**WEB FIG. 1** Show typical phenotypic patterns of hematogones; *a*: shows CD19 based gating strategy; *b*: Shows sub gating based on CD34 and CD10; *c*: Shows classical waterfall pattern; *d*: shows the merging pattern on CD45/SS; *e*: CD58vsCD45, showing maturation pattern.

**WEB FIG. 2** Location of blasts and/or abnormal cells.
Web Fig. 3 (a-c) Patterns in Precursor B cell ALL, (d-g): Patterns of Precursor T cell ALL.
**Web Fig. 4** Minimal residual disease patterns in Precursor B Cell ALL.

**Web Fig. 5** (A) Cells expressing CD45, suggestive of blasts (B) Blasts express cytoplasmic CD3 with dim to negative surface CD3, suggesting T cell Lymphoblastic Lymphoma  (C&D) T blasts express very bright CD7 and dim CD2, and are negative for CD4 and CD8.
**WEB FIG. 6** Cells expressing CD19, CD20 show lambda restriction, suggestive of B cell Non Hodgkins lymphoma (C) Lambda restricted B cells show CD10, consistent with CD10 Positive B cell Lymphoma (D) High S-phase fraction on lambda restricted B cells, suggesting Burkitts Lymphoma.