

IMPACT OF NEUTROPENIA IN CHEMOTHERAPY EUROPEAN STUDY GROUP

The mission of the Impact of Neutropenia in Chemotherapy European study group (INC-EU) is to raise awareness and prevent the occurrence of chemotherapy-induced neutropenia (CIN) by assessing the incidence, consequences and patient risk factors and by identifying and developing accurate prediction models for CIN, such that high-risk patients can effectively be targeted for preventative measures.

Welcome to the Summer 2005 edition of the INC-EU Insight newsletter, which communicates the latest news to healthcare professionals who are involved in the treatment of cancer using myelosuppressive chemotherapy.

► In this edition you will find ...

- **An update from the INC-EU:** news from the 6th INC-EU meeting, which took place in February 2005, as well as progress on the 'Prospective Observational European Neutropenia Study'.
- **News from America:** the latest results from the American Study Group 'Awareness of Neutropenia in Chemotherapy' (ANC) including data presented at the American Society of Clinical Oncology (ASCO) Annual Meeting and the 30th Oncology Nursing Society (ONS) Annual Congress this year.
- **In the literature ...:** brief reviews of a selection of recently-published advances in neutropenia and chemotherapy, including: evidence for pegfilgrastim efficacy for chemotherapy (CT) regimens with 10 - 20% febrile neutropenia (FN) risk; the beneficial effect of establishing new guidelines to optimise management of neutropenia; feasibility of dose-dense and dose-intense chemotherapy with filgrastim support; and the impact of grade 4 neutropenia on quality of life (QoL)
- **Update from the European Oncology Nursing Society (EONS):** progress on TITAN (Training Initiative in Thrombocytopenia, Anaemia and Neutropenia), including an announcement of the forthcoming TITAN symposium at the 13th European Conference on Clinical Oncology (ECCO 13) later this year and news on the Europe-wide roll-out of the project.

► INC-EU website

You can access more information about the INC-EU by registering on the website at www.inceu.org.

► Email contact

If you would like to contribute an article or require further information, we would appreciate hearing from you. Please send an email to info@inceu.org.

Full contact details of the INC-EU coordinating centre can be found on the last page of this newsletter.

STOP PRESS



The National Comprehensive Cancer Network (NCCN) 2005 guidelines entitled 'Myeloid Growth Factors in Cancer Treatment' have just been published.

This is the first major international revision of CSF guidelines since the ASCO guidelines were published in 2000.

These new guidelines recommend that the threshold for routine prophylactic use of G-CSF support should now be lowered to 20% risk of FN.

See inside for more details

STOP PRESS

An update from the INC-EU

News from the 6th INC-EU meeting

The INC-EU met in Frankfurt on 28th February 2005 to discuss the latest activities and to develop ideas for new projects.

INC-EU members discussed the latest recruitment figures for the Prospective Observational European Neutropenia Study and debated the direction of a future trial to validate any risk model that results from analysis of their data.

André Bosly presented results of a Belgian lymphoma study, which compared different CT regimens and average relative dose intensity (ARDI) on patient survival. Details of this presentation and a new ARDI threshold for improved patient survival are presented below.

A proposal from Prof. Nora Kearney to assess and manage chemotherapy-induced neutropenia using an electronic hand-held system was also discussed at the meeting.



Photograph of some of the meeting attendees. From left to right: Matthias Schwenkglenks MA, MPH, Dr Manuel Constenla, Dr Ruth Pettengell, Prof Robert Leonard, Prof André Bosly, and Prof Robert Paridaens. Matthias Schwenkglenks is a consultant statistician for the INC-EU. He is Head of Research at the European Centre of Pharmaceutical Medicine (ECPM), based at the University of Basel, Switzerland.

Progress report from the Prospective Observational European Neutropenia Study

RECRUITMENT GOAL ACHIEVED

The recruitment phase has now been completed in all countries with 782 patients recruited overall (with approximately 470 breast cancer and 310 lymphoma patients).

The INC-EU wishes to thank all the investigators and site-staff participating in the project for driving the recruitment of patients and for achieving this key milestone.

The next steps ...

Over the next few months, data for patients currently enrolled in the study will continue to be entered into the database and will be carefully monitored to eliminate any possible errors. The last patient is expected to complete their treatment programme in September 2005 and final data entry and management tasks will continue until October/November. Only once the database is complete and is considered to be clean can the full analysis begin.

