

Cost analysis of a fibrin sealant patch for parenchymal bleeding during elective hepatic surgery: A Germany hospital perspective.

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Abstract:

OBJECTIVE: Hemostasis after liver resection may be difficult to achieve due to challenging bleeding and liver anatomy. There is thus an increased focus on reducing blood loss and resource use with hemostatic products. This study estimated the cost impact of a novel fibrin sealant patch (i.e., EVARREST) vs. standard of care (SoC) for bleeding control in elective hepatic resection.

METHODS: An economic analysis quantified 30-day cost impact of EVARREST vs. SoC from a German hospital perspective. This analysis used data from a randomized trial, which included aggregated resource use reported within 30 days for each comparator. Resources included initial treatment and re-treatment, operating time, bile leak drainage, hospitalization, transfusions, and ventilator. SoC was composed primarily of manual compression with a small percentage using hemostats. The primary analysis included resources clinically related to the significant hemostasis benefit of EVARREST vs. SoC (i.e., initial treatment and re-treatment with hemostasis methods, operating time, transfusion risk, and blood cell units). A secondary analysis included all resources evaluated in the primary analysis with the addition of hospital stay, proportion of patients using ventilator, mean ventilator hours, and proportion of patients requiring bile leak drainage. A projected global price for EVARREST was used based on average USD to Euro exchange rate over the last 10 years. Published data on German costs were applied to resource use. Sensitivity analyses were conducted on several variables including EVARREST costs (472 to 735) based on available sizes.

RESULTS: The primary analysis predicted that EVARREST acquisition cost is offset with cost impact reduced to 82 per patient vs. SoC (sensitivity range: -86 to 225). Secondary analyses

predicted further resource reduction with EVARREST leading to cost-savings (i.e., -468 per patient). Operating room time and hospital length of stay, followed by transfusion, were the most important analysis drivers. CONCLUSIONS: This analysis suggests that EVARREST may result in cost savings, in addition to meeting an important unmet need for controlling bleeding in hepatic surgery. Further study in more patients may be required to confirm findings.