

Editorial

Combination immunosuppressive therapy in pediatric severe aplastic anemia: trends in response and clinical outcomes

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Severe acquired aplastic anemia (SAA) is a life-threatening condition. Current treatment guidelines from the Thai Society of Hematology recommend immunosuppressive therapy (IST), with or without eltrombopag (EPAG), for patients who are not eligible for stem cell transplantation, while matched sibling donor hematopoietic stem cell transplantation (MSD-HSCT) remains the preferred option when available.¹

The study, *"Clinical Outcomes in Pediatric Patients with Severe Acquired Aplastic Anemia Treated at Siriraj Hospital,"* retrospectively analyzed 27 pediatric patients with SAA treated between 1 January 2013 and 31 December 2023. Among these, 13 patients (48.2%) received IST alone, 7 patients (25.9%) received IST combined with EPAG, and 7 patients (25.9%) underwent MSD-HSCT.

At 3 and 6 months, overall response (OR) rates were 28.6% and 42.9% in the IST+EPAG group, compared with 0% and 7.7% in the IST-only group, respectively; however, these differences did not reach statistical significance. Nonetheless, the addition of EPAG to IST showed a trend toward higher response rates at both time points.

Overall survival (OS) was comparable between the IST+EPAG group (62.5%, 95%CI: 0.14-0.89) and the IST-only group (63.3%, 95%CI: 0.29-0.84), consistent with previous studies demonstrating no significant difference in OS between these treatment approaches. The MSD-HSCT group had an OS of 42.9%.

Although not statistically significant, the IST+EPAG group demonstrated shorter mean times to hematologic response and transfusion independence compared with

the IST-only group ($p = 0.085$ and 0.162 , respectively). These findings are consistent with prior evidence. A randomized controlled trial by Peffault de Latour, et al. showed that adding EPAG to IST (horse ATG/cyclosporine) in patients older than 15 years significantly shortened the median time to first hematologic response and complete response compared with IST alone.² Similar results were reported in the ESCALATE trial in pediatric patients.³

Additionally, Zhao, et al. used propensity score matching to compare 15 children treated with IST+EPAG with 45 treated with IST alone, demonstrating a significantly shorter median time to hematologic response in the EPAG group (105 vs. 184 days, $p = 0.008$). Subgroup analysis revealed greater benefit in adolescents (≥ 14 years) and in patients with severe aplastic anemia, while younger children (< 14 years) and those with very severe disease showed less improvement.⁴

Mechanistically, EPAG is thought to enhance hematopoiesis by promoting the proliferation and maturation of bone marrow stem cells, particularly megakaryocytes, thereby increasing platelet production. These effects likely contribute to improved hematologic responses.⁵

In conclusion, the combination of EPAG with IST was associated with a trend toward higher overall response rates at 3 and 6 months, although these differences were not statistically significant. Patients receiving IST+EPAG also experienced shorter times to hematologic response and transfusion independence. Overall survival was comparable between the two groups, and no new significant toxicities were observed with the addition of EPAG.

Reference

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