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Winter School of Medical

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Plovdiv,
November 9-11, 2017

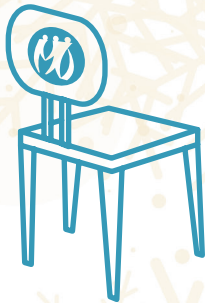
CECOG ACADEMY
Central European Cooperative Oncology Group



Uni Hospital



PROGRAMME



November 9, 2017, Thursday

13.00 – 14.00	Accommodation and Registration
14.00 – 14.15	Opening Ceremony – R. Krasteva
14.15 – 17.40	FIRST PLENARY SESSION – GIT AND INTERVENTIONAL ONCOLOGY Moderators: V. Varbanova & P. Balikova
14.15 – 14.35	SPECT-CT somatostatin-receptor scintigraphy with 99mTc-Tektrotyd in GEP NETs – S. Sergieva
14.35 – 14.55	Contemporary Diagnostics for Early Discovery of Neuroendocrine Tumors – D.Dimitrov
14.55 – 15.15	Screening in Colon Cancer – S. Sadjakliev
15.15 – 15.35	Managing of Patients with Liver Metastases from GI Tumors – Kr. Ivanov
15.35 – 15.50	Coffee Break
15.50 – 16.10	Interventional Oncology – TACE or TARE? – G. Maleux
16.10 – 16.40	Bulgarian Experience in Interventional Oncology – V. Velchev; A. Tonev; Kr. Ivanov
16.40 – 17.00	Managing of Bone Metastases – I. Diel
17.00 – 17.20	Ovarian Cancer – New Aspects of Treatment – R. Krasteva
17.20 – 17.40	Treatment of Advanced/Metastatic Renal Cell Cancer - a patient-focused approach – A. Tomova
17.40 – 18.20	Poster Session presented by Young Oncologists
20.00 – 22.00	Dinner

November 10, 2017, Friday

09.00 – 13.30	SECOND PLENARY SESSION – LUNG CANCER Moderators: L. Dimitrova and H. Spassov
09.00 – 09.20	Immunodiagnostics or Contemporary Diagnostics of Lung Cancer – M. Papotti
09.20 – 09.40	PET-CT Diagnostics and Follow-up of Lung Cancer – P. Castellucci
09.40 – 10.00	Advanced Non-Small Cell Lung Cancer: Management considerations for wild type tumors – Chr. Manegold
10.00 – 10.20	Mutant Type NSCLC – K. Koynov
10.20 – 10.40	Treatment of SCLC – Assurance of Etoposide Storage – K. Koynov
10.40 – 11.00	Immunotherapy in Lung Cancer – S. Baka
11.00 – 11.20	The Role of Anticancer Immunotherapy in the Contemporary Treatment of NSCLC – A. Konsoulova
11.20 – 11.40	Management of Brain Metastases – A. Simeonova-Chergou
11.40 – 13.30	Symposium Astra Zeneca
13.30 – 14.30	Lunch
14.30 – 16.25	THIRD PLENARY SESSION – KEYNOTE LECTURES Moderators: I. Vankova and Y. Iliev
14.30 – 14.50	Novel Imaging in Oncology – W. Voigt
14.50 - 15.10	Systematic Biobanking and Advanced Molecular Analysis for Precise Non-Small Cell Lung Cancer Diagnosis and Therapy: The Polish MOBIT Project – J. Niklinski
15.10 – 15.30	Managing of Oligometastatic Disease by Radiosurgery – T. Hadjieva

15.30 – 15.50	New Aspects of the TNM Classification for Lung Cancer – R. Pirker
15.50 – 16.05	Coffee break
16.05 – 16.25	The Place and Importance of Anticancer Immunotherapy in the Treatment of Urothelial Carcinoma – A. Gerasimov
16.25 – 16.55	Management of Advanced Prostate Cancer – Guidelines and Expert opinion – K. Genova
16.55 – 18.00	WORKSHOPS 1 & 2 – maximum 30 attendees per session WORKSHOP 1 - Lothar R. Pilz, Mannheim: Interpretation of Phase II/III Study Data; Clinical Trials Keynote 024 WORKSHOP 2 - D. Krastev & Ch. Harsev – Modern Standards of Psychological Assistance in Oncology Patients in a Clinical Environment
18:00 – 19:00	Symposium Boehringer Ingelheim: Giotrif - Clinical Benefits for NSCLC Patients with Activating EGFR Mutations
20.00 – 22.00	Dinner

