

25TH SHAUKAT KHANUM CANCER SYMPOSIUM

Treatment of Reactivation and Progression in **Langerhans Cell Histiocytosis (LCH)**: A 17-Year Single Center Experience from a Tertiary Care Hospital in Pakistan

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75

LCH cases registered

19

reactivation / suboptimal response

17 yrs

study period (2009–2025)

53%

female patients

PURPOSE

Langerhans Cell Histiocytosis (LCH) is a rare myeloid neoplasm affecting 2–9 children per million per year globally. Despite aggressive treatment strategies, single-system and multisystem LCH remains a clinical challenge, with mortality and reactivation rates frequently exceeding 20% and 30%, respectively. This study analyzes reactivation patterns and clinical trajectory in a pediatric cohort at a tertiary childhood cancer unit in Pakistan to understand the impact of standardized protocols in LMICs.

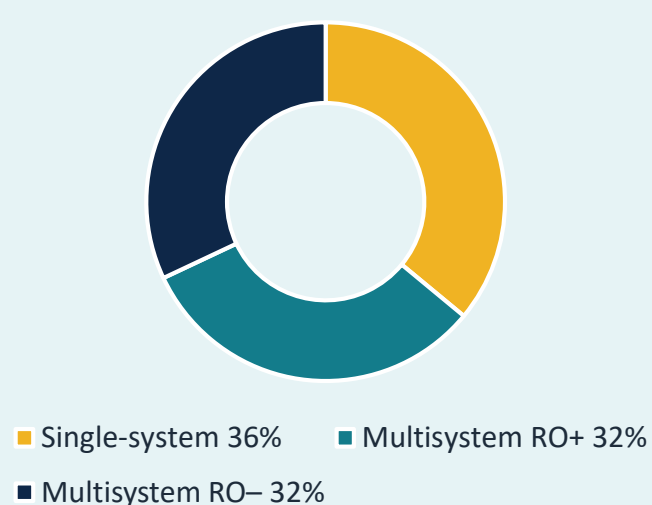
METHODS

Retrospective review of LCH patients (aged 0–16) at Indus Hospital and Health Network (IHHN), Karachi, over seventeen years (2009–2025). Following Histiocyte Society criteria, patients were stratified into single-system and multisystem disease, the latter further grouped by presence (RO+) or absence (RO–) of risk organ involvement. Patients with reactivation or suboptimal initial response were treated per the standardized Histiocyte Society protocol of the respective era.

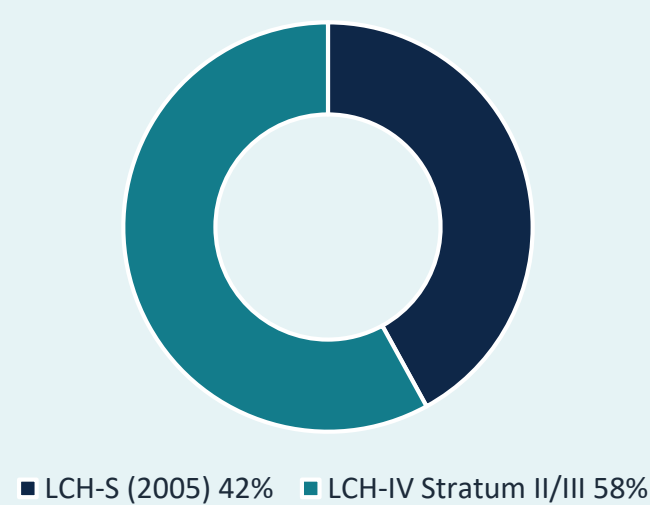
RESULTS

Of **75** registered LCH cases, **19 patients** with reactivation/suboptimal response were treated (53% female). **42%** received the LCH-S (2005) protocol until 2014; **58%** received Stratum II and III of the LCH-IV protocol based on reactivation pattern. At 5-year follow-up, six had completed treatment and remained in remission, seven were on therapy, five succumbed to progression/complications, and one abandoned therapy.

Disease extent



Protocol used



Outcome of 19 patients



CONCLUSION

Despite a structured framework for managing LCH, the burden of disease reactivation remains high in single-system and multisystem LCH. Although BRAF inhibitors are unavailable, results in our study are promising. Optimizing supportive care strategies is critical to improving long-term outcomes for pediatric LCH reactivation in resource-limited settings.