1O-OBESITY AS A BREAST CANCER RISK FACTOR IN AN UNDERSERVED POPULATION IN SOUTH BRAZIL: NÚCLEO MAMA PORTO ALEGRE (NMPOA)

B. Weber¹, G.H. Cibeira², M. Caleffi³

¹Superintendência, Hospital Moinhos de Vento, 001/BRAZIL,
²Núcleo Mama Porto Alegre, Hospital Moinhos de Vento, 001/BRAZIL,
³Núcleo Mama Moinhos, Hospital Moinhos de Vento, 001/BRAZIL

Introduction: Body Mass Index (BMI) > 25kg/m², high consumption of fat and sedentary lifestyle are being associated with elevated risk of cardiovascular disease and breast cancer. Objective: to evaluate the prevalence of excessive weight and diet consumption of a sample of women. Methods: it was a cross-sectional study. Were evaluated 476 women selected from Núcleo Mama Porto Alegre, a cohort for breast cancer screening started in 2004. For the period of 10 years, 9,233 women over 15 years of age will be monitored in order to evaluate predisposing factors for breast cancer, as nutritional risk factors, and develop a model of prevention, diagnosis and treatment for an underserved population. All the women were invited to participate of the study, answer the questions and sign an informed consent document in order to participate of the study. The measures collected were weight, height, abdominal circumference CA and dietary pattern through the application of a food frequency questionnaire. Statistical analysis was performed using Spearman correlation and Mann Whitney test. Results: was observed an average of age and years at school of 51+10 and 6,5+3,2, respectively. Of the 476 evaluated women, 81,5% had sedentary lifestyle, 91,2% showed BMI > 25 kg/m² and the average of abdominal circumference observed was 97,3+12,5cm. Was observed that those women with excessive weight consumed a higher amount of monounsaturated, polyunsaturated and saturated fatty acids, cholesterol, calcium and vitamin D than the women with normal weight. In the BMI stratification, cholesterol, polyunsaturated fatty acid and calcium were statistical significant (p<0,001). Conclusion: was observed a high prevalence of excessive weight and an unbalanced diet. Probably, the low instruction level and the underserved conditions that they live in contribute for worse food choices.

Keywords: Overweight, obesity, breast cancer, diet
20- TO ASSESS THE NUTRITIONAL STATUS OF CHILDREN WITH CANCER AT DIAGNOSIS USING DIFFERENT SCALES AND COMPARING THEM WITH PEDSGA SCORES IN A PROSPECTIVE STUDY.

S. Bansal¹, P.K. Shah¹, K.R. Smith², S. Banavali³, N. Sacks⁴, B. Arora³, P. Kurkure¹

¹Medical Oncology, Tata Memorial Centre, Mumbai/INDIA, ²Paediatric Oncology, St. Jude Children’s Hospital, Memphis/UNITED STATES OF AMERICA, ³Paediatric Oncology, Tata Memorial Centre, Mumbai/INDIA, ⁴Pediatric Oncology, Children’s hospital of Philadelphia, philadelphia/UNITED STATES OF AMERICA

Introduction: In less resourced countries, malnutrition significantly contributes to the outcome in cancer treatment. Scored Pediatric Subjective Global Assessment Tool (PEDSGA) is a patient-generated nutrition assessment form designed to expedite the efficiency at which children at nutritional risk are identified and nutritional intervention can be initiated. Aims: To evaluate malnutrition using different scales at diagnosis and the change in the nutritional status after 1 month of dietary follow up. Material & Method: Patients (pts) aged 2-18 yrs from Tata Memorial Hospital (Dec 2008 to Jan 2009) were evaluated at baseline for weight, height, body mass index (BMI); energy & protein intake and serum albumin. Nutritional status was assessed using NCHS Z scores, Indian Academy of Pediatrics (IAP) malnutrition classification & PEDSGA scores. Dietary counseling was done for all pts. Those pts who completed 1 month of treatment were reassessed for same parameters.

Results: Out of 50 pts (36 males; 14 females), 44 (88%) had hematological malignancy and 6 (12%) had solid tumors. Below 2z for Weight-for-age in 46%, Height-for-age in 16% and BMI-for-age 48% was seen. As per IAP, 56% pts had normal weight and 44% were in various grades of malnutrition. 40% pts had PEDSGA A, 38% had PEDSGA B and 22% had PEDSGA C. At baseline, there was significant difference in energy intake (p= 0.005, p= 0.001) & serum albumin (p= 0.018, p= 0.007) among the IAP grades and PEDSGA scores respectively. Protein intake (p= 0.018) was significant among the IAP grades only. 20 (40%) pts were eligible for 1 month follow up. Significant difference was seen in serum albumin (p= 0.009), intakes of protein (p= 0.001) and energy (p= 0.001) when compared to baseline. After 1 month, there was significant improvement in grades of malnutrition (p= 0.001) but not in PEDSGA scores (p= 0.867). Conclusion: The baseline nutritional status assessed through PEDSGA was comparable with other scales in this preliminary data. After 1 month follow up, significant improvement was seen in the dietary intake followed by weight. Though PEDSGA did not show much change, indicating sensitivity of the tool which needs to be further studied.

Keywords: Pediatric cancer, malnutrition, PED SGA

30- RADIOTHERAPY ON THE NECK NODES PREDICTS MALNUTRITION IN PATIENTS WITH T1 OR T2 LARYNGEAL CANCER

J.A.E. Langius¹, P. Doornaert², M.D. Spreeuwenberg³, J.A. Langendijk⁴, C.R. Leemans⁵, M.A.E. van Bokhorst-de van der Schueren¹

¹Nutrition And Dietetics, VU University Medical Center, Amsterdam/NETHERLANDS, ²Radiation Oncology, VU University Medical Center, Amsterdam/NETHERLANDS, ³Clinical Epidemiology And Biostatistics, VU University Medical Center, Amsterdam/NETHERLANDS, ⁴Radiation Oncology, VU University Medical Center, Groningen/NETHERLANDS, ⁵Otolaryngology/head And Neck Surgery, VU University Medical Center, Amsterdam/NETHERLANDS

