

The Use of Minimal Invasive Surgery versus Open Approach in Hospitalized Cases A Study Analysis of the DRG Romanian Database 2008-2018

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Abstract

Background: The progress in development and application of Minimal Invasive Surgery (MIS) requires clinical and managerial decisions that must be evidence based; the current available scientific evidence for the Romanian medical practice is missing. Our study aims to analyze the use of MIS and open surgery in Romania and the impact of the type of surgery on the hospitalization.

Methodology: A cross-sectional study analyzed the activity of the Romanian hospitals reporting primary Diagnostic Related Group (DRG) data at the patient level in the period 2008-2018; all episodes of abdominal and thoracic surgical interventions which may be performed either by MIS or an open approach were extracted from the DRG National database (www.drg.ro). A comparative analysis in terms of the volume of activity and their impact on the hospital average length of stay (ALOS) has been performed.

Results: The pattern of use for MIS and open surgery interventions was changed in 2008-2018; MIS procedures doubled while open surgery interventions did not follow the same growth rate; ALOS for the MIS procedures decreased annually at a faster rate as compared to the ALOS for the open surgery and the gap between the two gradually increased in favour of the MIS interventions. The most pronounced shortening of ALOS after MIS procedures has been found for Gallbladder Surgery (by 7.95 days), Gastric Surgery (by 5.64 days) and Incisional Hernia surgery (by 4.33 days). Meanwhile, the reimbursement level for the MIS versus open surgery interventions did not changed over the analyzed period.

Conclusions: MIS is significantly reducing the ALOS in Romania with a potential positive influence on the national healthcare budget. However, the pattern of use for MIS interventions is not financial incentives based and calls for in-depth analysis on other factors belonging rather to specific pathology, technology or medical practice (experience in using MIS, endowment, safety, efficacy, surgical approach area etc.) is urgently required.

Key words: MIS, laparoscopy, open surgery interventions, surgical, Romania