

Abstract

Assessment of diagnostic accuracy of peritoneal fluid lavage cytology in detection of peritoneal seeding in patients with gastric adenocarcinoma

Background and aim: Peritoneal cytology has received little attention in the literature, but may prove a useful additional means of evaluating patients with primary gastric cancer. The aim of this study was to examine the diagnostic accuracy of peritoneal fluid lavage cytology in detection of peritoneal seeding in patients with gastric adenocarcinoma.

Methods & Materials: A total of 50 patients with gastric adenocarcinoma who were candidates of laparotomy based on the findings of computed tomography were recruited. Diagnostic peritoneal lavage (DPL) was performed just before laparotomy and the peritoneal lavage fluid was sent for cytological examination for the presence or absence of malignant cells. Findings during laparotomy in terms of peritoneal involvement were regarded as the standard.

Results: DPL cytology was positive for malignant cells in the peritoneal fluid in 25 cases (50%). According to intraoperative findings, 22 patients (44%) had peritoneal metastatic disease, while in 28 patients (56%) no gross sign of metastasis was observed. The sensitivity, specificity, positive predictive value, negative predictive value, positive likelihood ratio and negative likelihood ratio of cytology in detection of peritoneal seeding were 59%, 57%, 52%, 64%, 1.38 and 1.40, respectively. The concordance rate between the findings of cytology and diagnostic laparotomy was 58%.

Discussion and Conclusion: Our data suggests that peritoneal lavage is not adequately diagnostic method for early detection of resectable or nonresectable gastric cancers.

Keywords: Gastric Cancer, Peritoneal Seeding, Diagnostic Peritoneal Lavage, Cytology, Laparotomy