The summary of studies achievements on aging cell-mediated immunity system by cell proliferation tests

abstract

One of the first identified age-associated functional changes in immune response was decreased DTH responses. In fact the DTH response is an example of a T helper response mediated primarily through Th-1-type cytokines, although many events are required before proliferation. Assessment of lymphocyte proliferation has been used as an indicator of the cell-mediated immune potential of an individual. Therefore, many studies have utilized the proliferative response to assess age-associated changes in T-cell response.

A decreased ability of PBMC to proliferate in response to T-cell stimuli is among the most consistent age-associated features of the immune system. It has been reported that 40 percent of individuals over age 70 demonstrate decreased reactivity to a skin test panel regardless of their overall health status.

A decreased DTH response can result from changes in the initial activation of T cells, a shift in cytokine production by the activated cells, or altered reactivity by macrophages.

Also, multiple age-associated changes have been observed in vitro. (respond to antigens: dinitrochlorobenzene, streptokinase or streptodornase) including decreased proliferative responses, modified activation signals, and altered cytokine production profiles.

In addition, numerous studies over the last two decades have examined whether phenotypic changes in the T-cell compartment accompany human aging and it is generally accepted that healthy aging is accompanied by a slight decrease in circulating lymphocytes, number of total T cells. In end, aging is accompanied by many modifications of immune reactivity, with the most significant changes being observed in the T-cell compartment. Therefore, these changes merit close attention by health care professionals.

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