The mucosa also have a high volume of lymphatic circulation. There is also mucosa associated lymphoid tissue (MALT), which is formed by aggregation of lymphocytes, beneath the epithelial layer.

Since the mucosa represents the largest area of the human body that is in contact with the external environment, it also faces the highest antigenic load. Thus tolerance is important to avoid hypersensitivity to antigens acquired while feeding.

Features of Oral Tolerance

- It requires normal immune function.
- It requires availability of commensal. Since without commensal, there will be lower immune response.
- Usually only partially (antibody response is inhibited while T cell response remains).
- It diminishes with time.
- It is antigen specific.

Mechanism

- In the exposure of high doses of antigens, immune cells undergo clonal anergy (inability to mount a sufficient immune response to intended antigen).
- In the exposure of low doses of antigens, immune cells undergo active suppression by T regulatory or inhibitory cytokines (TGF- β).

Links

Related articles

- Innate Immune System
- Hypersensitivity

External links

Sources

References

Bibliography

Further reading