TITLE

Decrease of Yellow Fever neutralizing antibody titers one year after vaccination is related to different NK cells reperto non-HIV controls - ANRS12403

PRESENTER

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AUTHORS

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BACKGROUND: Yellow fever (YF) vaccine has been successfully used to control YF disease and prevent new outbreaks. TI is considered a safe and highly effective vaccine in people living with HIV (PLWH), but the immunogenicity mechanisms completely understood. This study hypothesized that, despite HIV viral load (VL) suppression, PLWH could present redu and maintenance of YF-neutralizing antibodies (NAbs) and that NK cells different repertoire could participate in this p
METHODS: This study was nested in a longitudinal study that investigated YF vaccine safety and immunogenicity in PL controls (CTRL). NK cells repertoire was evaluated in PLWH with baseline $CD4^+$ T cell counts = 200 cells/mm³ and suppre in CTRL (n=16), by flow cytometry, at pre-vaccination (Day 0), and at three moments post-vaccination (Days 5, 30 and 3 immunogenicity was evaluated by Nab levels measured through a micro plaque reduction neutralization test (μPRNT, Days 30 and 365. For the analysis, all participants were grouped regardless HIV status and according to Nab titers at D (>1:100 and < 1:500), moderate (=500 and <1000) and high (=1000).
RESULTS: YF vaccine resulted in protective Nab titers at Day 30 in all participants, which decreased after one year, rega or $CD4^+$ T cells counts. Interestingly, the frequencies of $NKp30^+$ and $NKG2A^+$ NK cells were significantly lower at D0 amo participants, compared to individuals having moderate and high NAbs titers (p<0,05). Such lower frequencies were sig moments, compared to the moderate Nabs participants (p<0,05).
CONCLUSIONS: Although serological correlates of protection have not been established, higher YF NAbs titers plausibl protection against disease. NKp30 is an important NK activation receptor while NKG2A is related to high responsive ec Early activation of NK cells can engage pathways involving B cells response, wich leads to humoral immunity against v infections or vaccine). Our results suggest that NK cell repertoire presented before vaccination could impact YF vaccine and long term duration of the NAbs protection.