

Fluctuation of Tissue Eosinophils in Chronic Rhinosinusitis with Nasal Polyp

P-02

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Background

Tissue eosinophil count (TEC) is recommended for defining Type 2 CRSwNP, usually assessed by a single biopsy. Because TEC may change over time, its reliability for diagnosing type 2 CRSwNP has not been previously assessed. **This study aims to explore whether TEC fluctuates across different time points.**

Materials and Methods

Adult patients with CRSwNP were prospectively recruited at Rajavithi Hospital, Thailand, steroid used within 4 weeks were excluded. Polyps were taken for TEC evaluation upon recruitment and repeated at 3 & 6 months. Participants were assessed using the SNOT-22, LKES, blood eosinophil count, and its percentage at each time point.

Inclusion criteria

- Age ≥ 18 years
- Primary diffuse CRSwNP (EPOS2020)

Exclusion criteria

- Tumors
- Post RT at head&neck
- Cognitive impairment
- Were unable to communicate in Thai

Results

TABLE 1 | Demographic data.

Demographics	Data (n = 37)	Note: Values are presented as mean ± standard deviation, percentage, or median (Quartiles 1–3) Abbreviations: LKES, Lund–Kennedy endoscopic score; LMS, Lund–Mackay computerized tomography score; n, number of patients; SNOT-22, 22-items sinonasal outcome test.
Age (years)	51.6 ± 14.5	
Male	25 (67.6)	
Patients with underlying disease	29 (78.4)	
Asthma	5 (13.5)	
Allergic rhinitis	4 (10.8)	
Hypertension	18 (48.6)	
Diabetes mellitus	9 (24.3)	
Others	13 (35.1)	
SNOT-22	43.9 ± 18.9	
LKES	7.0 (4.5-10)	
LMS	19 (13.5-22)	

TABLE 2 | Data comparisons among time points.

Outcomes	Time points			P-value
	0 months	3 months	6 months	
Tissue EOS(HPF)	17 (4-53.5)	19 (5-47.5)	21 (4.5-51)	0.53
Serum EOS (cell/μL)	280 (133-435)	262 (147-474)	210 (146-399)	0.61
Serum EOS (%)	3.0 (1.1-6.0)	2.9 (1.7-4.9)	2.9 (1.5-5.6)	0.23
SNOT-22	43.9 ± 18.9	47.4 ± 21.3	47.1 ± 21.0	0.21 ^a
LKES	7.0 (4.5-10)	8.0 (6.0-10)	8.0 (6.0-10)	0.23

^aTested using repeated measure analysis of variance. Abbreviation: EOS, Eosinophils

