

Conclusion: Postoperative ALC is a significant prognostic factor for resected pancreatic cancer patients. Postoperative immune status might help to predict survival outcome and to stratify group that is effective in CRT for resected pancreatic cancer.

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Prognostic factors in hepatoma patients treated with radiotherapy for lymph node metastasis

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Purpose or Objective: To investigate prognostic factors for overall survival (OS) in hepatocellular carcinoma (HCC) patients treated with external beam radiotherapy (RT) for lymph node (LN) metastasis.

Material and Methods: Between 2004 and 2015, 105 HCC patients underwent palliative RT for LN metastasis. The median age was 60 years (range, 30-82). Biologically effective radiation doses of 39-75 Gy10 (median, 59.0 Gy10) were delivered. The median follow-up period was 5.7 months.

Results: The median OS was 5.8 months. On univariate analysis, young age, symptoms related to LN metastasis, poor performance status, Child-Pugh class B-C, uncontrolled intrahepatic disease, non-nodal distant metastasis (DM), multi-station LN metastasis, biologically effective dose <60 Gy10, lack of local response to RT, and stable or increased post-RT alpha-fetoprotein levels compared to pre-RT levels were significant prognostic factors predicting poor OS (all $p < 0.05$). On multivariate analysis among pre-RT factors, symptoms related to metastatic LNs (HR, 2.93), Child-Pugh class B-C (HR, 2.77), uncontrolled intrahepatic disease (HR, 2.74), and non-nodal DM (HR, 1.62) were significant prognostic factors for poor OS (all $p < 0.05$). Risk stratification in 4 groups by the number of risk factors had a significant predictive value for OS, with patients having 0, 1, 2, and 3-4 risk factors demonstrating median OS intervals of 18.0, 11.7, 5.7, and 3.0 months, respectively ($p < 0.001$).

Conclusion: Our risk stratification model can be used effectively in assessing the life expectancy of the HCC patient before initiating palliative RT for LN metastasis. Moreover, the presence of symptoms related to LN metastasis was shown to be the most powerful indicator of poor OS.

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Impact of sarcopenia on adverse effects in trimodality therapy for esophageal carcinoma

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Purpose or Objective: Sarcopenia is a major hallmark of cancer cachexia and associated with increased treatment toxicity and worse overall survival in cancer patients. The aim of the study is to investigate the incidence and course of sarcopenia in patients undergoing curative trimodality therapy for locally advanced esophageal cancer and to correlate skeletal muscle mass with treatment complications during neoadjuvant treatment and surgery.

Material and Methods: A subset of 31 patients treated in a prospective trial for locally advanced esophageal cancer with induction chemotherapy, neoadjuvant chemoradiation and surgical resection were identified at two institutions and

clinical data was analyzed for treatment-related adverse events and consequent additional hospitalizations. Skeletal muscle mass was obtained by a second analysis of staging CTs before, during and after curative trimodality therapy and analyzed based on previously established threshold values for sarcopenia.

Results: Fourteen patients (45%) were characterized as sarcopenic at the initial staging. Unplanned hospitalizations occurred significantly more frequently in sarcopenic patients (71% vs. 29%, $p = 0.03$) with a significantly longer total duration of hospital stay including postoperative stay (median 33.5 vs. 21.3 days, $p < 0.05$). During neoadjuvant therapy with a median duration of 3.5 months, patients showed a statistically significant reduction of skeletal muscle mass of 10.1% ($p < 0.01$) resulting in an increase in the prevalence of sarcopenia from 45% to 74%.

Conclusion: CT-based assessment of sarcopenia demonstrates a significant decline of muscle mass during curative trimodality therapy for locally advanced esophageal cancer and can predict toxicity-related unplanned hospitalization. Based on these findings, CT-based measurement of muscle mass may serve as objective parameter to identify frail patients in need of intensified supportive therapy.

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Survival and symptom relief after salvage radio(chemo)therapy for recurrent esophageal cancer

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Purpose or Objective: Loco-regional recurrence of esophageal cancer (REC) after initial treatment remains a dominant cause of death. Treatment options for REC are limited. This study was realized to assess the survival and symptom relief after salvage radio(chemo)therapy for recurrent esophageal cancer.

Material and Methods: Data from 259 patients from 3 centers were retrospectively reviewed to screen for eligible patients. 194 patients were excluded because of following criteria: 1) no pathologically confirmed squamous cell carcinoma or adenocarcinoma; 2) distant metastasis; 3) no dose-volume histogram (DVH) data available; 4) salvage resection after REC; 5) Brachytherapy in the initial or current treatment. Between January 1998 to December 2014 sixty-five patients with REC after curative intended treatment (primary RCT or surgical resection with or without neoadjuvant radiochemotherapy) met our inclusion criteria retrospectively. The recurrence was diagnosed by computed tomography (CT) and/or upper gastrointestinal endoscopy. The initial treatment was as follows: surgical resection in 47 patients (72%), neoadjuvant RCT (median 50,4Gy, range 45-50,4Gy) plus surgery in 12 (19%) patients or definitive RCT (median 60Gy, range 50,4-64 Gy) in 6 patients (9%). The median time to recurrence from initial treatment was 16 months (range 3-101 months).

Results: Median follow-up time for surviving patients was 27 months (5-150 months). The 1-year and 2-year survival rates were $58 \pm 6\%$ and $27 \pm 6\%$, respectively. Subjective symptom relief was achieved in 25 of 34 symptomatic patients (74%). The most common toxicities were leukopenia, nausea, vomiting and gastritis. RT Doses ³ 50Gy and ECOG-PS (1-2 vs. 3) associated with better median survival time (MST) and prognosis, respectively ($p=0.003$; $p=0.001$).

Conclusion: Salvage radio(chemo)therapy for recurrent esophageal cancer is a reliable option in patients suffering from REC. In particular therapy of symptoms caused by the tumor can be managed by salvage-RCT. The toxicity is in an acceptable range. Long-term survival is possible in some patients.