Rationale In contrast to other head and neck cancer patients, patients with early stage (T1/T2) laryngeal cancer (LC) are thought to have a low incidence of malnutrition. However, a subgroup of patients develops severe weight loss during radiotherapy (RT) and should be offered nutritional support. For efficient dietary treatment it is desirable to identify this subgroup of patients. Therefore, the objective of this study was to select prognostic factors for early identification of malnourished T1/T2 LC patients in need of nutritional support. Methods All patients with T1 or T2 LC, who received primary RT between 1999 and 2007 were analysed. At baseline, the following characteristics were recorded: sex, age, TNM classification, tumour location, radiation technique, pre-treatment weight loss, WHO Performance Status, quality of life, and nutrition-related symptoms. Malnutrition was defined as ≥ 5% weight loss during RT. The association between baseline characteristics and malnutrition was investigated by Cox regression analysis. To select the best model, the diagnostic accuracy was determined. Results 238 patients were included, 47% with T1 and 53% with T2 LC (79% glottic, 20% supra-glottic and 1% subglottic) and 95% had a N0 neck. During RT, 44% of patients developed malnutrition with a mean weight loss of 7.5 (±2.8) kg. Tumour location, T stage, N stage, RT on neck nodes, RT dose, swallowing, senses problems, trouble with social eating, dry mouth, and the use of painkillers were all significantly associated with malnutrition during RT. In the multivariate analysis, RT on the neck nodes (HR 4.16, 95% CI 2.62-6.60) and dry mouth (HR 1.72, 95% CI 1.14-2.60) remained predictive. The diagnostic accuracy is presented in the table.
Conclusion Almost half of patients with T1/T2 LC develops malnutrition during RT. Patients at risk can be identified by RT on the neck nodes. Therefore, we suggest to offer nutritional support to all T1/T2 LC patients who receive nodal irradiation.

Keywords: Head and neck cancer, Radiotherapy, Nutritional support, malnutrition

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40- DOES MALNUTRITION CONTRIBUTE TO THE CANCER PATIENTS DISTRESS

S. Amdouni¹, B. Gagnon¹, M.R. Chasen²
¹Cancer Nutrition Rehabilitation Program, McGill University Health Center, Montreal/CANADA, ²Royal Victoria Hospital, West Montreal QC H3A 1A1/CANADA

Background: Malnutrition in cancer patients often remains undiagnosed and untreated, and is associated with a poorer response to treatment, lower quality of life, reduced survival and higher health-care costs. These patients often experience significant psychological distress at some point over the cancer trajectory. Objective: The aim of this study is to examine the relationship between malnutrition and psychological distress in patients participating in a cancer nutrition rehabilitation program. Methods: Enrolled patients were assessed for their nutrition status and level of psychological distress using the Patient-Generated Subjective Global Assessment (PG-SGA) and the Distress Thermometer (DT) respectively. The PG-SGA calculates a grouping of nutritional scores after combining information from food intake, weight change, nutrition-related symptoms, and performance status and categorizes patients into three distinctive classes of nutritional status; well nourished, moderately malnourished and severely malnourished. The DT is a self-reported measure using an 11 point scale from 0 (no distress) to 10 (extreme distress). Simple correlations and linear regression to adjust for age and sex, between the DT and the total score and sub-scores of the PGSGA were performed. Results: Data from 213 patients with advanced cancer was analysed. The DT was positively correlated with the total score of the PGSGA (higher distress with worse nutrition state; \( r= 0.17, p= 0.01 \)), and especially with weight lost (\( r= 0.18645, p= 0.0064 \)). Adjusting for age and sex did not contribute to the level of distress. Conclusion: Our data suggest that nutrition status may contribute to the level of distress in patients with cancer. Evaluation of the nutrition status should be included in the evaluation of distress experienced by these patients.

Keywords: malnutrition, distress, cancer
5O - DOES MALNUTRITION CONTRIBUTE TO THE CANCER PATIENTS DISTRESS
S. Amdouni1, B. Gagnon1, M.R. Chasen2
1Cancer Nutrition Rehabilitation Program, McGill University Health Center, Montreal/CANADA, 2Royal Victoria Hospital, West Montreal QC H3A 1A1/CANADA

Background: Malnutrition in cancer patients often remains undiagnosed and untreated, and is associated with a poorer response to treatment, lower quality of life, reduced survival and higher health-care costs. These patients often experience significant psychological distress at some point over the cancer trajectory.

Objective: The aim of this study is to examine the relationship between malnutrition and psychological distress in patients participating in a cancer nutrition rehabilitation program.

Methods: Enrolled patients were assessed for their nutrition status and level of psychological distress using the Patient-Generated Subjective Global Assessment (PG-SGA) and the Distress Thermometer (DT) respectively. The PG-SGA calculates a grouping of nutritional scores after combining information from food intake, weight change, nutrition-related symptoms, and performance status and categorizes patients into three distinctive classes of nutritional status; well nourished, moderately malnourished and severely malnourished. The DT is a self reported measure using an 11 point scale from 0 (no distress) to 10 (extreme distress). Simple correlations and linear regression to adjust for age and sex, between the DT and the total score and sub-scores of the PG-SGA were performed.

Results: Data from 213 patients with advanced cancer was analysed. The DT was positively correlated with the total score of the PG-SGA (higher distress with worse nutrition state; r= 0.17, p= 0.01), and especially with weight lost (r= 0.18645, p= 0.0064). Adjusting for age and sex did not contribute to the level of distress.

Conclusion: Our data suggest that nutrition status may contribute to the level of distress in patients with cancer. Evaluation of the nutrition status should be included in the evaluation of distress experienced by these patients.

Keywords: malnutrition, distress, cancer

6PD - NUTRITIONAL SCREENING AND QUALITY OF LIFE IN PATIENTS WITH GASTROINTESTINAL CANCER
S. Colatruglio, A. Sironi, C. Gavazzi
Clinical Nutrition, National Cancer Institute, Milan/ITALY

Malnutrition is a limiting factor in the overall treatment of cancer patients (pts) and it has a negative impact on quality of life and the final prognosis. Pts affected by gastrointestinal (GI) cancer are those with the highest threat of developing malnutrition during their oncological cures. Early identification of pts at risk for malnutrition is mandatory in GI cancer, in order to start a comprehensive nutritional program.

Aim of the study was to implement a nutritional screening programme in all pts with a recent diagnosis of gastric and pancreatic cancer and to compare the quality of life (QoL) in well nourished and malnourished patients.

The screening has been performed using the Nutritional Risk Score (NRS-2002) and pts with NRS ≥ 3 have been classified as malnourished; in addiction, biochemical indicators (total protein, albumin, lymphocytes and cholinesterasis) and functional test (hand grip dynamometry) have been recorded. The QoL has been evaluated with the self-administered FAACT (version 4) questionnaire. Statistical analysis has been performed using unpaired Student's t-test.

One hundred pts with gastric cancer and 40 pts with pancreatic cancer have been evaluated, mean age 64,2±12 years, M/F 73/67. NRS was ≥ 3 in 55% of pts with gastric cancer and 75% of pts with pancreatic cancer. Mean weight loss was 7,8±5,6% in malnourished pts and it was similar in gastric and pancreatic cancer. Biochemical indicators were all in normal range, although significantly lower in malnourished groups. Functional test were normal and similar in all groups. QoL score was significantly lower in malnourished compare to well nourished pts with gastric cancer (140±13; 122±23 p<0,001); the mean Qol score in pts with pancreatic cancer was 120±25 with no significant difference between malnourished and well nourished pts.