November 11, 2017, Saturday

09.00 – 10.00	FOURTH PLENARY SESSION – SOFT-TISSUE SARCOMAS Moderators: M. Petrova /T. Karanikolova
09.00 – 09.30	Are Soft Tissue Sarcomas difficult to diagnose? – I. Terziev
09.30 – 10.00	PET-CT Imaging of Sarcoma Patients – G. Wiseman
10.00 – 13.00	FIFTH PLENARY SESSION – BREAST CANCER Moderator: M. Koleva/ P. Balikova
10.00 – 10.20	Challenges for the Pathologist in the Molecular Diagnostics of Breast Cancer – I. Ivanov
10.20 – 10.40	Sentinel Node Imaging in Breast Cancer – Q. Siraj
10.40 – 11.00	Oncoplastic Breast Reconstruction - Contemporary Concepts and Treatment Options – Y. Yordanov
11.00 – 11.20	Coffee Break
11.20 – 11.40	Managing of Triple Negative Breast Cancer – M. Taushanova
11.40 – 12.00	Managing of HER 2 Positive Breast Cancer: Neo Adjuvant and Adjuvant – A. Konsoulova
12.00 – 12.20	Managing of HER 2 Positive Metastatic Breast Cancer - R. Krasteva
12.20 – 12.40	Possibilities to get pregnant after being diagnosed with Breast Cancer – T. Timeva
12.40 – 13.00	Breast Cancer – Quality of Life with Hormonal Therapy – R. Krasteva
13.00 – 14.00	Lunch
14.00 – 15.00	Symposium MSD
15.00 – 17.00	Symposium Eli Lilly
20.00 – 23.00	Dinner



Dr. Rossitza Krasteva

Welcome to the Winter School of Medical Oncology 2017

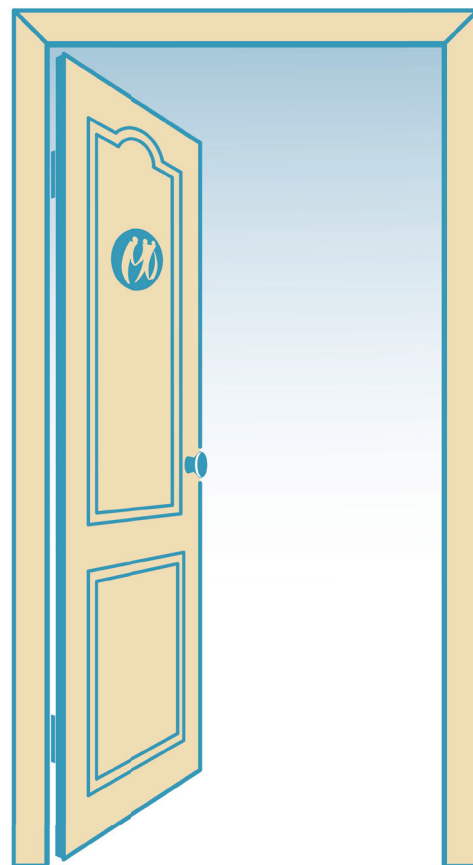
DEAR COLLEAGUES AND FRIENDS,

We are pleased to welcome you to the Winter School of Medical Oncology, organized by Young Oncologist Club Bulgaria.

Our clinically oriented educational programme for medical oncologists, radiologists, gastroenterologists, pathologists, and surgeons who wish to improve their skills and knowledge in the treatment of cancer patients will be presented at the event.

The programme is focusing on the treatment of the lung cancer, the breast cancer, gastrointestinal cancers, and interventional oncology. Winter School features plenary sessions on actual problems, as well as offers a look at the latest trends and modern standards. Participants will have the opportunity to attend a workshop for proper understanding and interpretation of publication and research paper data, as well as on coping with difficult situations when working with cancer patients.

We hope to have a couple of successful working days and share many new ideas at our upcoming meeting in the cultural capital of Bulgaria.





