A COST COMPARISON OF CARDIAC SURGERIES BY CHOICE OF FIBRIN SEALANT
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OBJECTIVE: Fibrin sealants are efficacious in reducing peri-operative bleeding during a variety of surgical procedures, which may result in decreased hospital costs and lengths of stay (LOS). This study sought to compare hospital costs and LOS by three fibrin sealants used in cardiac surgical procedures. METHODS: Data were extracted from a large U.S. hospital-based, service-level comparative database. Procedures were identified using principal ICD-9 codes. Patients who received either FloSeal® only or one of two comparison products (Gelfoam® + thrombin or Surgicel® + thrombin) and were discharged from hospital between April 1, 2003 and September 30, 2006 were included. Costs were considered from the hospital perspective and were derived from either reported actual costs or an estimated calculation of costs-to-charges from the Medicare Cost Report. Regression modeling with log transformation was employed to compare differences in fixed hospital costs (those insensitive to volume), variable costs (those sensitive to volume), and post-operative LOS. Control variables included age, gender, All Patient Refined-Diagnosis Related Group severity codes, region, hospital teaching status, bed size, population served (urban or rural), and primary payer. RESULTS: A total of 35,672 discharges were included. The regression models showed that patients who received Gelfoam + thrombin had higher fixed and variable costs (+21% and +40%, p < 0.01, respectively) and Surgicel + thrombin had higher fixed and variable costs (+18% and +14.3%, p < 0.01, respectively) compared to FloSeal. In terms of fixed costs, this amounted to an additional $21,803 for Gelfoam + thrombin and an additional $19,208 for Surgicel + thrombin cohorts. In variable costs, this amounted to an additional $26,609 for Gelfoam + thrombin and $22,181 for Surgicel + thrombin cohorts. All three cohorts had similar post-operative LOS. CONCLUSION: FloSeal demonstrated cost reduction in hospital stays for cardiac procedures, compared to two other fibrin sealants. Given small margins achieved by hospitals today, cost-effective surgical aids with better or similar outcomes should be considered in surgical service lines.