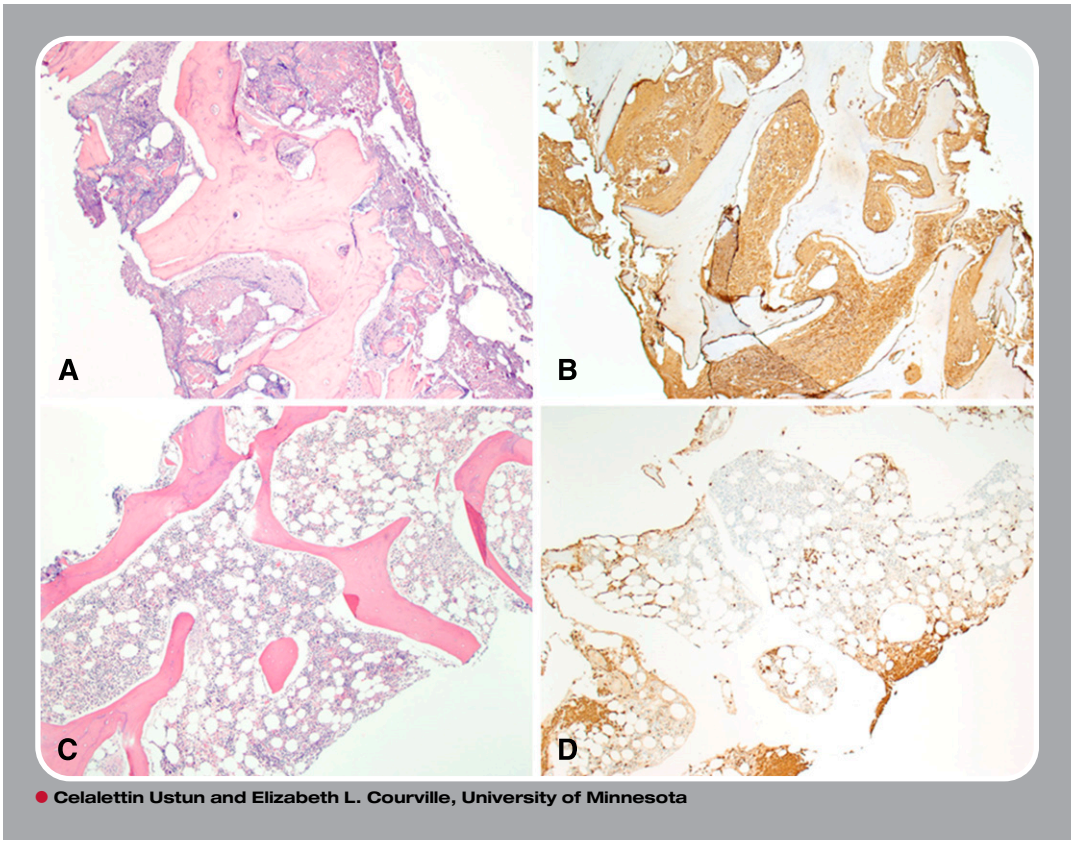
bloodwork
IMAGES IN HEMATOLOGY

Resolution of osteosclerosis after alloHCT in systemic mastocytosis



Celalettin Ustun and Elizabeth L. Courville, University of Minnesota

A 52-year-old man received HLA-matched sibling allogeneic hematopoietic cell transplantation (alloHCT) for aggressive systemic mastocytosis (ASM) with *KITD816V* mutation. Diffuse or focal osteosclerosis, common in systemic mastocytosis, was seen in this patient (panels A-B; hematoxylin and eosin [H&E] and mast cell [MC] tryptase immunostain, original magnification ×4). The patient's bone marrow (BM) aspirates were technically difficult because of osteosclerosis ("dry tap"). Despite no prior documented reports, graft failure was a concern given the osteosclerosis. Neutrophil and platelet engraftment occurred at days 20 and 40 posttransplantation, respectively. The patient achieved a partial reduction in MC burden at 6 months posttransplantation (serum tryptase decreased from 1660 ng/mL to 843 ng/mL), but osteosclerosis persisted. After plateau of the MC burden and serum tryptase levels, cladribine and then midostaurin were used. At 1 year after alloHCT, BM biopsy was technically easier and yielded his first aspirate. MC burden and osteosclerosis (panels C-D; H&E and MC tryptase immunostain, original magnification ×4) were significantly reduced. Serum tryptase was further decreased (400 ng/mL).

In this case, alloHCT and cytoreductive therapy post-alloHCT were not only effective in decreasing MC burden (the maximum immunologic benefit in ASM may be delayed) but also corrected associated bone/BM structural abnormalities.

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