Aims and objectives

The Prospective Observational European Neutropenia Study is designed to better define the relationship between risk factors and neutropenia. The main study objectives are:

- to estimate the incidence of grade 3/4 neutropenia following common myelosuppressive chemotherapy regimens;
- to assess the frequency and severity of FN and of neutropenia-induced chemotherapy dose delays and dose reductions;
- to identify associations between neutropenia risk factors (e.g. treatment characteristics, comorbidities) and neutropenic event occurrence, and between neutropenic event occurrence and impaired chemotherapy delivery;
- to contribute to the development of a clinically effective risk model, which will identify patients who are at an increased risk of experiencing neutropenia, in order to target prophylactic measures.

The effect of chemotherapy regimen and dose on patient survival: results of a Belgian lymphoma study



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Specifically, the mean OS of patients receiving > 90% ARDI compared with those receiving ≤ 90% ARDI was 5.38 y ± 0.58 and 2.24 y ± 0.30 respectively (mean ± SD; $P = 0.002$).

This is the first study to associate a survival advantage with achieving such a high ARDI. An earlier study by Kwak et al. had shown in patients with diffuse large-cell lymphoma (DLCL) receiving doxorubicin that a relative dose intensity (RDI) > 75% was the single most important predictor of survival¹. In DLCL patients receiving CHOP, ARDI < 83% in early cycles was a predictor for poor prognosis (COX model, $P = 0.0003$)². Furthermore, in a 20 year follow-up of breast cancer patients who received CMF (cyclophosphamide, methotrexate, 5-fluorouracil), Bonnadonna et al. noticed a significant overall survival advantage for patients who received ≥ 85% of optimum dose, over those who received either 65% - 84% or < 65% of optimum dose³.

At the last INC-EU meeting, André Bosly presented a retrospective study on 348 lymphoma patients in Belgium. This study investigated the overall survival of patients receiving CHOP regimens (273 patients, 79%), ACVBP regimens (57 patients, 16%) and CHVmP-BV regimens (18 patients, 5%; see page 7 for regimen constituent drugs).

Considering the 210 patients receiving CHOP-21 regimen alone, there was a striking overall survival (OS) advantage for patients who received > 90% ARDI, as compared to those receiving ≤ 90%.

Pegfilgrastim and ciprofloxacin effectively prevent CT-induced neutropenia and infection



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doxorubicin, cyclophosphamide) chemotherapy investigated the incidence of neutropenia and infection in 3 cohorts receiving G-CSF with or without ciprofloxacin.

Cohort A (390 patients) received filgrastim s.c. on day 3 – 12 every cycle. Cohort B (323 patients) received pegfilgrastim s.c. only on day 2. Cohort C (236 patients) received pegfilgrastim s.c. only on day 2 + ciprofloxacin 500 mg b.i.d. on days 5 – 14.

The incidence of neutropenia was significantly greater in cohort A (81.9%) compared with the combined incidence in cohort B (63.7%) and C (59.6%; $P < 0.001$). The incidence of FN was significantly different between each

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cohort; 17.1% in A, 6.4% in B and 4.3% in C ($P < 0.001$ for all pairwise comparisons). Infections were significantly less frequent in cohort C (23.0%) compared with the combined incidence in the other two cohorts (31.2% in A, 27.8% in B; $P < 0.05$).

In conclusion, primary prophylaxis with pegfilgrastim in combination with ciprofloxacin was superior to other preventative measures for reducing the incidence of FN and infections.

News from America ...

The ANC study group, the US counterpart of INC-EU, is directed by American haematologists and oncologists Gary Lyman, MD, MPH, David Dale, MD and Jeffrey Crawford, MD. The remainder of the study group comprises biostatisticians and other medical professionals from around the world, coordinated at the James P. Wilmot Cancer Center, University of Rochester, N.Y.

► The Awareness of Neutropenia in Chemotherapy prospective registry

The ANC prospective registry was established to develop predictive models to identify risk factors for neutropenia and severe neutropenic events in 5 major tumour types (lung, breast, colon, ovarian and lymphoma). Severe neutropenic events (SNEs) include severe neutropenia, fever, infection and other neutropenic complications, e.g. CT dose reductions or delays. The study is divided into two phases; phase I is the initial dataset and phase II is a long-term follow-up to validate any risk model proposed as a result of phase I and to include more details of growth factor use and CT dose.

