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Somatic Mutations and Clonal Hematopoiesis in Aplastic Anemia

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To the Editor

In their study involving 439 patients with aplastic anemia, Yoshizato and colleagues (July 2 issue)[1] bring us closer to understanding clonal hematopoiesis in patients with this disease. However, a key conceptual aspect of the study is that the investigators prescreened patients for somatic mutations in genes that are mutated in myeloid cancers using targeted sequencing, followed by whole-exome sequencing, mainly in patients with mutations in the targeted genes. Furthermore, the study population included those with the post–aplastic anemia myelodysplastic syndrome (MDS), which further biased the identified pattern of clonal hematopoiesis toward MDS-associated mutations. Using an unbiased approach of comparative whole-exome sequencing of bone marrow and skin DNA, we recently found somatic mutations in 73% of 22 patients with aplastic anemia who were not prescreened with targeted sequencing[2]. None of the patients who were included in our study had evidence of myelodysplasia. Somatic mutations were significantly enriched in pathways of immunity, whereas only 9% of the patients carried mutations associated with MDS. Further studies using unbiased approaches with long-term follow-up will help to capture the full spectrum and biologic significance of clonal hematopoiesis in aplastic anemia.

References

1. Yoshizato T, Dumitriu B, Hosokawa K, et al. Somatic Mutations and Clonal Hematopoiesis in Aplastic Anemia. N Engl J Med. 2015; 373:35–47. [PubMed: 26132940]
2. Babushok DV, Perdigones N, Perin JC, et al. Emergence of clonal hematopoiesis in the majority of patients with acquired aplastic anemia. Cancer Genet. 2015; 208:115–28. [PubMed: 25800665]

No potential conflict of interest relevant to this letter was reported.