

**Abstracts of the
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SUPPORTIVE CARE IN CANCER



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Introduction: Gastrointestinal mucositis involves many changes at the gene level, affecting epithelial/subepithelial interactions and leading to overt damage. The regional specificity and time course of these changes, and how they relate to subsequent mucositis development however remain unknown. The aim of this study was to determine the early time course of gene expression changes along the gastrointestinal tract of the DA rat following chemotherapy.

Methods: Female DA rats were treated with a single dose of 200 mg/kg irinotecan to induce mucositis, and were killed at 0 h, 1 h, 6 h, 24 h and 72 h following treatment. Small sections of stomach, jejunum and colon were harvested for analysis of genetic profiles. RNA was isolated from whole tissue samples before hybridisation to high density oligonucleotide microarrays. Data analysis was carried out using freely available software, “timecourse”, run through Bioconductor.

Results: As early as 1 hour following chemotherapy, expression of hundreds of genes was altered, including those for transcription factors, stress response proteins and receptors. Pathway analysis revealed that these genes were involved in the cell cycle, apoptosis and B cell signalling, along with many other cellular processes. At early time points, the mitogen-activated protein kinase pathway showed the greatest frequency of gene changes. At later time points, changes to the complement cascade became prominent.

Conclusions: We have shown that changes in gene expression following chemotherapy occur by 1 hour, and persist for at least 72 h after treatment. Similar genes are affected in each region of the gut and they involve several of the pathways already implicated in oral mucositis development. Many of these changes are highly likely to be related to the subsequent development of gastrointestinal mucositis and should be investigated further.

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SCENAR-technology for chemotherapy-induced neurotoxicity

B. Zaidiner¹, N. Lyan², I. Baranovsky³, I. Petrenko⁴

¹Regional Cancer Hospital, Department of Ambulatory Care, Rostov-on-Don, Russia

²Medical Unit BIOCAR, Rostov-on-Don

³Medical Unit “Zdorov’e”, Rostov-on-Don

⁴Pharmacy Unit, Rostov-on-Don

Background: Drug toxicity is the major limiting factor in chemotherapy (CT) of malignancies. Anti-cancer agents produced a broad range of side effects that diminish patients’ quality of life and limit their ability to tolerate the planned treatment regimen. The supportive care for these patients is routinely based on chemoprotectants: mesna, amifostine

etc., the physical factors in this context are less common. Our previous works have shown the efficacy of SCENAR-device (US Patent ¹ 5257623) for pain relief and some other issues. We’ve tried to present our experience in usage of SCENAR-technology for CT-induced neurotoxicity.

Materials and methods: In this preliminary trial 36 pts (mean age 46.8±7.6 years) with advanced ovarian cancers were observed. All patients were treated with Pt derivatives (oxaliplatin, cisplatin), whose cumulative dose have being ≥540 mg/m²; they suffered from burning & aching pains and paresthesias; sensory deficit was noted. After signing the informed consent every patient 15 SCENAR-procedures were done in addition to conventional supportive therapy. These procedures consisted of treatment of various cutaneous areas which were chosen as applied patient’s complaints. They were conducted daily, their technique was described earlier.

Results: We’ve achieved positive results in 23 patients (63.9%) who felt better, their pain relief ratings on Visual Analogue Scale were significantly improving, part of them could refuse or reduce analgesic usage), the sensory disturbances were partially restored. The reasonable results were noted in 8 (22.2%) and bad in 5 (13.9%) patients. The analgesic reducing helped to prevent their side-effects.

Conclusion: SCENAR may be useful for patients with anti-cancer toxicity as a part of comprehensive therapeutic program. Its exact position in variety of clinical situations will be established in the randomized placebo-controlled trial which is being conducted now. We conceive our results to be promising for continued study of SCENAR-technology in supportive care.

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Adjuvant chemotherapy in breast cancer patients induces taste disturbances, oral candidosis and salivary gland hypofunction

S.B. Jensen¹, H.T. Mouridsen², J. Reibel³, N. Brünnner⁴, B. Nauntofte⁵

¹Institute of Odontology, Dept. of Oral Medicine, Copenhagen, Denmark

²Copenhagen University Hospital, Rigshospitalet, Oncology Clinic, Copenhagen, Denmark

³Institute of Odontology, Dept. of Oral Medicine, Copenhagen, Denmark

⁴Faculty of Life Sciences, Laboratory of Veterinary Pathobiology, Frederiksberg, Denmark

⁵Institute of Odontology, Dept. of Oral Medicine, Copenhagen, Denmark

Sparse information is available on prevalence and duration of oral adverse effects by moderate-dose chemotherapy (CT) for solid tumours.