Recruitment statistics

The full recruitment for phase I should be completed in July 2005. By March 2005, 3,657 patients (424 colon, 728 lung, 260 ovarian, 1,216 breast, 371 lymphoma, 44 unclassified, 614 other tumour type) had enrolled into phase I of the study.

Phase II was initiated in October 2004, and by May 2005, phase II had enrolled 669 patients (91 colon, 84 lung, 47 ovarian, 241 breast, 78 lymphoma, 3 sarcoma, 48 unclassified, 76 other tumour type). Results from the ANC neutropenia registry were presented at both ASCO and ONS annual meetings this year.

Predictors of SNEs

At the ONS 30th Annual Congress this year, D. Wolff presented interim results from 3,236 cancer patients registered on phase I of the neutropenia registry⁴. Overall, SNEs occurred in 41% of patients with 63% of all SNEs occurring during the first cycle ($n = 3,220$). Significant predictors of SNE from multivariate analysis ($n = 3,141$) included female sex (OR = 1.22, $P = 0.068$), body surface area (BSA) $\leq 2 \text{ m}^2$ (OR = 1.20, $P = 0.077$), pre-treatment absolute neutrophil count (ANC) $3.5 \times 10^9/\text{L}$ (OR = 1.19, $P = 0.053$) and anthracycline-containing regimen (OR = 3.26, $P < 0.001$).

► Meta-analyses of randomised controlled trials (RCTs)

G-CSF significantly reduces FN and increases dose intensity

N. Kuderer presented the latest results of a meta-analysis performed on 14 published RCTs (6 lymphoma, 8 solid tumours) at the ASCO Annual Meeting this year⁶. The study investigated the effect of G-CSF support on patient outcomes. G-CSF support was associated with reduced incidence of FN (OR = 0.54 [0.43, 0.69] $P < 0.001$), and infection-related mortality (OR = 0.55 [0.36, 0.84] $P = 0.005$). Furthermore, ARDI was significantly higher in patients who received G-CSF (94.5% [92.6, 95.9]) compared with those who did not (88.1%

[85.6%, 90.2%], $P < 0.001$). In conclusion, patients who received G-CSF support had better outcomes with respect to FN, mortality and CT dose intensity than those who did not⁶.

Pegfilgrastim is cost saving in moderate myelosuppressive chemotherapy

The latest economic modelling analysis from the ANC involved a combination of direct US cost estimates for hospitalisation and outpatient care and the risk and efficacy estimates from the meta-analysis of 14 RCTs⁷. The modelling showed a net cost saving for an FN risk $> 15.3\%$, daily cost of hospitalisation



Prof. Gary Lyman,
director of the ANC

A risk model for cycle 1 FN

At the 2005 ASCO Annual Meeting in May, G. Lyman presented the initial development of a prognostic model for severe neutropenia (SN) and/or FN based on data from the ANC national prospective registry⁵.

The prospective data confirmed previous results that the risk of SN or FN was greatest in the first CT cycle for all major cancer types considered and that primary CSF prophylaxis reduced the risk of SN and/or FN by approximately 50%.

The model will now undergo extensive validation testing in separate patients (phase II) within the ongoing ANC national registry, as well as at independent institutions and practices. Once validated, the model will have considerable potential for informing and guiding the clinical decision whether to use prophylactic CSF during the first cycle of treatment⁵.

$> \$1,464$ and a relative risk reduction > 0.65 . Cost savings thresholds were found to decrease further with increasing infection-related mortality, longer hospital length of stay or cost per hospitalisation, and greater estimated efficacy. A Monte Carlo simulation showed an average cost saving of \$861 with pegfilgrastim in 71% of patients⁷.

Further increases in healthcare costs and the use of validated FN risk models for targeted therapy should similarly increase the estimated amount saved by use of pegfilgrastim in moderately myelosuppressive chemotherapy⁷.

Special report: new guidelines on CSF support

The National Comprehensive Cancer Network (NCCN) has recently published new Clinical Practice Guidelines in Oncology entitled 'Myeloid Growth Factors in Cancer Treatment'.