Dr. Petya Balikova



Dr. Petya Balikova is a resident at the department of Medical Oncology in University Hospital Tsaritsa Yoanna ISUL – Sofia, Bulgaria. She has been working there since 2015. Dr. Balikova graduated with distinction from Plovdiv Medical University – Plovdiv, Bulgaria.

She has interests in internal medicine, oncology and oncodermatology.

She Dr. Petya Balikova is dedicated to her patients and is very passionate about doing research work in immunotherapy and targeted therapy as the future of cancer treatment.



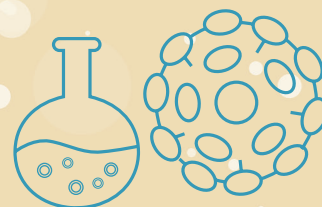
Assoc. Prof. Sonya Sergieva



SPECT-CT somatostatin-receptor scintigraphy with 99m Tc-Tektrotyd in GEP NETs

Neuroendocrine tumours are derived from the diffuse endocrine system and can be found anywhere in the body. The World Health Organization (WHO) updated its classification of NET in 2017, based on tumor site of origin, clinical syndrome, and differentiation. NETs are commonly divided by site of origin (e.g. foregut, midgut, hindgut). Most common tumours of diffuse endocrine system of gastro-entero-pancreatic area, GEP NETs (70 % cases of NET, 2% digestive tract tumours), 25% are bronchopulmonary in origin, and less than 5% arise at other sites (e.g. thyroid, breast, genitourinary system, head and neck). The WHO classification of endocrine tumours includes also neoplasms originating from endocrine glands like: adrenal pheochromocytomas, pituitary adenomas, paragangliomas, neuroblastomas, MTC. These tumours are usually slow growing, but most of them present with great metastatic potential. Very often these tumors are locally advanced with distant metastases, inoperable at the moment of diagnosis. The clinical presentation of NETs may vary depending on the site of tumor origin. Some of them have subsequent hormone overproduction: Carcinoid syndrome, ZES, hyperinsulinemia, glucagon, ectopic secretion of ACTH, etc.

According to some EANM guidelines (Zaknun J. et al. Eur J Nucl Med Mol Imaging 2013; 40:800-816) functional imaging procedures applying somatostatin-receptor imaging, mainly SSTR2 and SSTR5, using ¹¹¹In-pentetreotide/ ^{99m}Tc-Tektrotyd with SPECT or PET with ⁶⁸Ga-labelled somatostatin analogues, are used to select essential information for staging, assessing SSTR status and making decision on the most appropriate therapy regimens in patients with NETs. The latest development in the imaging of NETs is the fusion of anatomical and functional SPECT-CT or PET-CT modalities with radiolabeled somatostatin analogues.



SPECT-CT studies of the neck and chest and/or abdomen were performed 2-4 hrs post i.v. inj. of 370-925 MBq ^{99m}Tc -HYNIC-TOC (Tektrotyd, Polatom). This tracer has high affinity to SSTR2 and lower to SSTR3 and SSTR5. For the first time somatostatin-receptor scintigraphy with ^{99m}Tc -Tektrotyd was introduced in Bulgaria in May, 2012 in 3 Departments of Nuclear Medicine as follows: Sofia Cancer Center; UH Alexandrovska in Sofia and UH St. Marina in Varna as a part of a scientific project for Bulgaria, sponsored by Novartis Pharma. During the period May 2012 to 2017 more than 550 SPECT-CT studies with ^{99m}Tc -Tektrotyd have been performed in patients with various NETs in the Department of Nuclear Medicine in Sofia Cancer Center. The part of these results are published in the scientific journals. Better physical properties and pharmacokinetic parameters of ^{99m}Tc -labelled somatostatin analogs, lower physiological uptake in the liver and bowel, respectively higher tumor/background ratio, lower radiation exposition and one-day imaging protocol are its advantages over the widely used ^{111}In -pentetreotide. Fusion images provide differential diagnosis of malignant from benign foci and physiological uptake, reducing false positive results and thus improving specificity and accuracy of SPECT studies especially in the region below the diaphragm. It can be summarized that main indications for SPECT-CT somatostatin-receptor scintigraphy are as follows:

