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Gamma Delta And Natural Killer Cells In Splenocytes Of Young Mice Protect Immunocompromised Mice From Death In *Plasmodium Chabaudi* Infection (ABSTRACT ONLY: Poster)

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Abstract

Immunity to malaria requires an elongated time to develop. While there has been advancement in understanding of the immune response to malaria, knowledge on immunity of the disease in children under five is limited due to the lack of a reliable young animal model. It is known that immune cells from young mice (pups) is poorly developed, but preliminary studies from our lab showed that cells from both young (d15 old) and adult mice protected immunocompromised RAGKO mice from death upon transferred. This suggest that splenocytes from young mice may comprise a population of cells that may promote protection against malaria infection. To better understand this protective cell population in young mice, we adoptively transferred splenocytes from both adults and pups into immunocompromised RAGKO mice and infected the recipients with P. chabaudi. We observed higher proportions and numbers of gamma delta T cells in the pup splenocyte recipients when compared to adult counterparts on day 8 post-infection. Interestingly, we observed lower proportions and numbers of natural killer (NK) cells in the adult cell recipients compared to pup recipients. However, there were significantly higher proportions, but not numbers of macrophages in the adult cell recipients. Taken together, our findings suggest that pup cells are enriched or promote an innate immune response comprising of $y\&$ and NK cells, while adult cells inhibit the expansion of these innate like lymphocytes in malaria infection.

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