NK cell: an unforgettable lymphocyte (comment on "Delayed presentation of severe combined immunodeficiency due to prolonged maternal T cell engraftment")

To the Editor: I read with great interest the article by Al-Muhsen "Delayed presentation of severe combined immunodeficiency due to prolonged maternal T cell engraftment" in the May/June 2010 issue of the journal.[1] I do really appreciate the contribution to the knowledge of maternal T cell engraftment in severe combined immunodeficiency (SCID). However, I would like to make some comments.

- Antibody responses are not needed when SCID is suspected. Immunoglobulin replacement therapy does not preclude this assessment, for instance, regarding antibodies agains *S* Typhi upon vaccination, as titers are not generally present in donors.[2] Isohemaglutinins—a natural source of antibodies of type IgM—could also be measured in spite of immunoglobulin replacement (where only IgG is administered).
- The author state a T-B+ phenotype. However, as can be seen in **Table 1** (see reference 1), CD16-56 (the marker for natural killer [NK] cells) are below the normal range. So we can affirm the patient presented a T low B+ NK low (I say low because we use "-" when the lymphocyte subset is definitely absent). Moreover, a phenotype with decreased T and NK cells is strongly suggestive of cytokine receptor common gamma chain (gc) (or CD132) deficiency. This comprises for 2 out of 3 cases of SCID (also known as X-linked SCID). There are well established criteria by the European Society For Primary Immunodeficiencies (ESID)[3]
- The genes sequenced (RAG1/2, Artemis) show a different lymphocyte subset phenotype: T-B-. This is because the failure precludes functional V(D)J recombination that finally lead to the development of T cell and B cell surface receptors (TCR and BCR). But this does not affect NK cells. In this last case, we propose radiosensitivity tests in fibroblasts, as an easy way to guide a cheaper and faster gene sequencing (SCID with radiosensitivity are caused by defects in the nonhomologous end-joining (NHEJ) DNA repair pathway: Artemis, DNApKcs, DNA ligase IV and XLF).[4]
- CD40L deficiency (hyper IgM syndrome) was ruled out by cytometry. This is neither necessary nor reliable. CD40L should nor be considered within the differential diagnosis as IgM is absent. There is general agreement that CD40L deficiency is not ruled out in many cases, so going straightforward to gene sequencing is the most common approach.

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