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Topic : Adhesion Prevention

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Inpatient Care and Expenditures Associated with Abdominal Adhesiolysis in the United States in 2005

Post-operative adhesions frequently occur after abdominal surgery and are a leading cause of intestinal obstruction. Almost 90% of patients who undergo abdominal operations develop post-operative adhesions (Ray et al, 1998). Over time, the cost of adhesiolysis interventions has decreased. Increased use of minimally invasive surgical techniques, which may result in fewer inpatient days, has been identified as a potential contributor to this decrease (Ray et al, 1998). Using more recent data, and slight modifications to methods used by Ray et al (1998), we estimated inpatient care and expenditures attributed to adhesiolysis in the US.

Discharge data for patients with primary adhesiolysis (DRG 150 or 151) and secondary adhesiolysis (primary or non-primary ICD-9-CM procedure code for adhesiolysis, without DRG 150 or 151) were analyzed using the 2005 US HCUP Nationwide Inpatient Sample. Procedures were aggregated by body system via DRG codes. The number of adhesiolysis procedures, stratified by demographic and hospital characteristics, discharge status and primary payment source were calculated. Hospitalization rates per 100,000 persons were determined using US census data. Days of care and inpatient expenditures attributable to adhesiolysis, were calculated.

We identified 351,777 hospitalizations with adhesiolysis-related procedures (23.2% primary and 76.8% secondary adhesiolysis, respectively). The number of hospitalizations increased steadily by age, with the lowest rate for patients <25 years (5.2 per 100K), and highest for patients >65 years (88.4 per 100K). Women had a higher hospitalization rate than men (34.9 vs. 19.7 per 100K). Overall length of stay (LOS) was 7.8 days for primary procedures. There were 967,332 days of care attributed to all adhesiolysis related procedures, with inpatient expenditures totaling $2.3B (primary $1.4B and secondary adhesiolysis $926M, respectively).

Compared to the Ray et al study, the US rate of adhesiolysis hospitalizations has remained constant over time (117.3 per 100K in 1994 [Ray et al, 1998] vs. 118.6 per 100K in 2005). However, overall LOS has decreased, as the LOS for primary adhesiolysis was 9.7 days in 1994 vs. 7.8 days in 2005. Total days of attributed care and volume of surgical procedures in the digestive system area have also decreased. Our estimates may be conservative, as they do not include indirect or other medical services' costs. Lysis of adhesions remains a costly problem in the US and should be of interest to providers and commercial and government payers.