PARAINFLUENZA IMMUNITY

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IMMUNE RESPONSE/CORRELATES OF PROTECTION

Human parainfluenza virus infection induces humoral and cellular immune responses. The cellular response restricts virus replication and is important in clearing the initial infection, and neutralizing antibodies that target specific surface proteins confer long-term immunity.[1]

- IgA helps prevent reinfection but is short-lived, and "two or more infections might be needed in order for mucosal IgA to persist long term."[1]

REINFECTION

According to the CDC, "people can get multiple HPIV infections in their lifetime." Reinfection usually leads to only mild illness but can be severe in older adults and people who are immunocompromised.[2]

- Most children under 5 years of age have antibodies against HIPV-3, and approximately 75% have immunity against HPIV-1 and HPIV-2.[2]

INFECTION IN IMMUNOCOMPROMISED PEOPLE

Those most at risk for HPIV infections in the immunocompromised population include solid organ and hematopoietic stem cell transplant recipients.[3]

- One study found that 2.2% of bone marrow transplant patients were infected with HPIV (27 total individuals), with respiratory failure and death occurring in 6 of those patients. The authors concluded that "parainfluenza virus infection is associated with substantial morbidity in recipients of bone marrow transplants."[4]
- Another study among heart and lung transplant patients found that, of those infected with HPIV, 82% developed signs of acute allograft rejection and 32% were found to have bronchiolitis obliterans.

REFERENCES

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