Conclusion. The use of NRS-2002 shows that more than half of pts with recent diagnosis of GI cancer are malnourished and therefore nutritional therapy must be planned since early stages of the treatment. High nutritional risk scores are significantly related to low QoL scores in gastric cancer, but not in pancreatic cancer, where QoL scores are low in all pts. The impact of long term nutrition therapy on quality of life should be evaluated.

Keywords: Gastrointestinal cancer, malnutrition, quality of life, nutritional screening
7PD- FEASIBILITY STUDY TO COMPARE THREE NUTRITION SCREENING TOOLS FOR PATIENTS WITH CANCER IN A REGIONAL CANCER CENTRE

S.M. Lewis
Nursing And Therapies, Velindre Cancer Centre, Cardiff/UNITED KINGDOM

Evidence has shown that the prevalence of malnutrition is high for patients diagnosed with cancer. Nutrition screening should be performed at the earliest possible opportunity in order to identify those patients malnourished or at risk of malnutrition so that proactive nutrition support can commence. At present there is no standard nutrition screening tool recommended for use in patients with cancer. This study investigated the prevalence of malnutrition in patients with cancer being admitted for planned chemotherapy to a regional Cancer Centre and identified the most efficient screening tool to use in routine clinical practice. Three identified nutrition screening tools: Patient Generated Subjective Global Assessment (PG-SGA); Malnutrition Universal Screening Tool (MUST) and a local tool named the MOreland Score were completed by a trained researcher on 30 subjects aged over 18 years and diagnosed with cancer, being admitted for planned chemotherapy. Results show that over 60% of participants were malnourished on screening and a significant amount of weight loss was observed 6 months prior to screening compared to 1 month prior to screening (p<0.001). Both the MUST and the Moreland correlated highly with the PG-SGA (p<0.03 and p<0.0001 respectively). Overall, it is recommended that the Moreland Score is the most efficient screening tool for routine use in the cancer centre. Future validation of this screening tool and further training in its administration is required.

Keywords: nutrition screening tool, MUST, PG-SGA, Moreland score

8PD- SCREENING FOR PSYCHOSOCIAL DISTRESS ASSOCIATED WITH NUTRITIONAL ISSUES IN ADVANCED CANCER PATIENTS

R. Oberholzer, D. Blum, S. Linder, H. Haene
Oncological Palliative Medicine, Cantonal Hospital St.Gallen, St.Gallen/SWITZERLAND

Background The psychosocial impact (“eating-related distress” [ERD]) of cancer cachexia (CC) on patients and their family is a frequent reality in clinical care, experts agree on the need but unavailability of assessment tools, item banks of ERD-domains are under development. To compare a single-item (SI) ERD question with psychosocial items from the FAACT. Methods In a Palliative Cancer Care clinic patients completed a SI-ER (“how much do you feel distressed about your inability to eat?”, visual-analogue [0= none, 10= worst]), FAACT, ESAS, Secondary Nutrition Impact Symptoms, Hospital Anxiety Depression Scale, and Single-Item Fatigue Scale. Weight loss and nutritional intake history were assessed. Correlations of SI-ERD question and FAACT-items 3 (“I am worried about my weight”), 5 (“I am concerned how thin I look”), and 8 (“My family or friends are pressuring me to eat”) are analyzed. Results In 29 patients (11f/18m; 66 years [median, range: 30,86]; weight loss last 2 months 6.7% (-5,33) SI-ERD was 4.8 (SD 3), FAACT #3 worried 3.0 (1), #5 thin 1.9 (1), #8 pressure 2.6 (1), HADS-A 10.7 (8), HADS-D 10.2 (6). Correlation of SI-ERD with single questions FAACT #3, #5, or #8 was not significant (r=.33, p=.068; .22, ns; .28, ns), but with their sum (.40; .036). SI-ERD did not correlate significantly with HADS-A or D, nor with other FAACT items, except #1 appetite (r= -.55, .001), #6 no appetite when eating (r= .43, .017), and #7 heavy food (.71; .001).

Additional data from a following patients are currently analyzed.

Discussion These preliminary data suggest that a screening question for ERD identifies patients with a composite of aspects of psychosocial impact of cachexia. Further research with more patients will test this hypothesis. ERD seems to correlate more with decreased appetite and ability to eat than anxiety or depression. The development of an assessment instrument for suspected domains of ERD seems justified, and requires prospective testing.

Keyword: cachexia
**9PD- NUTRICIONAL RISK EVALUATION IN IN-HOSPITAL PATIENTS AT A MEDICAL ONCOLOGY WARD**

V. Reguero¹, M. Sánchez², R. Leno¹, R. Bratos³, L. Mezquita¹, C.A. Rodríguez¹, J.J. Cruz Hernandez⁴

¹Oncología Médica, Hospital universitario de Salamanca, Salamanca/SPAIN, ²Oncología Radioterápica, Hospital Universitario de Salamanca, Salamanca/SPAIN, ³Oncología Médica, Hospital Universitario de Salamanca, Salamanca/SPAIN, ⁴University Hospital de Salamanca, Salamanca/SPAIN

Background: Malnutrition in cancer patients constitutes a frequent clinical problem that results from multifactorial events and is associated with an alteration of quality of life and a reduced survival, but nutritional assessment and early intervention is not currently an habitual practice in in-patient oncology wards. Aim: To develop a pilot program to prospectively evaluate the nutritional status in an oncology ward. Patients and methods: 53 consecutive patients attended at Hospital Clínico de Salamanca Oncology unit were assessed from February 2008 to April 2008. Clinical exploration, anthropometric measures (BMI, height and weight) and laboratory test (albumin, prealbumin, transferrin, cholesterol and total proteins) and Subjective Global Assessment patient-generated (SGA-pg) were measured. Clinical and biological variables related to tumoral location, stadiage, previous therapies, comorbidities or clinical conditions that difficulties oral intake. The proportion of patients on early nutritional intervention was also registered. Results: Patients' characteristics: Male 58%, Female 42%; Median Age 65. Primary tumor: Digestive tract 32%, Lung 19%, Breast 15%, Head and neck 13%, Gynecologic 11%, Genitourinary 8%, CNS 2%. The percentage of patients in advanced stages was 77%. Nutritional assessment: Body weight loss >10%: 15%, Severe protein depletion 26%; SGA-pg: A 34% B 23%; C 43%. Variables related with a poor nutritional state were advanced disease, age >65 and radiotherapy based treatment. Patients with digestive tract tumors present protein depletion more frequently. Only 33% was on any kind of nutritional intervention. Conclusion: Malnutrition is specially frequent in hospitalised oncology patients. A high proportion of patients are SGA-pg classes B and C. The implantation of a nutritional assessment protocol in in-hospital patients is feasible and can help detecting malnutrition in oncology patients and instaurating early nutritional intervention.