- Diagnosis and staging of primary NETs:
 1. Limited role only in selected cases to depict the most appropriate tumor lesion for correct biopsy
 2. To image primary tumor in cases with metastatic lesions from tumors with unknown primary origin.
 3. To assess SSTR expression in order to predict an individual response to therapy with somatostatin analogues and thus could effectively influence the management of individuals with NETs.
 4. In patients with negative SRS, PET-CT studies should be performed usually in cases with poorly differentiated NETs, G3, Ki67>30%.
 5. For correct pre-treatment N-/M-staging of NETs
- Follow-up of patients with NETs after therapy
 1. Monitoring of treatment response – complete, partial, stable and progressive disease.
 2. For differential diagnosis of pathological lesions from benign and physiological uptake especially in the regions below the diaphragm.
 3. For re-staging and precise topography of metastatic foci in patients with disease extension.
- For delineation of Gross Tumor Volume (GTV) The Clinical Target Volume (CTV) in the treatment planning.

Assoc. Prof. Dr. Sonya Borisova Sergieva is a nuclear medicine specialist who works in Sofia City Oncology Dispensary and as of 2013 is an Associate Professor at the Specialized Hospital for Treating Oncology Diseases in Sofia.

Dr. Sergieva graduated the Medical Academy in Sofia in 1990 and specialized Nuclear Medicine in the National Oncology Center and Alexandrovska Hospital in Sofia in the period 1991-1994. After getting her nuclear medicine diploma in 1994, she moved on specializing in oncology and finished her second specialization in 1998.

Dr. Sonya Sergieva started her career in the National Oncology Centre in Sofia where she worked from 1991 till 2002. Later on, she moved to the Department of Nuclear Medicine in Sofia City Oncology Dispensary, which she headed for 10 years from 2003 till 2012.

Assoc. Prof. Sergieva has a lot of experience in the field of clinical trials being a coinvestigator, and has participated in 8 scientific projects, half of them international. She is currently a member of Bulgarian Association of Nuclear Medicine, Bulgarian Scientific Oncology Society, the European Association of Nuclear Medicine (EANM) and BUON.

Dr. Sergieva has 84 publications in both Bulgarian and international scientific magazines and is an author of more than 130 reports and resumes delivered at local and international scientific events. Her dissertation topic is about the diagnosis and differential diagnosis of malignant melanoma using radio-marked monoclonal antibodies.

Assoc. Prof. Sonya Sergieva speaks Russian and English as foreign languages.



Dr. Dimitar Dimitrov

Contemporary Diagnostics for Early Discovery of Neuroendocrine Tumors

Neuroendocrine tumors are malignant solid tumors that arise in hormone-secreting tissue of the diffuse neuroendocrine system. Although traditionally understood to be a rare disease, their incidence and prevalence have increased greatly in the past 3 decades. In the majority of cases, diagnosis is typically only made after tumors produce clinical symptoms and are metastatic due to the insidious natural history of NET.

The diagnosis of NET is based on histopathology, imaging, and circulating biomarkers. The histopathology should contain specific neuroendocrine markers such as chromogranin A, synaptophysin, and neuron-specific enolase and also an estimate of the proliferation by Ki-67 (MIB-1). Standard imaging procedures consist of CT or MRI together with somatostatin receptor scintigraphy. ^{68}Ga -DOTA-octreotate scans will in the future replace somatostatin receptor scintigraphy because they have higher specificity and sensitivity. Other positron imaging tomographic scanning tracers that will come into clinical use are ^{18}F -DOPA and ^{11}C -5HTP. Neuroendocrine tumors produce many different peptides and amines that can be used as circulating biomarkers. The most useful general marker is chromogranin A, which is both a diagnostic and prognostic marker in most neuroendocrine tumors. However, there is still a need for improved biomarkers for early detection and follow-up of patients during treatment. In addition, molecular imaging can be further developed for both detection and evaluation of treatment.

