Serology and vaccinology

مصول ولقاحات

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Active and passive immunity:

Active immunity refers to the process of exposing body to an antigen to generate an adaptive immune response, the response takes days/weeks to develop but may be long lasting-even-life long.

Active immunity usually classified as

1- Natural: ex) wild infection with hepatitis A virus (HAV) and subsequent recovery gives rise to a natural active immune responses usually leading to lifelong protection
2- Acquired: ex) administration of two doses of hepatitis A vaccine generates an acquired active immune response leading to long lasting protection.

Passive immunity also classified in to

1- Natural: ex) new born baby have passive immunity for several weeks and months by transfer the antibody across placenta.
2- Process of obtaining serum from immune individuals , pooling this, concentrating the immunoglobulin fraction and then injecting it to protect a susceptible person.

Cause of using passive immunization:

1- Used when there is high risk of infection and insufficient time for the body to develop its own immune response,
2- or to reduce the symptoms of ongoing or immunosuppressive diseases.
3- When people can not synthesise antibodies,
4- When they have been exposed to disease that they do not have immunity against

Artificially acquired passive immunity:

Short term immunization achieved by the transfer of antibodies, which can be administrated in several forms

- As human or animal blood or serum
- As pooled human immunoglobulin for intravenous or intramuscular
- From immunized donors can take the IG or from donor recovering from the disease
- As monoclonal antibody

  Passive transfer is used to prevent disease or as prophylactically in the case of immunodeficiency diseases, also to treat poisoning, this type of immunity lasts for a few weeks to three or four months.

  Side effects of this type of immunity:

  -potential risk of hypersensitivity reactions

  -serum sickness

  -the body does not develop memory