**Keywords:** nutritional assessment, nutritional status, Subjective Global Assessment patient-generated, protein depletion

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**10PD- SECONDARY NUTRITION IMPACT SYMPTOMS: PREDICTORS OF NUTRITIONAL INTAKE RESPONSE TO COMPREHENSIVE NUTRITIONAL COUNSELING IN ADVANCED CANCER PATIENTS?**

D. Blum, R. Oberholzer, S. Linder, J. Hess, A. Omlin, G. Jurt, F. Strasser

Oncological Palliative Medicine, Cantonal Hospital St.Gallen, St.Gallen/SWITZERLAND

Background Secondary Nutrition Impact Symptoms (S-NIS) are frequent in advanced cancer patients (pts) having involuntary loss of weight (WL). Several S-NIS are reversible provided optimized Palliative Cancer Care (PCC) is delivered. We hypothesize that pts having S-NIS are more likely to improve oral nutritional intake (NI) after comprehensive interventions than pts with involuntary WL due to cancer but no S-NIS. Methods Pts attending a cancer cachexia clinic completed a checklist for S-NIS (‘do you have decreased appetite or impaired oral nutritional intake due to one of the following:’ stomatitis, taste problems, dysphagia, stomach pain, abdominal pain, constipation, diarrhea, imperative stool after eating, pain, shortness of breath, fatigue, and depression or anxiety; rated in a four categorical scale). WL and NI history were assessed, comprehensive PCC interventions applied by a multidisciplinary team including nutritional counseling (estimated nutritional needs, kcal, protein). In a follow-up visit NI was measured. For correlations spearman’ is used, for group comparisons T-test. Results From 58 pts (65 years [median, range: 38, 85], survival 223 days [7, 776], weight loss last 2 months 6.9% [-6, 22]; 1466 kcal [400, 2700], 47 g protein [15, 108]), 19 had a follow-up visit in 25 days (13, 64). Change in nutritional intake was 428 kcal (-460, 1800) and 29 g protein (-22, 90). Correlation of S-NIS points with change in kcal or protein was not significant, patients with S-NIS of 3 or 4 (n=10) had 432 kcal and 39 g protein change, versus S-NIS of 1 and 2 (n=9) of 424 kcal and 19 g protein (p=ns). Additional data from following pts are currently analyzed. Discussion Pts having S-NIS show a trend of increased protein intake at follow-up visit compared to pts with no N-NIS, however, these preliminary data require further testing with more pts, also allowing subanalysis of fully reversible S-NIC versus moderately reversible S-NIS.

**Keyword:** cachexia
11PD- THE IMPORTANCE OF NUTRITIONAL ASSESSMENT ON PROGNOSTICATION IN NEWLY DIAGNOSED LUNG CANCER PATIENTS


1Dept. Medical Oncology, University Hospital of Heraklion, Heraklion/GREECE, 2Palliative Care, Cross Cancer Institute, Edmonton/CANADA, 3Oncology Unit, University General Hospital, Iraklion/GREECE

Introduction - Aim: Accurate prognostic information is important in guiding clinical decisions regarding treatment selection. In this study we evaluated prospectively the prognostic value of various base-line characteristics for the prediction of survival in newly diagnosed metastatic lung patients. Material - methods: One hundred eighty two lung cancer patients were accrued on admission for the initiation of 1st line systemic chemotherapy. One hundred fifty two of them were finally analyzed. Their baseline characteristics are depicted in the following table:

<table>
<thead>
<tr>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessed</td>
<td>182</td>
</tr>
<tr>
<td>Analyzed</td>
<td>152</td>
</tr>
<tr>
<td>Males</td>
<td>134 88.1</td>
</tr>
<tr>
<td>Age [median (±SD)]</td>
<td>66 (±10.5)</td>
</tr>
<tr>
<td>Smoking status</td>
<td></td>
</tr>
<tr>
<td>Current Smokers</td>
<td>118 77.6</td>
</tr>
<tr>
<td>Former / Never Smokers</td>
<td>34 22.3</td>
</tr>
<tr>
<td>Histology</td>
<td></td>
</tr>
<tr>
<td>NSCLC</td>
<td>110 72.3</td>
</tr>
<tr>
<td>SCLC</td>
<td>42 27.6</td>
</tr>
</tbody>
</table>

The following clinical and laboratory parameters were recorded: sex, age, body mass index (BMI), performance status (PS), % weight loss, Mini Nutritional Assessment (MNA), smoking history, cardiovascular disease (CVD) history, histologic type, number of metastatic sites, hemoglobin, white blood cell count (WBC), lymphocytes, platelets, albumin, calcium (levels corrected for albumin), LDH and C-reactive protein. For the MNA score we used a survival cutoff seeking analysis and we defined the score of 19 as best, for the categorical discrimination of our cohort. A statistical analysis was then performed for the identification of the prognostic value of the aforementioned parameters. Results: In the univariate analysis, PS, % weight loss, MNA score, albumin and LDH were all important predictors of survival. When a multivariate analysis was performed, 5 factors retained their significance: PS, % of weight loss, MNA score, albumin and LDH. Conclusions: Prognostication in newly diagnosed lung cancer patients could be based on routine baseline recordings. Interestingly, 3 out of the 5 significant factors that emerged from the multivariate analysis were directly related to the baseline nutritional status.

Keywords: Lung Cancer, Baseline nutritional status, Prognostication, MNA

12PD- NUTRITIONAL STATUS IN PATIENTS WITH TOTAL GASTRECTOMY FOR GASTRIC CANCER

E. Uña

Medical Oncology, CLINICAL UNIVERSITARY HOSPITAL, 003/Spain

INTRODUCTION: Gastric cancer is one of the most frequent causes of death secondary to cancer in the world. Surgery is the only potentially curative treatment but its clinical consequences are significant.

OBJECTIVE: Evaluate the nutritional state of patients with a total gastrectomy secondary to gastric adenocarcinoma.

PATIENTS AND METHODS: We designed a descriptive study with a transversal cut in our institution. We included 22 patients which had a minimum evolution time of six months after total gastrectomy secondary to gastric cancer surgery was performed. Neither of them had metastasis. The nutritional analysis included only biochemical data. Descriptive statistics were used for statistical analysis.

RESULTS: 8 females and 14 males. Median age was 57 (34-69). The 74% of the patients were underweight and neither of them were overweight. The average body mass index (BMI) was 16.88 kg/m². 11 patients suffered from mild anemia (10.5-12 g/dl) and 5 moderate anemia (9-10.5). Only two patients presented severe anemia (<9). 58% presented hypoproteinaemia and hypoalbuminaemia. The main post-surgery complication was nausea (46%). 78% of the patients had loss of appetite. 21 patients were able to walk without help and leave their homes.