These are the first guidelines since the ASCO update in 2000 and take into account new data that demonstrate clinical efficacy of G-CSF in regimens with moderate risk of FN.

The routine use of G-CSF is now recommended for patients with $> 20\%$ risk of FN, and G-CSF should be considered when the FN risk is between 10% and 20%.

The NCCN assessment of FN risk is comprehensive and considers disease, CT regimen, patient risk factors and treatment intent. Based on a combination of all these factors the level of risk (either high $> 20\%$, medium 10% to 20% or low

$< 10\%$) is assigned. To assist with the risk assessment, the NCCN guidelines provide tables of CT regimens associated with high and moderate FN risk, as well as lists of patient risk factors associated with FN and dose delays/reductions. Once an overall risk has been assigned, a simple algorithm assists clinicians to decide whether to intervene with G-CSF support.

The new NCCN guidelines advocate re-evaluating the risk of FN at each cycle, and providing G-CSF support for patients who experienced FN or a dose-limiting neutropenic event in a previous CT cycle.

The guidelines can be accessed at the following website, and a full explanatory article is expected to be published in July 2005 in the *Journal of the National Comprehensive Cancer Network (JNCCN)*.

http://www.nccn.org/professionals/physician_gls/PDF/myeloid_growth.pdf

	NCCN 2005	ASCO 2000
First cycle G-CSF use	risk of FN $> 20\%$	risk of FN $> 40\%$
Consider G-CSF for	10–20% FN risk	
Patient risk factors	Extensive list	Limited list
Recommendations for dose-dense regimens	Include dose in risk assessment	G-CSF not endorsed for dose-densification
Intervention for subsequent cycles	Review FN risk and use of G-CSF at each cycle	Consider dose reduction before use of G-CSF
Recommended products	Category 1 for filgrastim and pegfilgrastim	None

Table 1: Overview of salient differences between NCCN 2005 and ASCO 2000 guidelines.

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Announcement of forthcoming meetings

17th International Symposium of the Multinational Association for Supportive Care in Cancer (MASCC/ISOO)
30 June to 2 July 2005 – Geneva, Switzerland
www.mascc.org

9th Nottingham International Breast Cancer Meeting
13 to 16 September 2005 – Nottingham, UK
www.nibcc.org.uk

13th European Conference on Clinical Oncology (ECCO)
30 October to 3 November 2005 – Paris, France
www.fecsc.be/emc.asp

47th Annual Meeting and Exposition of the American Society of Haematology (ASH)
3 to 6 December, 2005 – New Orleans, USA
www.hematology.org

28th Annual San Antonio Breast Cancer Symposium (SABCS)
8 to 11 December, 2005 – San Antonio, USA
www.sabcs.org

5th European Breast Cancer Conference (EBCC)
21 to 25 March, 2006 – Nice, France
www.fecsc.be/emc.asp

5th Spring Convention of the European Oncology Nursing Society (EONS)
20 to 22 April 2006 – Innsbruck, Austria
www.fecsc.be/emc.asp

19th Meeting of the European Association of Cancer Research (EACR)
1 to 4 July 2006 – Budapest, Hungary
www.eacr.org

31st European Society for Medical Oncology (ESMO) Congress
29 September to 3 October 2006 – Istanbul, Turkey
www.esmo.org

25th Conference of the European Society of Therapeutic Radiology and Oncology (ESTRO)
8 to 12 October 2006 – Leipzig, Germany
www.estro.be/estro/Index.html

In the literature ...

This section of the Insight newsletter features selected recent publications relevant to the INC-EU.

