



2018

VIENNA, AUSTRIA
SUPPORTIVE CARE
MAKES EXCELLENT
CANCER CARE POSSIBLE

SAVE THE DATE : 28-30 JUNE 2018

MASCC/ISOO

ANNUAL MEETING ON SUPPORTIVE CARE IN CANCER



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Faculty Disclosure

<input checked="" type="checkbox"/>	No, nothing to disclose
<input type="checkbox"/>	Yes, please specify:

<i>Company Name</i>	<i>Honoraria/ Expenses</i>	<i>Consulting/ Advisory Board</i>	<i>Funded Research</i>	<i>Royalties/ Patent</i>	<i>Stock Options</i>	<i>Ownership/ Equity Position</i>	<i>Employee</i>	<i>Other (please specify)</i>
Example: company XYZ	x		x		x			



EARLY INDEPENDENT PREDICTION OF ANTHRACYCLINE-INDUCED CARDIOMYOPATHY BY N-TERMINAL PRO-BRAIN NATRIURETIC PEPTIDE



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AGENDA

- Introduction
- Aim & Objectives
- Methods
- Results & Discussion
- Conclusions



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INTRODUCTION

- Benefits of antitumoral therapy with anthracyclines may be deemed by their cardiac toxicity
- Anthracycline-induced cardiomyopathy (AIC) seriously affects prognosis
- International guidelines define the AIC by
 - a) decreasing of left ventricular ejection fraction (LVEF) $< 50\%$ or a decline of more than 5% of LVEF if baseline value is less than 50% or
 - b) the decrease of LVEF with more than 10 units or with more than 20% from baseline value

ACC/AHA/ASE 2003 guideline update. Circulation. 2003; 108(9):1146-1162.

Early prediction of anticancer therapy cardiotoxicity is essential for applying proper preventive and supportive therapeutic strategies



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AIM & OBJECTIVES

Dynamic evaluation of plasma N-terminal fragment of pro-brain natriuretic peptide (NT-proBNP) in predicting cardiac dysfunction assessed by transthoracic 2D echocardiography (2D-TTE)

→ in patients with cancer and early onset asymptomatic anthracycline-induced cardiomyopathy (AIC), *i.e.* **before** LVEF decrease to be diagnostic for early onset asymptomatic AIC



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METHODS

- Prospective study of 68 patients with cancer treated with anthracyclines, 27 (39.7%) men, mean age 56.6 ± 10.2
- Thirty eight (55.9%) patients had breast cancer, 21 (30.9%) patients had lung cancer, and 9 (13.2%) patients had malignant lymphoma.
- Patients with an estimated glomerular filtration rate (eGFR) < 60 mL/min were excluded
 - followed up for 6 months
- **Diagnosis of AIC** was set at 6 months by:
 - decreasing of left ventricular ejection fraction (LVEF) $< 50\%$ or with more than 10 units or 20% from baseline
- **NT-proBNP** (electrochemiluminescence on a Cobas e411 analyzer Roche Diagnostics)
- **2D-TTE** (ALOKA SSD-4000SV Prosound) Were assessed:
 - at enrolment
 - at 3 month
 - at 6 months



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RESULTS & DISCUSSION

➤ 15 (22.1%) patients developed AIC at 6 months of anthracycline treatment - *group 1*

➤ 53 (77.95%) patients did not evolve with AIC - *group 2*

▪ At 3 months, in patients from group 1 NT-proBNP was significantly higher compared to group 2

121.0 (119.8; 140.8) pg/mL vs. 97.7 (75.5; 111.7) pg/mL, $P = 0.0001$,
values expressed as median(25th; 75th percentiles)

▪ Left ventricular diastolic dysfunction (LVDD) was significantly more frequent in group 1(93.3%) vs. group 2(37.7%), $P = 0.0002$

▪ New-detected LVDD at 3 months had 60% sensitivity, and 77% specificity in predicting AIC at 6 months



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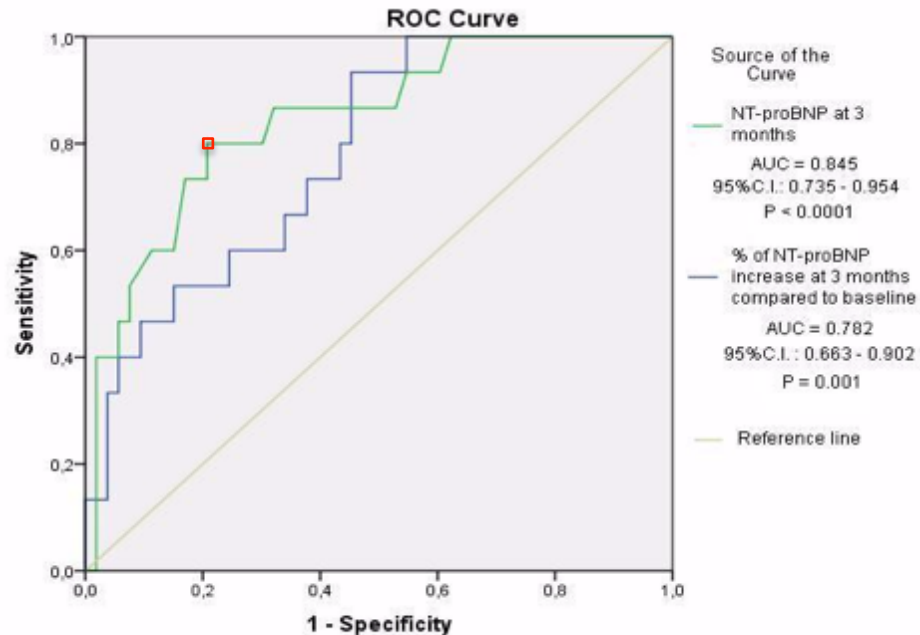
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RESULTS & DISCUSSION

➤ NT-proBNP at 3 months proved accurate in predicting asymptomatic AIC at 6 months [area under the receiver operating characteristic curve (AUC) = 0.845, 95% Confidence Interval (CI): 0.735-0.954, $P = 0.00^{11}$

NT-proBNP assessed at 3 months above a cut-off = 118.5 pg/mL was an independent predictor of AIC at 6 months



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CONCLUSIONS

- In the early onset asymptomatic anthracycline-induced cardiomyopathy

- increased NT-proBNP levels at 3 months accompanied by

- the new developed left ventricular diastolic dysfunction at 3 months

preceded the decrease of left ventricular ejection fraction as diagnostic for anthracycline cardiomyopathy

- Plasma **NT-proBNP after 3 months** of anthracycline therapy **higher than a cut-off level of 118.5 pg/mL** was an early independent predictor of the occurrence of anthracycline-induced cardiomyopathy at 6 months of therapy



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