CONCLUSIONS: The incidence of anemia in these patients was very high. In most of the patients albumin and proteins levels were affected too. So malnutrition was a relevant consequence of a total gastrectomy.

Keywords: gastrectomy, anemia, gastric cancer, malnutrition
Background. Relationship between nutrition and cancer is much known at this time, but the correlation existing between nutrition habit in town and country is not very well known. Aim. This study tries to compare the weight loss and anemia to the patients with traditional nutrition who live in the country versus the same parameters to the patients who live in town which generally change their nutrition habits. Results. From December 2008 until January 2009, 32 records of patients with advanced lung and breast cancer, in time of chemotherapy, were analyzed and we find that the same percent of them (50%) had anemia and weight loss at the diagnostic. Anemia was recorded also in 31% of patients in the same proportion for the two groups (country/town). The rapid weight loss was more frequent in the country group and the slowly weight loss was more frequent in urban group. No correlations with survival were doing at the moment; all patients from the two arms are alive. Conclusion. The difference from nutrition between patients living in town versus them living in country seems to be in the velocity of weight loss, patients from country having a rapid weight loss comparative to them from town. More patients must be include in the study for more reliable results. After a follow up of several months we have to correlate this data with survival.

Keywords: nutrition, rural, urban

13PD- DIFFERENCES IN INCIDENCE OF WEIGHT LOSS AND ANEMIA TO THE PATIENTS WITH ADVANCED CANCER LIVING IN TOWN OR COUNTRY, A PILOT STUDY.
A.C. Grigorescu
Medical Oncology, Institute of Oncology Bucharest, Bucharest/ROMANIA

14PD- NUTRITIONAL COUNSELLING IMPROVES ENERGY INTAKE AND QUALITY OF LIFE IN HOSPITALISED CANCER PATIENTS
U. Ruefenacht1, M. Ruehlin2, M. Wegmann1, R. Imoberdorf1, P.E. Ballmer1
1Medizinische Klinik, Kantonsspital Winterthur, Winterthur/SWITZERLAND, 2Medizinische Klinik, Ernährungsberatung, Kantonsspital Winterthur, Winterthur/SWITZERLAND

Objective: Undernutrition is a common problem in cancer patients. Thirty-one to 87% of cancer patients show substantial loss of body weight at the moment when the malignant disease is diagnosed. We have studied the impact of nutritional therapy on food intake and quality of life (QoL) in hospitalised cancer patients. Methods: Undernourished hospitalised cancer patients were randomised into 2 groups. The nutritional therapy-group (NT-group) got individual nutritional counselling and interventions, including oral nutritional supplements if appropriate, by a dietician. The supplement-group (ONS-group) received oral nutritional supplements additionally to hospital meals without further instruction or counselling. Study duration was 10 to 15 days. At baseline and before discharge we measured energy intake (by weighing meals) and QoL with a standardised questionnaire, i.e. the functional assessment anorexia-cancer therapy-score (FAACT, Ribaudo J et al. Qual Life Res 2000;9:1137-46). Results: Energy intake significantly increased between baseline and discharge only in the NT-group, from 981±277 to 1596±330 kcal (mean±sd, p= 0.031 by Wilcoxon signed rank test). The NT-group (n= 7) met the energy requirements at discharge by 86%, the ONS-group (n= 7) by 66%. Hospital meals alone covered only about half of the energy requirements in both groups. From baseline to discharge QoL significantly increased only in the NT-group, from 78±27 to 91±23 score points (p= 0.016). Conclusion: There was a significant increase in energy intake and QoL only in the NT-group. By individualised intensive counselling every single patient got an intervention tailored to his preferences, and energy requirements could almost be met. Therefore, undernourished hospitalised cancer patients should be counselled individually by a dietician.

Keywords: cancer, malnutrition, nutrition therapy, quality of life
A Professional Practice Evaluation (PPE) consists of assessing specific and pertinent criteria in the professional practice and how the physicians meet them. After analysis of the findings, identification of the criteria that are inadequately addressed provide measures to correct them to improve clinical practice. Malnutrition is very often observed in cancer patients. Correlation has been shown between malnutrition and poor prognosis, deterioration in quality of life, surgical complications, and sometimes limited responsiveness to treatments. Our working group identified a list of important criteria for diagnosis and management of malnutrition, taking into account the recommendations on this subject. Sixty cancer patient files were studied for notification of weight and percentage of loss, BMI, albumin, medical conclusion about nutritional status, nutritional status in the correspondence sent to other physicians, proposal of diet counselling, proposal of artificial feeding. Weight was controlled in 72.4% of the cases, but percentage of loss only in 31%, and BMI only in 6.9%. Albumin was found in 65.5% of cases. A conclusion about nutritional status appeared only in 6% of clinical reports and 13% of letters sent at the end of stay in hospital. Of the 42 patients for whom the group believed a specific diet or nutrition counselling was necessary, only 19% received food adaptation. And of 49 patients for whom the group believed an artificial feeding was necessary, only 36.7% received oral, enteral or parenteral feeding. We have set a primary objective to realise systematic screening of malnutrition in order to enable amelioration of our clinical practice and patient care. New standardized clinical report form was created. Conferences on impact of malnutrition in cancer patients will be provided to nurses, dieticians, oncologists and other physicians in the hospital, to emphasize the importance of this issue. At the same time, systematic monitoring of dietary intake will be conducted to provide artificial feeding best suited. As a standard procedure of the PPE, a new study will be made within a year to assess whether the proposed new forms and the provided training have improved our practice on malnutrition in cancer patients.

Keywords: malnutrition, cancer, community center, quality control

Introduction. Palonosetron has been shown to be very effective in pharmacological prophylaxis of chemotherapy-induced nausea and vomiting (CINV). In our study we evaluated the efficacy of a single-dose palonosetron plus dexamethasone to control emesis in patients (pts) receiving HEC (Cisplatin and/or Epirubicin and/or Iphosphamide). Moreover, we evaluated the amount of their Food Intake (FI) in the week following therapy, in order to measure any reduction of Calories Consumption related to CINV. Methods. Patients, affected with advanced cancer, and without a compromised nutritional status (bone mass index ≥ 18.5), were treated with palonosetron 250 mcg plus dexamethasone 20 mg before HEC. Nausea, vomiting and FI were monitored by a 7 day diary. Complete Response (CR: no vomiting and no rescue therapy) was the primary endpoint, Complete Control (CC: CR and only mild nausea) and the evaluation of FI were the secondary endpoints. The endpoints were evaluated during the acute (0-24 hrs), the delayed (25-168 hrs) and overall (0-168 hrs) phases. Results. Fifty patients were enrolled: 80% and 78% of patients achieved CR and CC respectively, during the acute phase; 82% and 78% of patients achieved CR and CC, during the delayed phase; 76% and 74% of patients achieved CR and CC, during the overall phase. We evaluated the impact of mild nausea presence on FI among the CC population: patients with a CC without nausea had a median daily FI of 1500 Kcal and 1600 Kcal, whereas patients with CC and presence of mild nausea had a median daily FI of 1000 Kcal (-500 Kcal; p<0.0029) and 1300 kcal (-300 Kcal) during acute and overall phases respectively. Conclusions. Our results confirm the efficacy of a single dose palonosetron plus dexamethasone to prevent both acute and delayed nausea and vomiting and to warrant adequate caloric intake in patients treated with HEC. Our data show that even in patients with a Complete Control of CINV episodes, the presence of residual nausea episodes, even mild, significantly affects the food intake (more than 20% of daily FI). The evaluation of food intake could be suggested as an additional parameter to evaluate the efficacy of antiemetic therapy.

