The background and objectives of the study focus on surgical site infections (SSIs) and the prevalence of antibiotic-resistant microorganisms. The authors highlight the importance of preventing SSIs and discuss the economic implications, including the costs associated with infections. The study aims to analyze the economic impact of using PLUS® sutures vs. conventional sutures in Spanish hospitals.

Methods

A dynamic excel-based decision-analytic budget impact model was developed. The model considers the rate of reduction of SSI (30%, 95% CI in 5% increments) and the difference in price between PLUS® Suture and conventional sutures. An estimation of the number of patients that undergo surgery in a mid-sized hospital is used, and the model calculates the total costs of SSI and their related costs (Table 1 and Figure 1).

Results

A 23,64% budget impact decrease was achieved by using PLUS® vs conventional sutures, leading to 5,3M€ in savings that year. The more costly difference (average values) was compensated by the reduction in patients suffering from SSI and their related costs (Table 1 and Figure 1). The sensitivity analysis showed that there were cost savings in using PLUS® vs conventional sutures in 100% of the scenarios. The budget impact for each of the 42 different scenarios are shown numerically and graphically in Figure 3. As can be observed, the model is robust against variations of the base cases.

Conclusions

The budget impact analysis may be useful when deciding for inclusion or reassessment of technologies. This analysis adds new evidence of support for the use of PLUS® sutures vs conventional sutures by demonstrating that it has a more favorable economic impact due to the reduction in risk of patients developing a surgical site infection. The use of PLUS® sutures led to savings of 24% for a medium-sized Spanish hospital, resulting in 5.3M€ annual savings. Reducing surgical site infections is not only a cost issue, as it is related to other comorbidities, pain, suffering and mortality; hence improving patient outcomes and quality of healthcare delivery, while reducing costs.

References

1. EMA-14-1048 ©Johnson&Johnson Medical Limited 2014