▶ First and subsequent cycle use of pegfilgrastim prevents febrile neutropenia in patients with breast cancer: a multicenter, double-blind, placebo-controlled phase III study

Vogel CL *et al.* *J Clin Oncol* 2005;**23**:1178-1184

The pivotal pegfilgrastim phase III studies were based on CT regimens with an approximately 40% risk of FN without growth

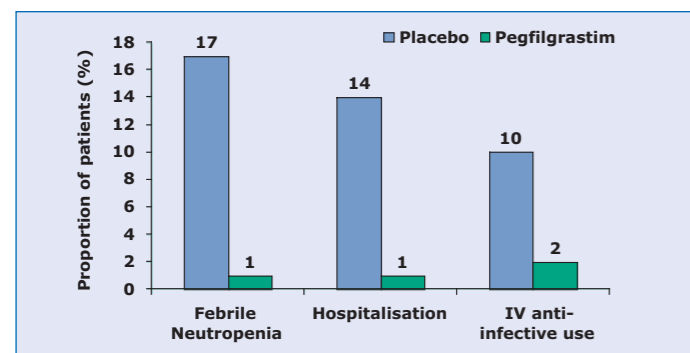


Figure 1: Pegfilgrastim reduces the incidence of FN and the need for FN-related hospitalisation and intravenous (IV) anti-infectives. $P < 0.001$ for all paired comparisons.

factor support. In this new phase III study, Vogel *et al.* assess the efficacy of pegfilgrastim to effect a clinically meaningful reduction in the incidence of CT-induced complications in a setting with a 10-20% risk of FN⁹. A total of 928 breast cancer patients receiving docetaxel were recruited from 88 sites in Europe and North America and were randomly assigned to receive either pegfilgrastim or placebo. In the placebo group, patients who subsequently experienced FN were treated with open-label pegfilgrastim and remained in the study when possible.

Pegfilgrastim administered 24 hours after CT profoundly reduced the incidence of FN by 94% ($P < 0.001$). Furthermore, pegfilgrastim significantly reduced hospitalisation and anti-infective use by 80% ($P < 0.001$ for each comparison).

The authors concluded that these data warrant first cycle use of pegfilgrastim for CT regimens with a moderate risk of FN (e.g. with docetaxel)⁹.

▶ Protocols for managing chemotherapy-induced neutropenia in clinical oncology practices

White N *et al.* *Cancer Nursing* 2005;**28**:62-9

The article reviews the beneficial effect that establishing new guidelines to optimise management of neutropenia had on patient outcomes in three US oncology practices⁹.

The three oncology practices analysed their records for occurrence of neutropenia, dose reductions and treatment delays to establish baseline statistics. All three practices found that a significant proportion of patients received dose delays (up to 64%) or reductions (up to 38%) with up to 40% of patients receiving less than 85% RDI. The oncology practices then developed guidelines to identify patients at risk from CT-induced complications, and target such patients for G-CSF support.

The number of patients receiving $< 85\%$ RDI and dose reduction was reduced in all three practices, and the number of dose delays and incidence of FN were reduced in 2 out of the 3 practices.

The authors concluded that standard clinical management of neutropenia did not result in optimal patient outcomes. However, the use of guidelines to determine which patients were at greatest risk for neutropenia and its complications improved clinical outcomes with fewer delays and reductions of CT doses. White *et al.* advocate broader acceptance of management guidelines and involvement of nurses in the development and implementation of these guidelines at a local level⁹.

▶ Impact of chemotherapy-induced neutropenia on quality of life: a prospective pilot investigation

Fortner BV *et al.* *Support Care Cancer* 2005; e-publication ahead of print

There is little empirical evidence of the impact of CT, particularly CIN, on quality of life (QoL). This prospective, single-centre, single-arm, observational study investigated the relationship between QoL and grade 4 CIN during the first cycle of myelosuppressive CT¹¹.

Patients were assessed on days 0, 7, 14 and 21 of their first CT cycle. QoL was assessed using 19 scales within 4 tools: the Medical Outcomes Study SF-36 health survey, the Cancer Care Monitor (CCM), the Hospital Anxiety and Depression Scale (HADS), and the Psychosocial Adjustment to Illness Scale-Self Report (PAIS-SR). The change of each measure from baseline until the end of each week was modelled using generalised estimating equations.

Of 71 patients evaluated, 33 experienced grade 4 neutropenic events (NEs) with 14 episodes (20% of patients) in week 1, 25 (35%) in week 2 and 1 (1%) in week 3. Although 2 patients experienced FN, no patients were hospitalised for FN. Of the 19 scales used to measure changes in QoL, 3 measures were significantly less favourable for patients who experienced grade 4 neutropenia in the past 7 days than for patients with grade 0-3 neutropenia. These scales were bodily pain (SF-36; $P = 0.01$), anxiety (HADS; $P = 0.03$) and social environment (PAIS; $P = 0.04$). All three changes were clinically significant.

