

Introduction

Cyclophosphamide and ifosfamide are widely used drugs for various types of childhood cancers. One of the most significant adverse reactions to these drugs is hemorrhagic cystitis (HC). Uromitexon is the most uroprotective agent that acts to neutralize the caustic metabolite, acrolein, responsible for induction of HC.

Objective

The objective of the study is to evaluate the cost effectiveness of uromitexon in the prevention of urinary toxicity of cyclophosphamide and ifosfamide used in childhood cancers.

Methods

This is a cross-sectional study spread over a period of 6 months from January 1, to June 28, 2022, in pediatric hemato-oncology department in Rabat. It is based on the analysis of the cost effectiveness of all chemotherapy protocols containing ifosfamide, cyclophosphamide as cytotoxic drugs and uromitexon as uroprotective agent and the appearance of HC as adverse effect.

Results

Among the 562 chemotherapy protocols that were prepared

which are used in the treatment of 12 types of childhood cancer

66 protocols contained ifosfamide, cyclophosphamide and uromitexon

- Ewing's sarcoma and Neuroblastoma are the most frequent types of cancer that require the administration of the above-mentioned drugs.
- The table below summarizes the cost of ifosfamide, cyclophosphamide and uromitexon used for ewing's sarcoma and neuroblastoma, which are the most frequent types of cancer that require the administration of the above-mentioned drugs.

	The Cost of ifosfamide and cyclophosphamide	The cost of uromitexon	The cost of uromitexon in relation of total cost of chemotherapy
Ewing's sarcoma	13000€	3500€	27%
Neuroblastoma	3600€	2600€	72%

- During the study only 4 cases of hemorrhagic cystitis were developed as adverse reaction.

Conclusion

The administration of uroprotective agents is a more expensive therapeutic strategy that constitutes an additional cost which varies betweenof 27% and 72% of the total cost of chemotherapy for Ewing's sarcoma and Neuroblastoma respectively, but its use has allowed a significant decrease in the occurrence of urinary toxicity, which is very frequent especially in children treated with ifosfamide and cyclophosphamide.