Keywords: Palonosetron, Chemotherapy-induced nausea and vomiting (CINV), Highly emetogenic chemotherapy (HEC)
17PD- IMPROVEMENT OF NUTRITIONAL STATUS IN ADVANCED HEAD AND NECK CANCER PATIENTS
R. Sharma¹, D.P. Singh¹, O.P. Sharma¹, S. Sharma²
¹Radiotherapy And Oncology, SMS Medical College and Hospital, Jaipur, Jaipur/INDIA, ²Radiotherapy And Oncology, SMS Medical College and Hospital, Jaipur, jaipur/INDIA

Cancers of the head and neck constitute major burden of solid tumors in our country and represent about 30% of the total body cancers in our largest government medical college level hospital of the largest state of India. In general the majority of the head and neck cancer patients are in the advanced stage of their disease. The nutritional status of most of these patients is very poor and few of them are in the last phase of their life and this remains still a challenge for the oncologists, specially in the developing nations with limited resources. It is difficult to convince that cure is out of question and only palliative measures play the important role in the management of such patients. Locally recurrent and advanced primary tumors of head and neck can be most unpleasant causing localized symptoms including pain, eating difficulties and dysphasia, difficulty in speaking, dribbling, unpleasant taste, facial edema, fistulae and fungation with offensive smelling tumors. The main objective in such advanced terminally ill cancer patients is improvement of the quality of their life in their last phase of life by symptom control and palliative care. The measures used for it are palliative chemo/radiotherapy, nutritional support, nasogastric feeding, percutaneous endoscopic gastrostomy, airway patency by tracheostomies with humidification and suction of secretions psychotherapy with reassurance and clear communication. The management of the last phase of the life of cancer patients may present few challenges as they become week and malnourished and experience particular complications specific to local tumor growth as local infection, respiratory infections, tracheal obstruction, tracheoesophageal fistulae, pathological fracture of mandible and arterial bleeds. Nutritional status improvement was associated with encouraging results in completion of palliative therapy and tolerance to the treatment. Several aspects of the cancer and nutrition will be presented in the poster presentation.

Keywords: nutrition, cancer

18PD-NUTRITIONAL RECOMMENDATIONS DURING AND AFTER OF CHEMOTHERAPY TREATMENT IN MEXICAN PATIENTS WITH CANCER
Salud Y Bienestar, universidad de Guadalajara CUSUR, ciudad Guzman/MEXICO

Purpose of the Study: Provide information and offer some nutritional advice to the mexican patients with different types of cancer treated during and after chemotherapy treatment to ameliorated secondary effects (vomiting, nauseous, diarrhea and constipation) produced for given medicaments. Experimental Procedures: in 46 patients with different types of cancer gastric (9), breast (10), colon (3), liver (2), esophageal (2), head and neck (1), lung (2), leukemia (3), prostate (1), lymphomas (8), vesicle (1), bladder (1), myeloma (2) and sarcoma (1) were treated with different chemotherapeutic agents that produce different effects adverse. For this study we used a individual test for seven days to know what type, number and hour of food intake was realized after treatment and also give some nutritional recommendations during therapy to reduce secondary effects by numbers of rations vegetables, fruits, meat, oils, milk, sugars, cereals, grains and ginger preparations recommended to ameliorated these effects. We realized a diet personalized depending of body weight according to requirements. Results: Ours results have shown that after chemotherapy the secondary effects ameliorated especially nauseous and vomiting by ginger preparations given and nutritional recommendation following enlisted 1. Eat many times food at day in small amounts 2. Not drink beverages during food 3. Eat cold food and ambient temperature 4. Eat and masticate slowly 5. Consume toasted bread and dry cereals 6. Drink cold natural fruit juice 7. Consume ginger preparations like infusions, shakes and jelly 8. Not eat sweets, fried and greasy food. Conclusions: the diet and advice given at all patients during and after chemotherapy were adequate because diminish the symptoms (nauseous and vomiting) produced for the medicaments in chemotherapy further these patients shown preservation of muscle mass, increase of immunological systems, improvement nutritional state and quality life.

Keywords: nutritional, chemotherapy, cancer, recommendations
Rationale: In August 2007 we have started with nutritional counselling (NC) in gastric cancer patients after total gastrectomy (GCPATG). Our aim was to evaluate the effects of NC on food intake in this group of patients and to emphasize the importance of NC. Methods: NC by clinical dietician was started approximately two months after surgery when adjuvant treatment (chemotherapy and radiotherapy) started. None of 23 included GCPATG didn’t receive NC till then. The patients were counselled to consume energy and protein from food with or without supplements tailored to individual needs and preferences. NC was repeated as necessary in average four times in one and half month’s period. Dietary energy and protein intakes were assessed by 3-day weighted protocols or 24-hours recall and evaluated by Prodi 5.0 expert plus computer programme. Results were compared to the reference values for energy and protein recommended for the stabilization of body weight for cancer patients (30 kcal/kg BW/d and 1.5 g/kgBW/d). Results: Before first consultation GCPATG lost 18.4 [6.5] % (mean [SD]) of their common weight, despite their BMI was normal (21.2 [13.6] kg/m²). Various side-effects accompanied the treatment. The most significant one was decreased volume capability of food intake (average meal volume was 315 [140] ml), the other were nausea, fatigue etc. Average lost of patients body weight was 4.4% during period of NC. Table: Daily food intake during counselling period (mean [SD]).

<table>
<thead>
<tr>
<th></th>
<th>First counselling n = 20</th>
<th>First control visit n = 16</th>
<th>Second control visit n = 14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy intake (kcal/kgBW/d)</td>
<td>23.5 [6.9]</td>
<td>29.8 [8.3]*</td>
<td>29.6 [9.1]*</td>
</tr>
<tr>
<td>Protein intake (g/kgBW/d)</td>
<td>1.0 [0.3]</td>
<td>1.2 [0.4]</td>
<td>1.3 [0.5]</td>
</tr>
</tbody>
</table>

* P<0.05 (T-test Conclusion: While NC was taken into consideration so late after surgery in association with adjuvant treatment in GCPATG, improvement of body weight wasn’t observed. This group of patients had not fully met their nutritional needs as planned; however significantly increased energy intake was achieved already after first control. Our results, especially high weight loss before first NC are pointing out that GCPATG may be included in NC immediately after surgery.

