Editorial

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Mucosal versus systemic vaccine

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Immune responses to immunogens (vaccine) time curve in general is graphically represented and partitioned into primary and secondary for humoral immune responses. The primary subdivided in to lag, peak and decline. While secondary needs short lag followed by peak due to memory cell functions and affinity maturation. The cellular basis for these responses starts by the uptake of antigen(s), antigen processing, antigen assembly on APC surface in combination with MHC molecules, immune recognition events which covers naïve helper cell activation, conversion to TH1,TH2 which in turn activate resting B or T to into effect or B, effect or T, memory B or memory T cells.[1] The immune features of mucosal and systemic responses vaccines were depicted in Table 1. The overall events may take around one week for mucosal and around two weeks for the systemic responses.[2–4] These features make mucosal vaccination rather better than systemic vaccination for the benefits of the patients, under risk subjects and contacts,[2,3] providing taking in consideration some limitations like, the infection nature, epitope potentials of, immunogenicity, replica-bility and possibility of tolerance induction as in oral mucosa.[5]

Table 1 Features of mucosal and systemic vaccination program[2-6]

Features	Mucosal Vaccination	Systemic Vaccination
Link	Linked to systemic in some ways	Linked to mucosal in some ways
Application	Direct to the mucosal site	Mostly indirect to the site
Fate	Remains local	Distributed and targeted
Loss in hid , compartment	Relatively no apparent loss	Possible loss
Immune conversion rate in term of time from baseline to vaccinated titer	It takes relatively one week	It take relatively two weeks
Rating antibody - titers in vaccinated	M:S = 1 : 1 -20	S : M = 1 - 20 : 1
Class of antibody	SIgA, leastly IgG	IgM, IgG, IgA
Antibody Structure	Contains secretary ,piece,2ME resistant	No secretory piece,2ME sensitive
Antibody transudation	Systemic transudation in low titers to mucosal compartments	No such transudation from mucosal to systemic.
Immune Protection	Seems to be more protective than systemic, though it depends on the nature of the vaccine	Seems to be less protective than mucosal, though it depends on the nature of the vaccine
Replica-bility	Replicable vaccine more protective than non.	As in mucosal

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Conflicts of interest

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