5197 POSTER

Factors associated with provider delay in the cohort ELIPPSE 40 of young breast cancer women

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Background: breast cancer incidence is quite low in young women and breast cancer is often diagnosed at more advances stages than in older women. Delaying diagnosis and initiation of treatment is likely to result in worse prognosis. We attempted to identify factors associated with provider delay in a cohort of young women recently diagnosed with breast cancer.
Material and Methods: since July 2005, all consecutive women included in the Long Duration Disease File of the French National Health Insurance Fund for a diagnosis of primary non-metastatic breast cancer, aged 18−40 years and living in South Eastern France are asked to participate in a 5 years follow-up. Women who agree to participate answer a mailed self-questionnaire at enrolment (in the month after diagnosis) and then telephone interviews every year. Medical record is yearly collected from physicians. Between January 2005 and March 2009, 291 women have been included (response rate: 70%). Provider delay was defined as time elapsing between first presentation to a medical provider and cancer treatment initiation. This was studied in relation to socio-demographic factors, clinical variables and characteristics of the physician using logistic models.
Results: Provider delay was known for 282 women. Provider delay was 1 month or less for 38% of women, between 1 and 3 months for 46% and over 3 months for the last 16%. In multivariate analysis provider delay >1 month was associated with the women self detection of the cancer (OR = 12.5, 95%CI = [5−33]), with the diagnosis of non invasive breast cancer (9.1, [2.6−33]), and with the living place of the women (OR = 2.41 [1.3−4.6] for women living in towns <200,000 inhabitants, and OR = 0.68 [0.28−1.62] for women living in rural areas when compared with those living in towns ⩾200,000 inhabitants). Socio-demographic characteristics of women, family history of breast or ovarian cancer, symptoms presentation, and specialty of first consulted physician were unrelated to provider delay.
Conclusion: Our study suggests that screen detected cancers and cancers detected in large towns or in rural areas are treated more quickly than self detected ones and those detected in medium size towns with dispersed medical services and care units. Educational programmes for physicians could help them to reduce diagnosis and treatment delay in the particular population of young breast cancer women.

5198 POSTER

Patient satisfaction with nurse-led telephone follow-up after curative treatment for breast cancer: a randomised controlled trial

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Background and Aim: Due to the current debate on the cost-effectiveness of frequent out-patient visits in the follow-up (f-up) after curative treatment for breast cancer, alternative f-up strategies such as telephone and/or nurse-led f-up have been proposed. However, only limited data are available on the patient satisfaction with these alternative f-up strategies. Therefore, the aim of this study was to investigate patient satisfaction with nurse-led telephone f-up, compared to traditional outpatient clinic visits, using data from a randomised multicentre trial.
Materials and Methods: Between 2005 and 2008, 320 female breast cancer patients (stage I, II, III) were randomised into four f-up strategies, focussed on the first 18 months after treatment: 1) standard f-up; 2) nurse-led telephone f-up; 3) arm 1 with an educational group programme; 4) arm 2 with an educational group programme. Data on patient satisfaction were collected at baseline and 3, 6, and 12 months after treatment, using the validated, Dutch version of Ware's Patient Satisfaction Questionnaire III (PSQ-NL). The PSQIII consists of 43 items and 4 subscales. In addition to general satisfaction (PSQ total) it generates satisfaction scores for technical competence (TC), interpersonal aspects (IA), and access to care (AC). Scores range from 0 to 100. The results of arms 1 and 3 were compared with the results of arms 2 and 4, to compare standard f-up with telephone f-up.
Results: Data of 300 patients were analysed, 20 patients dropped out for various reasons. The overall patient satisfaction at 12 months was good: mean of 75.1 with a SD of 19.4, with similar values for standard f-up and telephone f-up: 74.9 vs 75.3 ($p = 0.904$). Furthermore, repeated measures analysis showed no significant differences between groups over time in any of the PSQIII subscales (PSQ total: $p = 0.713$, TC: $p = 0.300$, IA: $p = 0.304$, AC: $p = 0.517$) (power >0.80 and $a = 0.05$).
Conclusions: No statistically significant differences in patient satisfaction were found between nurse-led telephone f-up and traditional outpatient clinic f-up. Hence, nurse-led telephone f-up might be an acceptable alternative for hospital clinic visits. Besides reducing costs and burden on hospital clinics, it could be appropriate for patients with long travel distances or mobility problems.

