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VACCINATION OF IMMUNOCOMPRIMISED CHILDREN

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Introduction. Investigation of vaccination plans for refined immunization procedures and improved defenses in immunocompromised children

Purpose of study : evaluate safety, efficacy, optimal vaccination strategies aiming to enhance overall health outcomes of vulnerable population

Material and Methods. Reviewed online databases and international journals like PubMed ,National Library of Medicine and the Training manual of WHO for vaccine safety

Results. Immunization plays a critical role in safeguarding individuals with primary immunodeficiency disorders (PID) against severe infections. However, the efficacy of vaccines can fluctuate significantly among PID patients. While some exhibit robust immune responses (ex, hyperIgM syndrome, selected antibody deficiencies, partial combined immunodeficiencies etc), others encounter compromised reactions or adverse effects (like-HypernIgE syndrome, DiGeorge syndrome, common variable immunodeficiency etc). Current recommendations advocate for the use of inactivated vaccines, deemed safe for this demographic. Notably, live vaccines like BCG and MMR are cautioned in cases of severe combined immunodeficiency, like Ommen syndrome, X'linked SCID, Reticular dysgenesis etc. Further investigation is warranted to delineate the most effective vaccination strategies for this susceptible cohort.

Principles of Vaccination in specific situations

- Assess whether the patient receive immunosuppressive therapy and Review routine immunization schedule.
- Order pre-vaccination serology before MMR, hepatitis A, hepatitis B and varicella vaccines. MMR and varicella vaccines may be given 24 months after transplant if the recipient is judged to be immunocompetent.
- Influenza vaccine should be given before the transplant, 6 months after the transplant and for life
- Inactivated vaccines may be given 6–12 months after transplant

The PID in which vaccination is safe and need	PID in which vaccination is contraindicated	PID in which vaccination is not useful
• Common Variable Immunodeficiency (CVID) • Chronic Granulomatous Disease (CGD) • Specific Antibody Deficiency (SAD)	• Severe Combined Immunodeficiency (SCID) • X-Linked Agammaglobulinemia (XLA) • Hyper IgM Syndrome • Bare Lymphocyte Syndrome (Type I and Type II)	• Severe Combined Immunodeficiency (SCID) • X-Linked Agammaglobulinemia (XLA) • Hyper IgM Syndrome • Bare Lymphocyte Syndrome (Type I and Type II) • Specific Antibody Deficiency (SAD)

Conclusion. Customization, categorization and adjustments in vaccination plans, continuous monitoring are essential for optimal vaccine responses and improved health outcomes.

Bibliography. PubMed ,National Library of Medicine, Training manual of WHO for vaccine safety, Immune Deficiency Foundation (IDF), European Society for Immunodeficiencies