Although the correlations observed in this study do not establish a causative effect of neutropenia on QoL, these data suggest that patients who experience grade 4 neutropenia (without FN) have poorer outcomes with respect to pain, anxiety and social contact. QoL may be adversely affected for up to 7 days after the event.

▶ Increasing chemotherapy dose density and intensity: phase I trials in non-small cell lung cancer and non-Hodgkin's lymphoma

Blayney DW *et al.* *Oncologist* 2005;**10**:138-49

Blayney *et al.* investigated the feasibility of increasing CT dose density and intensity with filgrastim support¹⁰.

The study involved two trials. The non-small cell lung carcinoma (NSCLC) trial had three cohorts of patients who received either standard EP (etoposide, cisplatin) CT (21-day cycle), EP with filgrastim support or dose-dense EP (14-day cycle) with filgrastim support. The second trial involved patients with non-Hodgkin's lymphoma (NHL) treated with CHOP CT, and was structured in a similar way to the NSCLC trial, except that additional cohorts received intensified 14-day cycles supported by filgrastim, where the doses of cyclophosphamide and doxorubicin were increased from 750 mg/m² and 50 mg/m² to 2,000 mg/m² and 65 mg/m² respectively.

For 21-day regimens in both trials, filgrastim support reduced the incidence and duration of grade 3 and 4 neutropenia by between 66% and 77%. Similarly the mean duration of grade 3 and 4 neutropenia was reduced by 81% and 91% with filgrastim support.

The incidence and duration of neutropenia in the dose-dense cohorts of the NSCLC trial were similar to those seen in the 21-day cycles with filgrastim. In contrast, the dose-dense and dose-intensified cohorts of the NHL trial presented a greater incidence and duration of neutropenia compared with the standard regimen supported with filgrastim. However in all cohorts with filgrastim, all cycles had reached an ANC $\geq 2 \times 10^9/L$ on day 14 which allowed for the next cycle of CT.

Although disease outcome was not measured in this study, the authors concluded that the administration of dose-dense or dose-intense CT is feasible with filgrastim support¹⁰.

Abbreviations

Abbreviations used in this newsletter are as follows:

ACVBP	Doxorubicin, Cyclophosphamide, Vincristine, Bleomycin, Prednisone, Methotrexate
ANC	Awareness of Neutropenia in Chemotherapy or Absolute Neutrophil Count
ARDI	Average Relative Dose Intensity
ASCO	American Society of Clinical Oncology
ASH	American Society of Hematology
BSA	Body Surface Area
CCM	Cancer Care Monitor
CHOP	Cyclophosphamide, Doxorubicin, Vincristine, Prednisone
CHVmp-BV	Cyclophosphamide, Doxorubicin, Teniposide, Prednisone, Vincristine, Bleomycin
CIN	Chemotherapy-Induced Neutropenia
CMF	Cyclophosphamide, Methotrexate, 5-Fluorouracil
CSF	Colony Stimulating Factor
CT	Chemotherapy
DLCL	Diffuse Large-Cell Lymphoma
EACR	European Association of Cancer Research
ECCO	European Conference on Clinical Oncology
ECPM	European Centre of Pharmaceutical Medicine
EONS	European Oncology Nursing Society
EP	Etoposide and Cisplatin
ESMO	European Society for Medical Oncology
ESTRO	European Society for Therapeutic Radiology and Oncology
FN	Febrile Neutropenia
G-CSF	Granulocyte Colony Stimulating Factor
HADS	Hospital Anxiety and Depression Scale
INC-EU	Impact of Neutropenia in Chemotherapy
IV	Intravenous
JNCCN	Journal of the National Comprehensive Cancer Network
NCCN	National Comprehensive Cancer Network
NHL	Non-Hodgkin's Lymphoma
NSCLC	Non-Small Cell Lung Carcinoma
ONS	Oncology Nursing Society
OS	Overall Survival
PAIS-SR	Psychological Adjustment to Illness Scale-Self Report
QoL	Quality of Life
RDI	Relative Dose Intensity
RCT	Randomised Clinical Trial
SABCS	San Antonio Breast Cancer Symposium
SN	Severe Neutropenia
SNE	Severe Neutropenic Event
TAC	Docetaxel, Doxorubicin, Cyclophosphamide
TITAN	Training Initiative in Thrombocytopenia, Anaemia and Neutropenia

