

Cost effectiveness of Leukomed® Sorbact® for prevention of SSI following caesarean section

Summarized from

Study: Cost-effectiveness of a bacterial-binding dressing to prevent surgical site infection following caesarean section.

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Published in: Journal of Wound Care. 2019 Vol 28 (4)

*Note: DACC-coated dressings are marketed as Leukomed Sorbact by Essity in specified territories



Key take-outs

- In a population of 543 women undergoing caesarean section there were five surgical site infections (SSI) in the Leukomed® Sorbact® group ($5/272=1.8\%$) and 14 in the standard dressing group ($14/271=5.2\%$), a difference of 65%.
- Using an economic model, the estimated cost of prevention and treatment of a caesarean SSI in the UK NHS would be 58% lower with Leukomed® Sorbact®, as compared to the standard dressing group. A cost saving of £119 per patient.
- The main drivers of cost were prolonged hospitalization due to incurring an SSI.
- The mean length of hospitalization attributed to a caesarean SSI was 2.36 days. No patients in the Leukomed® Sorbact® group required hospitalization.



Objective

The aim of the analysis was to evaluate the cost-effectiveness of Leukomed® Sorbact® surgical dressings in the context of the UK National Health Service (NHS).



Method

An economic model was built based on the results of a randomized controlled trial carried out in Poland to evaluate the Leukomed® Sorbact® dressing (DACC) against standard of care (SOC). The trial recorded the presence of a surgical site infection (SSI) and associated resource use during the first 14 days after a caesarean section.

To generalize results to the UK NHS, unit costs were applied to resource use recorded in the trial.

A costing approach was modelled whereby, unit costs were applied to the trial outcomes in order to determine the cost per patient from using either the Leukomed® Sorbact® or the SOC. This costing approach is referred to as the base case analysis.

An alternative approach applied a single caesarean section-specific SSI episode cost. The model, referred to as the single episode cost, applied a single episode cost of £3,964¹ per SSI and a costing based on the resource use observed in the clinical trial.



Results

The base case analysis estimates the expected cost of an episode of SSI by applying unit costs to individual items of resource use observed in the trial². The expected costs of SSI prophylaxis and treatment are £48.97 per patient when treated with SOC, and £24.69 per patient when treated with Leukomed® Sorbact®, a difference of £24.27 (49.6%) per patient (Table 1). The main driver of lower costs was the reduction in the number of SSI cases observed in the trial, which leads to a reduction in outpatient attendances and inpatient length of stay.

¹ Derived from a detailed analysis of SSI-attributable cost in one English hospital between April 2010 and March 2012

² Please refer to full publication for list of unit costs and resources from trial

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Results

Table 1: Base Case: costing of clinical trial resource use

	Standard of care (SoC) (n=271)	Leukomed® Sorbact® (n=272)	Incremental cost (Leukomed®Sorbact® - SoC)
Dressings	£329	£3936	£3607
Systemic antibiotics	£10	£0.03	-£9.97
Outpatient visits	£3483	£2765	-£719
Hospitalisation	£9448	£16	- £9432
Total cohort cost	£13,271	£6,717	-£6,554
Cost per patient	£48.97	£24.69	-£24.27 (49,6%)
SSI events (number)	14	5	- 9.00 (64%)
Outpatient visits (number)	29	23	- 6
Inpatient days (number)	33	0	- 33

Applying a single episode cost per SSI (£3976) produces a similar conclusion. The expected costs of prophylaxis and treatment are £206.64 and £87.57 per patient in the SOC and Leukomed® Sorbact® groups respectively, a difference of £119.07 (57.6%). (Table 2).

Table 2: Alternative costing (single episode cost)

	Standard of care (SoC) (n=271)	Leukomed® Sorbact® (n=272)	Incremental cost (Leukomed®Sorbact® - SoC)
Cost per SSI episode	£3976	£3976	-
Dressings	£329	£3936	£3607
SSI costs	£55,670	£19,882	- £35,788
Total cohort cost	£55,999	£23,819	- £32,181
Cost per patient	£206.64	£87.57	-£119.07 (57,6%)

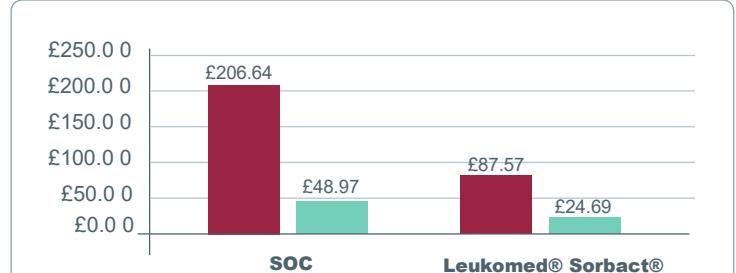


Figure 1: Costs per patient

Conclusion

This study suggests that the use of Leukomed® Sorbact® following caesarean section has the potential to significantly reduce the incidence of SSI and cost to the NHS.

Based on the number of SSIs during the trial of 14 vs. 5 (SOC: 5.2% vs. Leukomed® Sorbact®: 1.8%), the two models resulted in similar estimated % cost savings of £24.27 (49.6%) per patient for the trialbased costing; and £119.07 (57.6%) applying a single episode cost per SSI. The main cost driver was prolonged hospitalization due to SSI. The mean length of SSI-attributable hospitalization was 2.36 days. No patients in the Leukomed® Sorbact® group were hospitalized.