

skeletal muscle and adipose tissue were used to generate estimates of fat-free mass (FFM) and fat mass (FM).

Results: The mean±SD age of the 28 male and 12 female patients was 64.7±8.5 years. 85% of patients lost skeletal muscle area over the 2-month course of chemotherapy, with the mean±SD loss being 10.4±13.2 cm² ($p < 0.0001$). 60% of patients lost fat area. There was a significant loss of subcutaneous and intramuscular adipose tissue area (14.7±37.0 cm², $p = 0.016$) but not visceral adipose tissue (11.9±39.7 cm², $p = 0.065$). Estimated loss in FFM over the course of chemotherapy was 3.1±4.0 kg ($p < 0.0001$) and the estimated loss in FM was 1.1±3.0 kg ($p = 0.024$). Loss of skeletal muscle and adipose tissue over the course of chemotherapy was 6.8±7.9% and 1.7±3.4% respectively.

Conclusion: Significant loss of muscle and adipose tissue occurred during neoadjuvant chemotherapy for gastro-oesophageal cancer, with muscle being depleted to a greater extent than adipose tissue. This may increase the risk of complications at subsequent surgery.

Disclosure of Interest: None declared

OP047

EPA ENRICHED NUTRITIONAL SUPPORT AND FAST TRACK SURGERY FOR ELECTIVE PERIAMPULLARY CARCINOMA

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Rationale: Fast track surgery is carried out in a multi-disciplinary way in order to obtain a rapid recovery after operation. In this study we aimed to evaluate the role of early enteral feeding and EPA enriched diet on postoperative period in patients with perioperative tumor treated by fast track approach.

Methods: Patients were randomized for two surgeons in same center. In study arm, 128 patients underwent fast track rehabilitation after surgery and clinical course was compared with other 100 patients were treated by conventional way. In fast track group, oral food intake started on the day of surgery with clear fluids and was increased to a small amount of solid food on day 3 after surgery. Patients received EPA enriched supplementary diet following discharge for two months. In conventional treatment group, patients received clear fluid diet on postoperative 3rd day and solid food intake has been reached on postoperative 7th day. Clinical parameters compared in both patient groups.

Results: The clinical course of patients undergoing fast track rehabilitation was significantly faster regarding resumption of bowel function (4.1±0.3 days vs. 6.3±0.7 days) and complete enteral nutrition (3.1±0.3 days vs. 7.2±0.7 days). Furthermore, postoperative length of hospital stay was significantly shorter in fast track patients (6.7±0.8 days vs. 13.1±0.5 days). Postoperative weight loss is less in fast track group (6.5% vs 13.6%) in two months. There was not any statistically significant difference between two groups regarding to major & minor complication rate and mortality (8.7% vs. 7.8% for complication rate and 2.7% vs 3.0% for mortality).

Conclusion: The clinical outcome parameters clearly indicated that the concept of fast track surgery can

be even beneficially applied to these high-risk patients undergoing elective surgery for periampullary cancer.

Disclosure of Interest: None declared

OP048

IN VIVO L-ARGININE DEPRIVATION IMPAIRS NATURAL KILLER CELL FUNCTIONS

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Rationale: L-Arginine (L-Arg) plays a crucial role in the regulation of immune responses. An elevated arginase activity has been shown to induce an inflammation triggered immune suppression and tumor immune escape. If L-arg depletion suppresses T cell proliferation, TCR-related CD3 ζ chain expression, cytokine secretion and granulocyte microbicidal function, few data concern Natural Killer (NK) cell functions. So, the effects of L-Arg deprivation on NK cell functions was studied (activation, cytotoxicity, cytokine production capacity).

Methods: NK-92 cell line and *ex vivo* human blood NK cells were cultured during 48h with different L-Arg concentrations (0, 2.5, 5, 15 (control physiological level) mg/L). On both cell types, ζ expression and cytotoxicity were analyzed by flow cytometry. NK-92 cells intracellular IFN γ production was also measured by flow cytometry. Means±SEM, ANOVA + PLSD Fisher, $a \neq b \neq c \neq d$; $p < 0.05$.

Results: The % of NK-92 ζ^+ fluorescence intensity (FI) was unchanged whatever L-Arg concentration while the % of NK-92 ζ^+ was reduced in dose dependent manner (15 mg/L: 86±1^a, 5 mg/L: 76±1^b, 2.5 mg/L: 72±1^c, 0 mg/L: 35±4^d). The % of *ex vivo* NK ζ^+ FI was decreased for less than 5 mg/L of L-Arg (15 mg/L: 100±0^a, 5 mg/L: 99±8^{ab}, 2.5 mg/L: 86±4^{bc}, 0 mg/L: 74±4^c) whereas the % of *ex vivo* NK ζ^+ was not altered. NK-92 cell IFN γ production and lytic activity in both cell types were reduced for L-Arg concentration less than 5 mg/L.

[Arg] (mg/L)	<i>Ex vivo</i> NK cytotoxicity (%)	NK-92 cytotoxicity (%)
15	100±0 ^{ab}	100±0 ^{ab}
5	91±6 ^{ab}	101±6.9 ^a
2.5	78±12 ^b	80±7.3 ^b
0	44±7 ^c	22±10 ^c

Conclusion: L-Arg starvation (<5 mg/L) decreases NK-92 and isolated human blood NK cell cytotoxicity. This effect could be linked to a reduced ζ chain expression in NK stimulatory receptors (NKp30 and NKp46). L-Arg depletion also decreases IFN γ expression. This reduced NK functions as a consequence of a local and/or systemic L-Arg depletion, may be involved in the tumor immune escape.

Disclosure of Interest: None declared