Study sheds new light on natural history of RSIs

Most retained surgical items (RSIs) involve team/system errors and more than two safety omissions or variances, which supports the need for institutional emphasis on team training, finds a study led by S. Peter Stawicki, MD, Ohio State University College of Medicine, Columbus.

Though RSIs feature prominently among surgical “never events,” the researchers say, details about the natural history and intraoperative events related to RSIs remain limited.

The researchers performed a post hoc analysis of data from a seven-center retrospective study of RSIs.

**Study findings**

In 71 events analyzed, 48 occurred in women and 23 in men, with a mean age of 49.7 years.

Review of intraoperative events found most RSI cases involved team/system errors (50 of 71) and two or more safety omissions or variances (37 of 71). Isolated human error was found in less than 10% of cases.

Mortality was 5.63% (4 of 71), but only one death was directly attributable to an RSI (abdominal sepsis after RSI retrieval).

Nearly two-thirds of RSIs occurred during day of admission procedures. The median time from when the item was retained to removal was 2 days. Postoperative x-rays were the most common identification method.

Most RSIs removed in the first 24 hours were asymptomatic. Longer RSI retention was associated with a progressively greater proportion of symptomatic patients.

Abdominal RSIs predominated, and the most common findings were abdominal pain, abscess/fluid collection, and mass. Pathology findings included exudative reaction, fibrosis, and purulence/abscess.

**Study contributions**

This study helps to fill an important void in knowledge regarding the natural history of RSIs, the researchers say. For the first time, a natural history of RSI clinical presentations, item locations, pathologic findings, and temporal characteristics has been clearly elucidated. In addition, the categorization and description of intraoperative factors associated with RSI events sheds new light on the anatomy of how RSI events may actually take place.

The most significant findings of the study, the researchers say, pertain to the detailed forensic examination of intraoperative safety omissions or variances. Intuitively it makes sense that usually more than one person or one event is involved in an RSI, but little published evidence supports this assumption.

Findings that most RSI cases were a result of team/system errors is consistent with the recent recognition that in most cases blame does not simply rest with a single individual.

—Judith M. Mathias, MA, RN

**Reference**