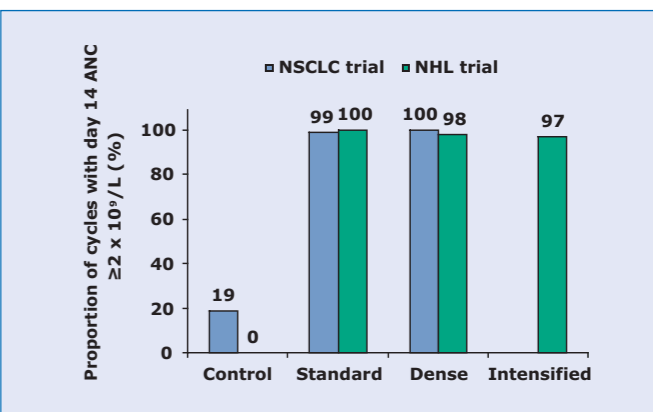


Figure 2: Filgrastim increases the proportion of cycles with day 14 ANC $\geq 2 \times 10^9/L$. Note that there was no intensified cohort for the NSCLC trial.

Update from the European Oncology Nursing Society

The TITAN initiative arose from EONS' commitment to education and improving the quality of care that patients receive. One of the central aims of TITAN is to enhance cancer care through the education of nurses, and to achieve this, a course has been developed by the EONS TITAN working group. The structure of the TITAN course involves three stages: a self-learning revision module; a practice-driven one-day course; and a dissemination project.



Dr. Jan Foubert RPN,
President of EONS

► TITAN education with dissemination symposium at ECCO 13

The pilot testing phase of the TITAN project has now been successfully completed with very positive feedback from the 4 countries involved. The leading Irish, French, Dutch and UK dissemination projects will be presented in a special symposium dedicated to TITAN at the 13th ECCO conference later this year. Anyone attending the conference will be able to find out more about the project by visiting the TITAN booth. The next step is for Europe-wide implementation of the course. EONS is encouraging National Oncology Nursing Societies to run TITAN courses locally. All materials for the TITAN course have now been translated into 5 major European languages – German, French, Spanish, Italian and Dutch, and a translation grant is available from EONS to assist with translation into other languages.

National Oncology Nursing Societies in twenty-one European countries have expressed an interest in running a TITAN course. Organisations from other countries can register their interest and receive an information package containing guidelines, an application form and planning advice by contacting the TITAN coordinator at the following email address: TITAN.coordinator@gmail.com

Country-specific information about the courses will also be posted on a TITAN-dedicated area of the EONS website at: www.cancerworld.org.

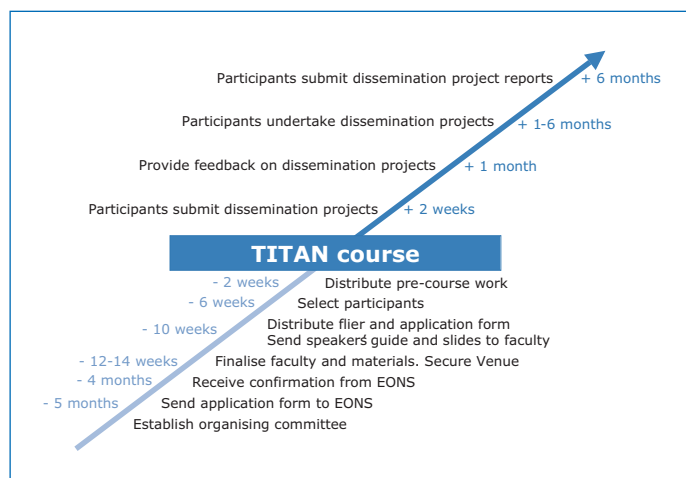


Figure 3: Implementation of the TITAN course: pre- and post-course timelines

► Details of Insight and the INC-EU Coordinating Centre

Insight is a newsletter that represents the interests of the INC-EU study group. The newsletter is intended for a professional, medical audience. The information contained in this newsletter is not intended as advice for patient treatment. The full prescribing information on any drugs must be consulted before use.

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