KEY WORDS: NET, ChromograninA, Ki-67, Octreoscan

Dr. Dimitar Dimitrov studied at the Medical University of Sofia, where he graduated in 2008 “cum laude”. Upon graduation, he specialized Gastroenterology in UMHAT Tsaritsa Yoanna – ISUL in Sofia. He worked at MHAT St. Ivan Rilski 2003 in Dupnitsa, at Military Medical Academy in Sofia, and since 2016 – at Uni Hospital in Panagyurishte.

Dr. Dimitrov is certified in both diagnostic and therapeutic abdominal ultrasonography and gastrointestinal endoscopy. His clinical and scientific interests include interventional procedures in Gastroenterology, progression of chronic liver diseases, hepatocellular cancerogenesis, contemporary treatment of chronic viral hepatitis, and autoimmune liver diseases.

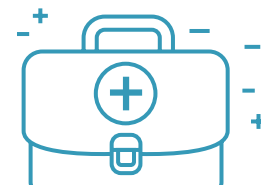


Dr. Svetoslav Sadjakliev

Dr. Svetoslav Sadjakliev has graduated Medicine with distinction at the Medical University in Sofia in 1987. He has specialized in Internal diseases (1991), Gastroenterology (1991), and Medical oncology (2005). Dr. Sadjakliev started his carrier as an intern in Transport hospital in Russe (1987-1991), then moved on as the Head of the Gastroendoscopy and Echography sector in MBAL Ruse (1991-1998). He has also worked as a gastroenterologist in Medicus private centre in the period 1998-1999, before moving to Sofia oncology dispensary for 7 years (1999 – 2006). Dr. Sadjakliev has worked extensively in Tokuda Hospital, first as a gastroenterologist (2006-2012) and then as the Head of the Gastroenterology department of the Gastroenterology and Pulmonology Clinic in the period 2012-2013, and the Head of the Head of Medical Oncology and Haematology Clinic (2013-2015). He has also worked in St. Anna University Hospital and in hospital in Lokeren, Belgium (2016-2016).

Dr. Svetoslav Sadjakliev has had many specializations in the Arnhem Hospital, the Netherlands (gastroenterology), Hamburg Eppendorf University Hospital, Banner Hospital in Phoenix, Arizona, as well as in Rennes, France (liver transplantation), Osaka, Japan (endoscopy dissections and ERCP), and in Saint Nikolas Hospital in Belgium (nutrition medicine and endoscopic ultrasound).

Dr. Sadjakliev is a member of Bulgarian Doctors Union, EGSE, WEO, WFGM, and ECCO.



Dr. Krasen Ivanov

Dr. Krasen Ivanov was born in 1989 and graduated the Medical University in Varna in 2014. He has worked as an intern in MBAL Eurohospital in Varna (2012-2014), then in Aeste Clinic in Sofia (2015), and currently specializes in gastroenterology at Tokuda Hospital in Sofia.

Dr. Ivanov speaks English and Russian as foreign languages and has attended some special courses – a Summer practice surgery in Moscow State Medical University (2013), and a Laparoscopy and robot surgery in Pleven (2014).

Dr. Krasen Ivanov had been a member of the Students Council of the Medical University in Varna, as well as a constant participant in different campaigns in the field of healthcare and social services.



Dr. Geert Maleux

Interventional Oncology : TACE or TARE?

Transarterial chemoembolization (TACE) is the gold standard for the management of unresectable, intermediate-staged hepatocellular carcinoma (HCC). TACE is a catheter-directed, image-guided technique, performed by interventional radiologists, and includes the injection of chemotherapeutic agents mixed with or without ethiodized oil followed by the injection of resorbable (gelfoam) or unresorbable (PVA or other microparticles) into the feeding hepatic arteries of the HCC lesions. Recently, drug-eluting beads came into the market and comparative studies with conventional TACE showed no survival benefit, but a lower toxicity profile in favor of drug-eluting beads.

Transarterial radioembolization (TARE) is a new interventional technique which consists in the injection of yttrium-90-loaded radioactive microspheres into the hepatic arteries, resulting in selective internal radiation therapy (SIRT). This interventional technique has shown clinical benefits in patients with unresectable, intermediate-staged HCC with or without portal vein thrombosis; additionally this interventional technique is also valuable in selected patients with liver-only or liver-dominant colorectal and other liver metastases. Recent studies using TARE in combination with intravenous chemotherapy, in first line treatment for patients with colorectal liver metastases, could not demonstrate survival benefit.