5199 POSTER

Efficacy of specialised nurses for newly diagnosed breast and gynaecological cancer patients: a quasi-experimental study

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Background: EUSOMA requires that breast cancer speciality units consist of a core team of specialists including specialised nurses. To date, research on the efficacy of specialised nurses in breast and gynaecological cancer remains inconclusive. The aim of our project was to test the efficacy of specialised nurses in these units on quality of life (QoL) and supportive care needs (SCN) of patients with breast and gynaecological cancer in the first three months after diagnosis.
Patients and Methods: We used a quasi-experimental design. From 210 eligible women we included a convenience sample of 113 newly diagnosed patients (53%, median age: 55.5, range: 35−85) from two specialist centres in Switzerland, one center served as intervention (N = 49), one as usual care group (N = 64). Most of the patients had an ECOG performance status between grade 0−1 and followed adjuvant treatment. The intervention referred to follow up by a multidisciplinary team including specialised nurses. The specialised nurses (non academic) provided regular counselling and support (shared consultations and individual counselling) according to a newly developed protocol. No specialised nurses were part of usual care. Baseline measurement occurred 2−4 weeks after definitive diagnosis. Follow up measurement occurred after 10 weeks. To rate their overall QoL, patients filled out a linear analogue self assessment scale ranging from 0–100 mm. They also completed the IBCSG QoL Core Form, which included seven similar scales focussing on QoL-related subdomains such as 'physical well-being', 'feeling of support', etc. SCN was measured with the 34-item SCNS. The 3-points scale measured perceived SCNs in five core domains, for which five averaged total scores were calculated.
Efficacy testing occurred using random-intercept regression analysis by examining whether the average evolution of QoL and the SCN measures differed over time for the two study groups, thereby controlling for confounding factors known to influence quality of life (e.g. different therapies, tumour stage, persons living in the same household).
Results: Baseline socio-demographic and medical data were similar between the groups. Evolution of QoL and SCN measures over time did not differ significantly between groups.
Conclusion: This study did not provide evidence on the efficacy of specialist care including specialised nurses for newly diagnosed patients with breast and gynaecological cancer. An improved model of nursing care is being developed, since the intervention seemed not being targeted enough.

5200 POSTER

A new combined therapy strategy to breast cancer treatment: assay of E gene transfection associated to citotoxic drugs in multicellular tumour spheroid

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Background: The low efficiency of conventional therapies in achieving long-term survival of breast cancer patients calls for development of novel options. The potential use of combined gene therapy is under intensive study. One approach uses the expression of genes encoding cytotoxic proteins that affect cellular viability. The *E* gene from □X174 encodes for a membrane protein with a toxic domain which leads to a decrease in the rate of tumour cell growth. To improve the antitumoral effect of the doxorrubicin in breast cancer cell, we investigated a combined suicide gene therapy using this drug and *E* gene *in vitro*, using MCF-7 breast cancer multicellular tumour spheroids (MTS).
Materials and Methods: We cloned the gene *E* from □X174 genome and tested the possibility of using it as an anticancer reagent in multicellular tumour spheroid of breast cancer (MTS). We investigated a suicide gene

therapy using gene *E in vitro* using MCF-7 breast cancer cells forming MTS. In order to determine the effect of the combined therapy (gene therapy and citotoxics) transfected MCF-7 MTS were treated with gradient concentrations of the drug diluted in the culture medium: paclitaxel, docetaxel and doxorubicin. We studied the action mechanism of the combined therapy: study of apoptosis and cellular cycle, and the modulation of the volumes of the MTS of tumour cells.
Results: Our results showed that the use of doxorrubicin in MCF-7 breast cancer MTS transfected with *E* gene enhanced the chemotherapeutic effect of this drug. This inhibition was greater than that obtained using the gene therapy or chemotherapy alone.
Conclusions: The transfection of gene *E* in MCF-7 MTS is able to increase the chemotherapeutic effect of drugs and specially is able to enhance the anticancer effect of the doxorubicin in comparison to the growth inhibition obtained using the gene therapy or chemotherapy alone. These results indicate that this combined therapy may be of potential therapeutic value in breast cancer.

5201 POSTER

Guidelines in breast cancer – are they keeping up with the times?

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Background: This study aimed to determine how quickly various pivotal clinical trial data in adjuvant treatment for breast cancer were adopted into local and international guidelines.
Materials and Methods: PubMed and conference Web sites were searched to identify representative trials of 3 key adjuvant advances in breast cancer: taxanes, trastuzumab, and aromatase inhibitors (AIs). The inclusion of these treatments in the following international guidelines was analyzed: American Society of Clinical Oncology (ASCO), National Comprehensive Cancer Network (NCCN), and St. Gallen consensus. Several regional guidelines were also reviewed: National Institute for Health and Clinical Excellence (NICE; UK), Danish Breast Cancer Cooperative Group (DBCG), and German Gynecological Oncology Working Group (AGO).
Results: Early studies on taxanes as adjuvant therapy were presented in 1998 and 2000, but adjuvant taxanes were not readily adopted into guidelines. In contrast, guidelines were quickly updated (1−2 y) to recommend adjuvant trastuzumab after data were presented in 2005. Following initial data on adjuvant AIs with the release of the ATAC findings, NCCN guidelines were updated within months. The ASCO technology assessment, St. Gallen consensus, and NICE guidelines were updated several years later, but upfront AIs were not recommended over tamoxifen. With the release of data indicating an emerging survival benefit with upfront letrozole for 5 years, guidelines are being revisited, and further updates are expected. In the 2009 St. Gallen consensus vote, the majority (70%) favored upfront use of AIs.