Keywords: nutritional counselling, total gastrectomy

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20PD- PARENTERAL NUTRITION, GUIDELINES FOR PALLIATIVE HOME CARE SERVICE

G.K. Källbäcker¹, G. Frisk¹, C.L. Nilsson², A.M. Lyngå², E.B. Lundqvist², Y.H. Sturk Malmgren³, M.E. Isaksson Treiberg⁴, L.M. Johansson⁴

¹Cancerprofilerade Teamet Södra, ASIH Långbro Park, Älvsjö/SWEDE, ²Cancerprofilerade Teamet Norra, ASIH Långbro Park, Älvsjö/SWEDEN, ³Medicinska Teamet, ASIH Långbro Park, Älvsjö/SWEDEN, ⁴Palliativa Vårdavdelningen, ASIH Långbro Park, Älvsjö/SWEDEN

Inadequate individual plan for parenteral nutrition (PN) in home care service, especially for palliative cancer patients, leading to suffering for patients, stress among staff and increased cost. Motivation: Unclear instructions and routines when assigning PN to cancer patients and lack of structured follow-up becomes a risk to patients, increases work load for medical professionals and inefficient budget management. Managing expectations from relatives has also increases stress among staff. At the home care services ASIH Långbro Park, part of Stockholm County Council organisation, a quality assurance project was launched during 2008 with the objective to secure the process and routines related to the introduction and follow-up of PN. Methods: The quality document starts with an introduction to PN. The key part is a roles and responsibility matrix followed by a list of common problems and questions that occur in the decision process. The questions to be answered are what the objective with PN is for the individual patient and what type of PN but also technical considerations and individual treatment plans are documented. The most important is the regularity and time frame for the PN and when the follow-up will take place. The first follow-up two weeks after the introduction of PN is a key step in the process. A team of MD, dietician, nurse, the patient and relatives hold a review of the effect of PN. The MD has full responsibility but input from weight monitoring, lab results and the patients health status is considered when deciding how to continue. If the health status of the patient deteriorates before the first follow-up an earlier follow-up takes place. During the follow-up the amount of PN used is documented and adjusted to match the need of the patient. This leads to more efficient use of the funds for PN within the organisation. Conclusion: A process and documented routines including checklists ensure a treatment in line with the individual patient need. It also gives the team a more efficient and clearer work environment with higher quality. It leads to less waste of PN equipment and saving money for the organisation. This important medical treatment within cancer care can now be handled with securely, at a lower cost and higher quality of life for the patient.

Keywords: Parenteral nutrition, palliative cancer, home care service, individual plan
Natural substances of plant origin with their chemical diversity, structural complexity, lack of toxicity and inherent biologic activity continue to amaze researchers and are ideal candidates for cancer therapeutics. Crude extracts, isolated natural compounds, and derivatives including terpenoids, flavonoids, phytosterols, coumarins, tannins, alkaloids, alkalannins, shikonins, lignans, phytoalexins, and others, exhibit significant cytotoxic and chemopreventive activities. Major anticancer mechanisms include induction of apoptosis via the intrinsic mitochondrial pathway, but also via activation, deactivation or modulation of major signaling pathways related to cancer. Inhibition of the ERK1/2 or the ERK5 pathways is leading to G1 arrest in cancer cells and down-regulation of cyclin D1, cyclin E, CDK4, as well as reduction in pRB phosphorylation. The death receptor, ERK, MAP kinase, DNA damage leading to p53 dependent induction of apoptosis are additional targets of natural products. Additional mechanisms include suppression of NF-κB leading to activation of anti-inflammatory pathways (inflammation is linked to cancer), suppression of heat shock response, modulation of the TNF pathway, reactivation of silenced tumor suppressor genes via inhibition of DNA methyltransferases, activation of the ATM-p53 cascade, inhibition of proteasome activity, repression of histone deacetylase, inhibition of cytochrome P450, modification of multidrug resistance by reversal of P-glycoprotein-mediated drug efflux, inhibition of tumor promotion, interference with tumoral immune tolerance, induction of differentiation, inhibition of the 90 kDa heat shock protein (Hsp90), upregulation of annexin-I expression enhancing actin polymerization and cell adhesion while decreasing cell motility and finally modulation of tumoral immune tolerance. Natural compounds can modulate transcriptional activation of androgen receptor with potential application in prostate cancer prevention whereas others are also found with antiangiogenesis properties. Because animals and plants co-evolved for millions of years, every animal biochemical pathway searched can be found modulated by plant natural substances and a single compound can have multiple targets.

**Keywords:** apoptosis, inflammation, terpenoids, flavonoids, phytosterols, coumarins, tannins, alkaloids, alkalannins, shikonins, lignans, intrinsic mitochondrial pathway, cancer, signaling
23P. AFFINITY OF EXTRACTS OF SOYA TO ESTROGEN RECEPTORS AND THEIR ANTIESTROGENIC INFLUENCE ON MAMMARY TUMORS MICE C3H/SN.

D. Burlaka¹, O. Klenov², S. Zaletok²
¹Biotechnical Problems Of Diagnostic, Institute for Problems of Cryobiology and Cryomedicine, Kyiv/UKRAINE, ²Biochem, R.E. Kavetsky Institute of Experimental Pathology, Oncology and Radiobiology, Kyiv/UKRAINE

A number of recent publications have suggested that breast cancer might be prevented by the antihormonal treatment of women who are deemed to be at high risk of developing the malignancy. Until recently the tamoxifen was the most likely candidate for such prophylactic regime. Unfortunately, tamoxifen shows any incidence of side-effects. Similar actions on normal human breast tissue would obviously negative its suitability as a prophylactic agent. On this basis we have undertaken a study to characterize the in vivo action of food supplements “Danprotex B-50” on mice mammary tumors. Materials and methods. Female mice C3H/Sn 3 month old and weighing 26-30g (n= 34) were used in this study. A control group (n= 14); II group (n= 10) mice that given soybean concentrate after transplantation; III group (n= 10) mice that given soybean concentrate the whole period of life. The dextran-coated charcoal radioactive ligand-binding ER (estrogen receptor) assay method was used, followed by Scatchard analysis. Results. The effect of concentrate “Danprotex B-50” on the growth of transplanted ER+ mammary tumors of C3H/Sn mice and terms of animal survival have been studied. It has been demonstrated that the consumption of the soybean medication a month prior to transplantation and after one throughout the whole period of life or only after transplantation, sufficiently inhibits the growth of tumors and prolongs the terms of animal survival. Besides the soybean ration narrows confidence interval disorder of tumor volumes in these groups in comparison with a control group. Such influence considerably reduces heterogeneity of tumor ER status. We observed similar effect as action of reserpine, steroid hormones and retinol. Affinity of extracts of a “Danprotex B-50” with ER was lower than affinity diethylstilbestrol, but it is much better than estradiol. Conclusion. The ability of extracted “Danprotex B-50” substances to bind for estrogen receptors has been detected, suggesting a possible antiestrogen mechanism of action of the soybean concentrate.

