

Comparison of use and cost of Ampoules of Atropine, Ephedrine, and Suxamethonium with Pre-Filled Syringes in theatres

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Abstract

Aim

This audit compares the costs of pre-filled syringes with ampoules and aimed to assess the economic impact of their use in actual practice.

Methods

We audited the use of ampoules of Atropine, Ephedrine, and suxamethonium over 4 weeks on weekdays excluding weekends in all theatres and calculated the cost. In 2nd part we audited the use of pre-filled syringes over a four-week period and the cost.

Results

The cost of standard practice (ampoules) of all 3 drugs was € 320.62 and the cost of pre-filled syringes as € 172.70. In this we have not included the price of Diluent, syringes and filter needles and also wastage disposal.

Discussion

There is no difference in cost of pre-filled as compared to ampoules in case of Atropine but there is Significant difference in case of ephedrine with 2/3 reduction in cost. There is almost half cost of use of Pre-filled syringes of Suxamethonium as compared to Ampoules. If we add cost of Diluent, syringes and filter needle the cost of Ampoule will be even higher. Drug safety is important as there may be less drug error in case of pre-filled syringes.

Introduction

Anaesthetic emergency medications are essential elements of obstetric Anaesthesia emergency management. The use of Atropine, Ephedrine, suxamethonium and phenylephrine is well known in Anaesthetic emergency management¹.

This audit follows up on the costs of pre-filled syringes as compared to ampoules and aims to assess the economic impact of their use in actual practice². We want to know the difference of cost between 2 groups over period of 4 weeks each and to see whether it would be more economical to use the pre-pared formulation.

Methods

We audited the use of ampoules of Atropine, Ephedrine, and suxamethonium over 4 weeks on weekdays excluding weekends in all theatres of CUMH and the calculated the cost⁷.

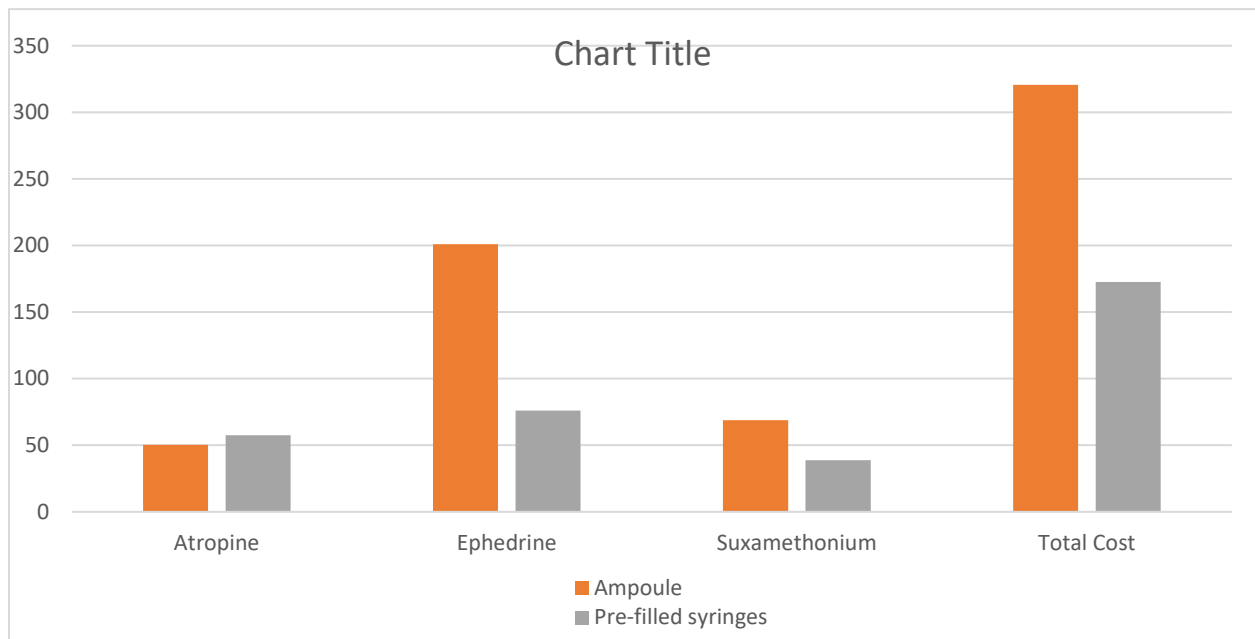
In 2nd part only pre-filled syringes were provided in all theatres and we audited the use of pre-filled syringes over a four-week period on weekdays exclude weekends and calculated the costs². We used Suxamethonium non-fridgeable stored at room temperature. We have not included phenylephrine as we have to make Phenylephrine bags for infusion purpose in Obstetric Anaesthesia⁶.

Results

	Pre-filled Syringes	Ampoules
Atropine	€9.60	€0.71
Ephedrine	€10.90	€3.30
Suxamethonium	€19.40	€0.84

We calculated the cost over 4 weeks of standard practice (ampoules) of all 3 drugs as € 320.62 and the cost of pre-filled syringes over 4 weeks as € 172.70. In this cost we have not included the price of Diluent, syringes, filter needles which are used to make up from ampoules and the cost of disposal of wastage⁸.

Cost in Euros per 4 week



Discussion

From this audit we concluded there is significant wastage of emergency drugs in the operating theatres³. There is no difference in cost of pre-filled as compared to ampoules in case of Atropine². There is significant difference in cost in case of Ephedrine almost 2/3 reduction in cost over 4 weeks. There is almost half cost of use of Pre-filled syringes of Suxamethonium as compared to Ampoules⁶. If we add cost of Diluent, syringes and filter needle the cost of Ampoule will be even higher⁴. It is not only cost but also drug safety is important as there may be less drug error in case of pre-filled syringes. Less chances of cross contamination in pre-filled syringes. Time is less consumed so you are only making the case specific drugs only.

Declarations of Conflict of Interest:

None declared.

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