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Dynamics after Daratumumab Monotherapy for patients with Relapsed or Refractory Multiple Myeloma

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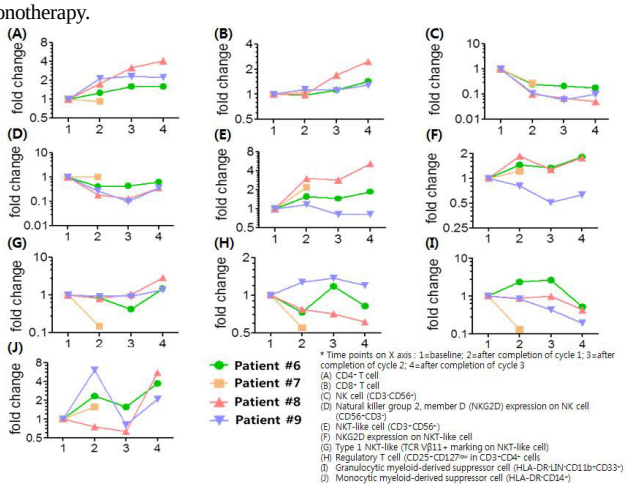
Background/Aims: Despite recently reported efficacy of daratumumab monotherapy for patients with relapsed or refractory multiple myeloma (RRMM), dynamics of immune cell populations following daratumumab monotherapy remain unclear. **Methods:** Pilot study with immune cell populations during daratumumab monotherapy in four patients with RRMM was analyzed. Blood samples were obtained at four time points: at the time of initiation of daratumumab (baseline sample), and on day 28 of cycles 1, 2 and 3 (i.e., after completion of cycle 1, 2 and 3), respectively. **Results:** Of all, one patient showed partial response (i.e., overall response rate was 25.0%). On daratumumab monotherapy, the number of cytotoxic immune cell such as CD4+ T cells, CD8+ T cells, NKT-like cells (CD3+CD56+), and their NKG2D expressions, and subpopulations of NKT-like cells (NKT-like cell marking on Vβ 11+CD3+) increased. On the other hand, decreasing number of NK cells and immunomodulatory cells including regulatory T cells (CD25+CD127low in CD3+CD4+ cells) and granulocytic myeloid-derived suppressor cells (HLA-DR-LIN-CD11b+CD33+) was observed. **Conclusions:** An increase of well-known cytotoxic immune cells accompanied with a decrease of regulatory T cells and granulocytic myeloid-derived suppressor cells seem to be an important mechanism of daratumumab monotherapy.



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Clinical outcomes following rabbit ATG and cyclosporin in adult patients with aplastic anemia

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Background/Aims: Combination of horse antithymocyte globulin (ATG) and cyclosporine (CsA) is the standard treatment for aplastic anemia (AA) patients who are unsuitable for allogeneic stem cell transplantation with a matched sibling donor. Nevertheless, only rabbit ATG plus CsA (rATG-CsA) is available due to the manufacturing difficulties of horse ATG in Korea. We investigated efficacy and adverse events following rATG-CsA in Korean AA patients. **Methods:** 99 adult patients with AA who received rATG-CsA were prospectively observed. **Results:** Median age was 41 (18-75) years. Of all, 55 (55.6%) patients received 2.5mg/kg/day and 44 (44.4%) patients administered 3.5mg/kg/day for 5 days followed by CsA. During median follow-up interval of 17.9 months (1.1-71.2), 62 patients (62.6%) achieved overall response including complete and partial response rate. 45 patients (45.5%) patients experienced any grade 3 or higher adverse events. Frequencies of grade 3 or higher non-infectious adverse events were in the order of elevated liver enzyme (N=7, 7.1%), serum sickness (N=5, 5.1%), hypertension (N=2, 2.0%), and others. These non-infectious adverse events were manageable with supportive care. Grade 3 or higher infectious adverse events by bacteria, virus, fungus, pneumocystis pneumonia, and mycobacterium tuberculosis were occurred in 33 patients (33.3%), 10 patients (10.1%), 8 patients (8.1%), 3 patients (3.0%), and 1 patient (1.0%), respectively. Regarding bacterial infection, most common organism which isolated from patients were Escherichia coli (N=8, 8.1%) followed by Staphylococcus aureus (N=7, 7.1%), Klebsiella pneumoniae (N=3, 3.0%), Enterococcus species (N=3, 3.0%), and others (Figure 4A). Frequencies of viral organisms were identified in the order of herpes simplex virus (N=21, 21.2%), cytomegalovirus (N=4, 4.0%), and others (Figure 4B). Invasive fungal infection was identified in 6 patients (6.1%) with aspergillus species, followed by 3 patients (3.0%) with Candida albicans. **Conclusions:** This study shows the comparable efficacy of rATG-CsA for Korean AA patients. Adverse event profile of current study provide information on the concern after rATG-CsA.