Treatment	Representative data		Adoption into guidelines	
	Trial	Date	Guideline	Date
Taxanes	CALGB 9344	1998	NCCN	2003
	NSABP B-28	2000	St. Gallen	2007
			NICE	2006 (paclitaxel not recommended)
Trastuzumab	HERA	May 2005	NCCN	2006
			St. Gallen	2006
			NICE	2006
			ASCO	2007
AIs	ATAC	Dec 2001	NCCN	Jan 2002
			ASCO	2005
			St. Gallen	2005
			NICE	2006
AIs	BIG 1−98	Dec 2008	St. Gallen	2009
			DBCG	2009
			AGO	2009

Conclusions: Of the 3 classes of adjuvant therapy investigated in this study, the inclusion of adjuvant trastuzumab into guidelines has generally been the most rapid, and the inclusion of adjuvant taxanes into guidelines has been the slowest. Clinicians have traditionally relied on guidelines to assist them in treatment decision-making. In the current era of rapid advances in oncology, the guideline process needs to be modified to help integrate emerging evidence in a timely manner.

5202 POSTER

Deletions of PTEN and FBXW7 in breast carcinomas investigated with array comparative hybridization (aCGH) are associated with reduced survival in a long term follow up clinical cohort

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The protein mTOR (mammalian target of rapamycin) is a promising target of cancer therapy in human disease. mTOR is a key player in the PI3K-Akt pathway and the group of rapamyoid chemotherapeutic drugs seem to inhibit mTOR in a specific manner. In previous studies the *PTEN* (phosphatase and tensin homolog) and *FBXW7* (F-box and repeat domain containing 7) both seem to inhibit the mTOR level. Deletions in these tumor suppressor genes may thus be a marker for the response of rapamycin. There is evidence for a reciprocal relationship between deletions of these genes. The aim of this study was to investigate the frequency of deletions in PTEN and FBXW7 in a clinical cohort with long term follow up with a high resolution array comparative genomic hybridization platform (aCGH). Tumor tissues from a series of 212 primary breast cancer cases were sequentially collected at Ullevål University Hospital between 1990 and 94. Tissues were sampled at the time of primary surgery and snap frozen. We performed aCGH on 167 of these tumors. DNA was isolated using chloroform/phenol extraction, followed by ethanol precipitation. The aCGH-platform was the Agilent Human-Genome-CGH Microarray 244k. For detection of aberrations, we used an algorithm for segmentation of aCGH data called piecewise constant fit (PCF). The platform contained 10 oligonucleotide probes inside the PTEN gene and 26 probes withinin the FBXW7 gene, 4 in isoform 2, 7 in isoform 3 and 26 for isoform 1. Gene deletion was defined as a value of less than −0.3 of the segmented data on a log2-scale. Statistical analyses of clinical data and survival analyses were performed using SPSS 16.0.
Many significant genetic alterations were found, with a large heterogeneity between the different tumors. In our cohort we found 29 deletions of PTEN (17.4%) and 29 deletions of FBXW7 (17.4%). 12 of these samples (5.7%) harboured a combined loss of these tumor suppressor genes. The survival for patients with a loss in the FBXW7 gene had a significantly reduced survival compared with no loss with a p-value of 0.007. For a PTEN loss the same significant difference were seen ($p < 0.005$). The subset of samples with a combined loss shows evidence of reduced survival compared to loss of one gene and suggests an additive effect of this combinated deletions. The detailed aCGH profiles and clinical data will be presented.

Gastro-intestinal malignancies − Colorectal cancer

Oral presentations (Mon, 21 Sep, 11:00−12:45)

Gastro-intestinal malignancies − Colorectal cancer I

6000 ORAL

Aspirin prevents cancer in Lynch syndrome

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CAPP2 recruited 1009 eligible carriers of Lynch syndrome (HNPCC) to a randomised controlled trial of 600 mg aspirin and/or 30 g Novelose (resistant starch) in 43 centres worldwide. After a mean of 29 months (range