



ECONOMIC VALUATION OF LOSSES DUE TO DRUG LEFTOVERS : CASE OF TENECTEPLASE



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BACKGROUND

Optimizing resource management is a major stake in health economics. In this way, managing costly injectable medications which are administered 'dose by weight' is a considerable concern to hospital pharmacists. Tenecteplase is one of these drugs administered 'dose by weight' (table 1), and whose use is likely to generate losses as only the 10.000 IU presentation is marketed in our country, and vials are often not wholly used.

Table 1. The volume required to administer the correct dose according to the patient's weight :

Patient weight (kg)	Patient weight (lb)	Tenecteplase (U)	Tenecteplase (mg)	Volume of Reconstituted solution (ml)
< 60	< 132	6 000	30	6
60 to < 70	132 to < 154	7 000	35	7
70 to < 80	154 to < 176	8 000	40	8
80 to < 90	176 to < 198	9 000	45	9
≥ 90	≥ 198	10 000	50	10

PURPOSE

Our study aims to evaluate product losses at Mohammed V Military Teaching Hospital and the shortfall due to the non-commercialization of other Tenecteplase dosages in our country.

MATERIAL AND METHODS

This was a prospective study over a period of 1 year (from 4 January 2014 to 3 January 2015), focusing on 10 000 IU Tenecteplase vials that were reconstituted and used in our hospital's cardiology and emergency departments.

Evaluation of leftovers was performed both by volumetric method and by weighing.

RESULTS

For the 50 vials studied over the study period, the volume of unused reconstituted drug leftovers varied between 0 ml and 4.8 mL per vial, with an average of 1.99 mL and a total volume of 99.32 mL. The financial study reported the results presented in table 1.

Unit price (10 ml vial)	Total price (50 vials)	Total volume of drug leftovers	Valued losses	Losses percentage
1.364 €	68.200 €	99,32 ml	13.545 €	19,86 %

CONCLUSION

The losses estimated at 19.86% of the budget dedicated to the purchase of Tenecteplase at our hospital reflects the need for marketing of other dosages that are already available in other countries (6000 IU and 8000 IU). In the meantime, as some studies have shown the possibility of aliquoting and conserving reconstituted Tenecteplase, it would be advisable to set up a centralized unit for sterile preparation of customized doses that would achieve savings on Tenecteplase as well as on other expensive injectable products.