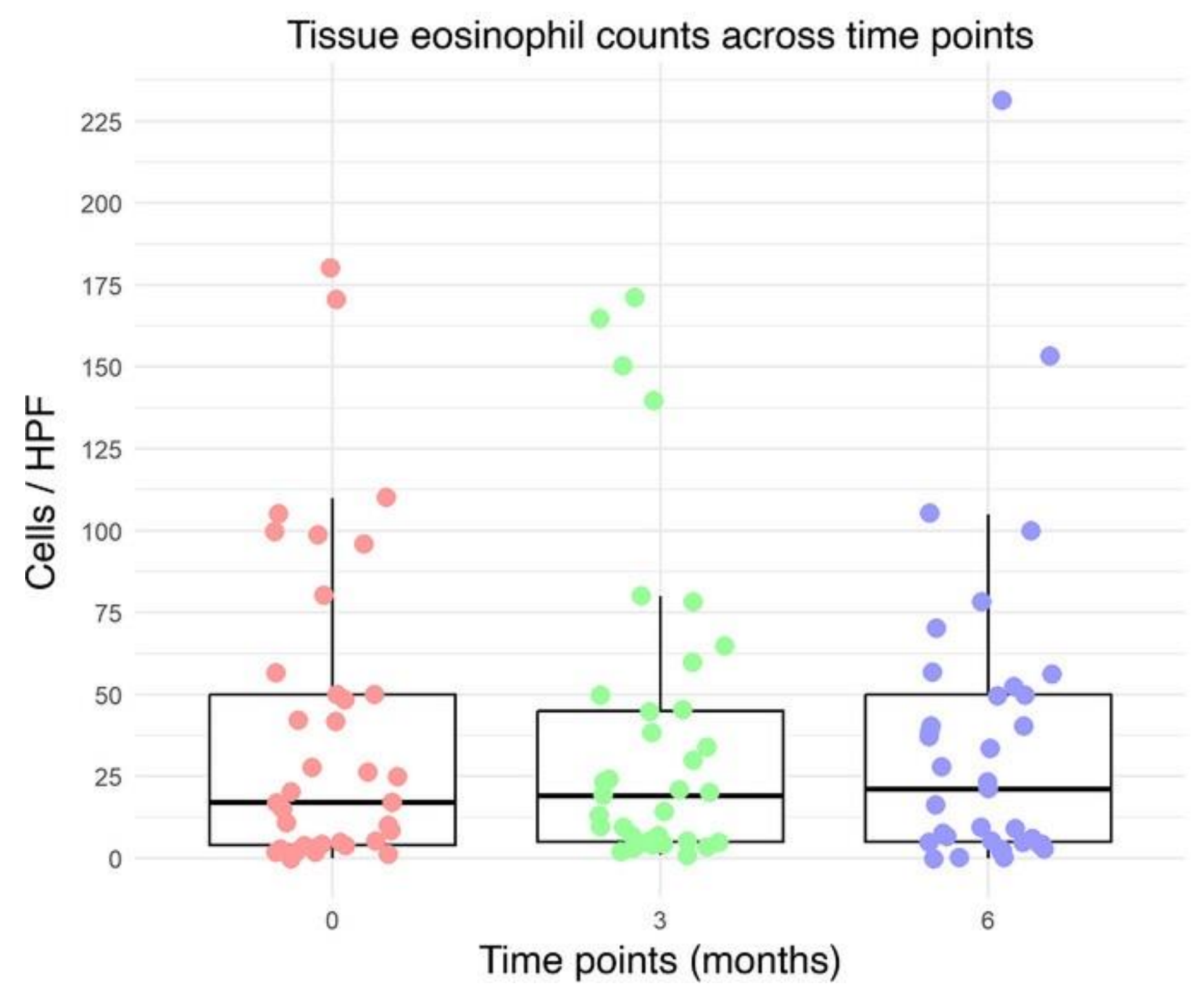


FIGURE 1 | Box plot showing eosinophil count(TEC) across different time point. The medians of TEC were not statistically different across three time point ($p = 0.53$).

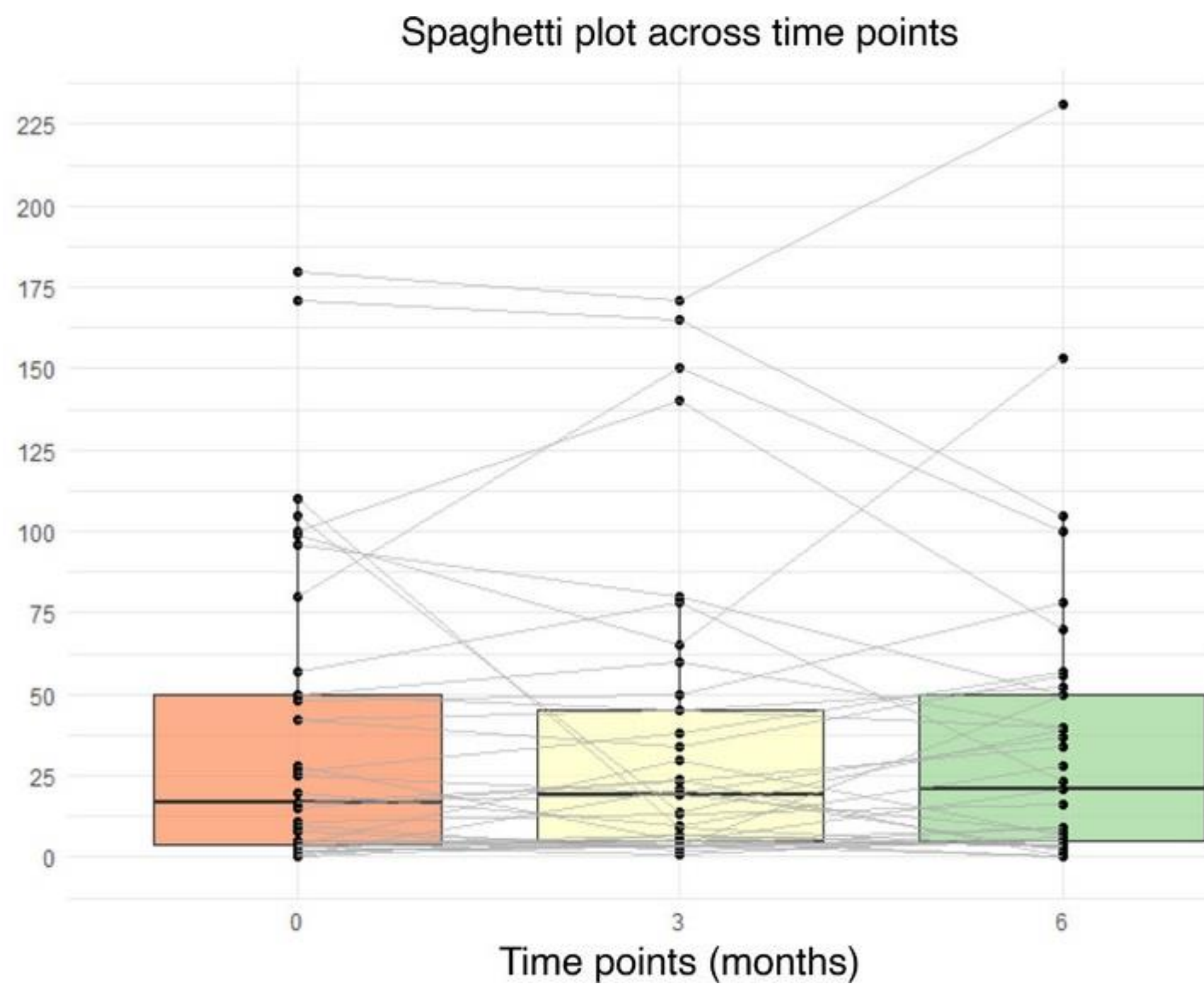


FIGURE 2 | Spaghetti plot showing the progression of TEC for individual patients over time. Each line connects the data points for a single patient across the time points.

CONCLUSION

TEC Stability: remains stable over 6 months in CRSwNP patients.

Biopsy Reliability: Single biopsy is reliable for clinical practice

Consistency Across Measures: Blood EOS levels, SNOT-22 scores, LKES