Costs of Treating Soft Tissue Sarcomas and Infantile Fibrosarcoma in Pediatric Patients in Turkiye: A Delphi Panel Study

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Introduction

- Soft tissue sarcoma (STS) and infantile fibrosarcoma (IFS) are rare tumors that usually occur in childhood[1].
- Soft tissue tumors in infants pose diagnostic and therapeutic challenges. Fibroblastic tumors with an intermediate prognosis, which are more prevalent in infants (particularly infantile fibrosarcoma), are locally aggressive. These tumors respond to chemotherapy and radiotherapy[2].
- This study aims to calculate the annual costs of treating STS and IFS in pediatric patients in Turkiye.

Method

- Data for the study were collected using the Delphi Panel method; expert opinions were collected from six oncologists with experience in cancer treatment.
- The standardized questionnaire included questions eliciting the opinions of the expert panelists on the distribution of clinical characteristics among patients with STS and IFS.
- Analyses were conducted in the Microsoft Office Excel from the perspective of reimbursement agency.
- The costs of treating STS and IFS in pediatric patients were first calculated separately for different types of care and treatments, including examinations (laboratory and imaging tests), follow-up/hospitalization (radiotherapy, surgical interventions, outpatient treatment, and hospitalization), and medication (chemotherapy and other medicines).
- The total costs for the progression-free period, the post-progression period, and terminal care were calculated, depending on cost inputs.

STS – Progression-Free

60,766 TL	
Laboratory and Imaging Cost	
9,550 TL	16%
Follow-Up and Hospitalization Cost	
12,081 TL	20%
Medication Cost	
39,135 TL	64%

STS – Post-Progression

23,522 TL	
Laboratory and Imaging Cost	
9,472 TL	40%
Follow-Up and Hospitalization Cost	
7,338 TL	31%
Medication Cost	
6,712 TL	29%

STS – Terminal Care

44,719 TL	
Laboratory and Imaging Cost	
2,218 TL	5%
Follow-Up and Hospitalization Cost	
37,252 TL	83%
Medication Cost	
5,249 TL	12%

IFS – Progression-Free

91,493 TL	
Laboratory and Imaging Cost	
9,519 TL	11%
Follow-Up and Hospitalization Cost	
17,708 TL	19%
Medication Cost	
64,266 TL	70%

IFS – Post-Progression

36,174 TL	
Laboratory and Imaging Cost	
9,447 TL	26%
Follow-Up and Hospitalization Cost	
10,656 TL	30%
Medication Cost	
16,070 TL	44%

IFS – Terminal Care

51,651 TL	
Laboratory and Imaging Cost	
2,218 TL	4%
Follow-Up and Hospitalization Cost	
37,275 TL	72%
Medication Cost	
12,158 TL	24%

Results

- The total annual cost for per pediatric patient with STS during the progression-free, post-progression, and terminal care periods were 60,766 TL, 23,522 TL, and 44,718 TL, respectively.
- While medication costs constituted the highest percentage of these costs during the progression-free period, the highest costs for patients with STS in Turkiye are examinations during the post-progression period and follow-up care and hospitalization during the terminal care period.
- The total annual cost for per pediatric patient with IFS during the progression-free, post-progression, and terminal care periods were 91,492 TL, 36,173 TL, and 51,651 TL, respectively.
- For pediatric patients with IFS, the highest costs during the progression-free and post-progression periods were medications; during the terminal care period, the highest costs were follow-up care and hospitalization.

Conclusions

- Treatment cost of a disease is important for decision makers.
- Since STS and IFS are very rare tumors, the vast majority of studies in the literature are based on case reports.
- The study aims to help decision makers who assess healthcare technology evaluating the new treatment options for pediatric patients with STS and IFS.
- According to the results of the study, it is noteworthy that the cost of the progression-free period for STS and IFS is higher than the cost of the post-progression period.
- Unlike most tumor types, STS and IFS offer higher costs in the progression-free and terminal period.
- The majority of these costs consist of the drugs used in chemotherapy and the costs of hospitalizations.

Results

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2. Ferrari, A., Orbach, D., Sultan, I., Casanova, M., & Bisogno, G. (2012, August). Neonatal soft tissue sarcomas. In Seminars in Fetal and Neonatal Medicine (Vol. 17, No. 4, pp. 231-238). WB Saunders.

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