Keywords: soya, estrogen receptor, mice mammary tumor

24P. ESTROGEN CONCENTRATIONS IN BEEF AND HUMAN HORMONE-DEPENDENT CANCERS

Y. Handa¹, H. Fujita², S. Honma³, H. Minakami⁴, R. Kishi⁵
¹Department Of Gynecology, Hokkaido Cancer Center, Sapporo/JAPAN, ²Center For Cytodiagnosis, Hokkaido Cancer Society, Sapporo/JAPAN, ³Department Of Research And Development, Teikoku Hormone Medical Co., Ltd., Kawasaki/JAPAN, ⁴Department Of Obstetrics And Gynecology, Hokkaido Cancer Center, Sapporo/JAPAN, ⁵Department Of Public Health, Hokkaido University, Sapporo/JAPAN

Background: As in Western countries, the incidence of hormone-dependent cancers has been increasing five times during the past 25 years in Japan. Meanwhile, popularization of Western diet has resulted in a five-fold multiplication of beef consumption in Japan. Over 25% of the beef has been imported from the United States, where implantation of hormonal steroids to cattle is usually done for growth promotion, a practice still uncommon in Japan. We validated the relevance of estrogen concentrations in beef to cancers. Methods: Micro-concentrations of Estradiol 17 Beta (E2) and Estrone (E1) were measured in beef fat (US, Japanese beef: n= 40, 40), beef red meat (US, Japanese beef: n= 30, 30), hamburger meat (US: n= 10), human cancer tissues (endometrial, ovarian cancer: n= 50, 50), normal controls (endometrium, ovary: n= 25, 25) by LC-MS/MS. Results: Median concentrations (pg/g) of E2 and E1 in US beef fat (14.0, 7.7) were 140x and 77x higher than those in Japanese beef fat (0.1, 0.7). In red meat, US beef (3.8, 1.0) showed approximately 600x and 10x higher levels of E2 and E1 than Japanese beef (0.0, 0.1). US hamburger meat (5.1, 37.5) had the highest E1 level among beef. Endometrial cancer showed higher estrogen levels in stage I (400.3, 133.5) and lower in stage III-IV (8.6, 34.7) than normal controls (203.9, 83.2). This tendency was also found in ovarian cancer. Conclusions: US beef and hamburger meat contained much higher levels of estrogens than Japanese beef, in which nearly zero level of estrogen was contained. This difference may have been ascribed to steroid implantation generally done to beef cattle in the United States. Estrogen accumulation appeared to play an initial role in the incidence of endometrial and ovarian cancer. Hence, the increasing consumption of beef and its products following steroid implantation could possibly be related to the incidence of human hormone-dependent cancers.

Keywords: hormone-dependent cancer, Estrogen concentration, beef
**25P. NUTRITION IN CHILDREN AND BREAST CANCER**

**J. Janssens¹, M. Vandeloo²**

¹Oncology, Salvatorziekenhuis, Hasselt/BELGIUM, ²Dietics, Salvatorziekenhuis, Hasselt/BELGIUM

Attention to the lifestyle of children in relation to subsequent risk for breast cancer is a relatively recent line of research. Early menarche, puberty and late FFTP are among the most powerful known lifetime risk factors. Obesity, exposure to estrogens, breast development, and many other risk factors originate early in life as well. In fact, breast cancer seems to originate almost entirely in childhood. The breast is most vulnerably at the very onset of development. All this mixtures of direct and indirect factors might constitute intermediaries between lifestyle, childhood milestones, estrogen exposure and increased risk for breast cancer. Of particular importance is menarche that confers a life-time influence on risk. But is cancer prevention feasible by modulation of menarche? We studied 1146 healthy girls between birth and the age of 13 for the presence of lifestyle factors that correlate with early puberty and menarche. We compared these factors to what is known in the literature about breast cancer is. 46.7% of the girls reached their menarche during the study. Uni- and multivariate analyses, investigating the most important variables of the period from birth to menarche, show clear evidence that lifestyle factors, including nutrition, do have an effect on both breast development and menarche. Childhood obesity, lack of physical activity, high glycemic carbohydrate consumption, parental factors, and history of mononucleosis are among the strongest determinants influencing the onset of puberty and menarche. Consequently, impact on breast cancer risk might be expected; certainly when the observed determinants for menarche prove to be known breast cancer risk factors as well. Further research should focus on nutrition in children and breast cancer risk to prevent the disease.

**Keywords:** breast cancer prevention, children, risk determinants, nutrition, lifestyle

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**26P. DIETETIC CONSUMPTION, EXCESSIVE WEIGHT AND BREAST CANCER: THE NÚCLEO MAMA PORTO ALEGRE PROJECT**

**B. Weber¹, G.H. Cibeira², M. Caleffi³**

¹Superintendência, Hospital Moinhos de Vento, 001/BRAZIL, ²Núcleo Mama Porto Alegre, Hospital Moinhos de Vento, 001/ BRAZIL, ³Núcleo Mama Moinhos, Hospital Moinhos de Vento, 001/BRAZIL

Introduction: breast cancer can be considered the second most frequent cancer in the world and the first among women. It is estimated that many deaths could be avoided if adult population maintained the ideal weight. Objective: to determine the alimentary and anthropometric profile of a sample of women with breast cancer. Methods: a cross-sectional study that evaluated 51 women with breast cancer diagnosis, between March and May of 2008, selected from a Núcleo Mama Porto Alegre, a cohort for breast cancer screening started in 2004. The evaluated measures were weight, height, waist and hip circumference, body mass index, lifestyle factors and food intake. Results: the average of age was 55,86±8,57 years. Was observed that only 28,6% of women practiced physical activity. The average of weight and body mass index were 78,73±18,88kg and 30,16±9,87kg/m², respectively. Were obtained statistical significance for the association between body mass index and physical activity (P= 0,008), waist circumference (P= 0,001) and waist-to-hip (P= 0,043). The average of calories intake was 2.433,08+908,26 kcal daily. Conclusion: the results suggest a positive association between diet, excessive weight and breast cancer. However, new studies must be developed aiming to determine the exact relationship between diet and breast cancer.

**Keywords:** Overweight, obesity, breast cancer, diet