In summary TACE and TARE are valuable, catheter-directed interventional treatment options, in selected patients with primary and secondary liver tumors.

Dr. Geert Maleux is working as a Staff Radiologist in Vascular and Interventional Radiology at the Department of Radiology of the University Hospitals Leuven, Belgium. Dr. Maleux was born in 1966 in Sint-Truiden, Belgium. He graduated in Medicine, Surgery and Obstetrics at the Catholic University of Leuven with a degree Doctor cum laude in 1991. He had numerous trainings in different sub-specialties of radiology at the department of Radiology of the University Hospital of Leuven (Chairman: Prof. Dr. A.L. Baert), Fellowship Interventional Radiology, C.H.U. Rangueil, Toulouse (France) (Prof. F. Joffre and Prof. H. Rousseau), ICH-GCP (intensive course) organized by the Kaiser Friedrich Stiftung – Berlin. Dr. Maleux is a co-organizer of the Annual Symposium on Vascular Diseases in Leuven and a member of the Advisory Board of ‘Cardiovascular and Interventional Radiology’. He is also in the Review Board of numerous medical journals in Europe, Asia and America. Dr. Geert Maleux is a member of the European Congress of Radiology (ECR), Cardiovascular and interventional Radiological Society of Europe (CIRSE), EBIR, Society of Interventional Radiology (SIR), and Royal Belgian Radiological Society (KBVR).



Assoc. Prof. Vassil Velchev

Assoc. Prof. Dr. Vasil Velchev is a prominent Bulgarian cardiologist and the President elect of Bulgarian Cardiology Society, currently working at the Cardiology Clinic of St. Anna University Hospital in Sofia.

Dr. Velchev has completed his specialization in internal medicine at the end of 2004 in Alexandrovska University Hospital in Sofia and got his cardiology license at the beginning of 2007. He has a number of other trainings like invasive and interventional cardiology and radial angioplasty course under the supervision of Dr. Yves Louvard at ICVPS, Hospital Cartier, Paris, Massy (2001), a training in IVUS with Dr. St. Carlier, Catheterization Laboratory, OLV Aalst (2003), as well as a course in diagnostic neuroradiology and carotid stenting under the guidance of Proff. G. Klein, Neuroradiology department, University Hospital Graz (2004).

Dr. Vasil Velchev has nearly 20 years of experience practicing in the field of cardiology, starting at National Centre for Cardio-vascular Diseases, Sofia, Bulgaria (1995-2000) and then at the University Hospital Lozenetz (2000-2005), where he served as the Head of the Interventional Cardiology Department for two years. In 2005, Dr. Velchev moved to St. Anna University Hospital in Sofia where he is currently serving as the Head of the Cardiac Pacing Division in the Cardiology Clinic and a leading interventionalist at the Catheterization Laboratory in the hospital.

Apart from having experience in cardiovascular imaging with special interest in the field of Cardiac MRI, Dr. Vasil Velchev is certified for performing rotablation and renal denervation. He has also been a leading investigator in a number of clinical trials like OASIS-VI, Finesse, Euro Heart Survey and Maestro 2.

Dr. Velchev speaks German, Russian and English and is as well a scientific secretary of Bulgarian society of EPI and Pacing. He is also a distinguished member of a number of other scientific societies like the Union of Medical Doctors in Bulgaria, Bulgarian Society of Invasive and Interventional Cardiology, European Society of Cardiology and SCAI.



Prof. Ingo Diel

Prof. Ingo Diel was born in 1950 in Bingen am Rhein (Germany). In 1975 he graduated in philosophy at the University of Heidelberg and in 1983 he graduated in medicine at the Universities in Leuven and Heidelberg. In 1983 he was licensed as a physician and awarded doctorate (Dr. med.). Prof. Diel has been a resident at the Institute of Pathology at the University of Heidelberg and in 1985 he has been a resident at the Women's Hospital, University of Heidelberg. In 1990 he got the Board membership for gynecology and obstetrics, and in 1993 he became an Assistant Professor in gynecology and obstetrics.

In 1998 Prof. Ingo Diel became an Assistant Medical Director at the Women's Hospital, University of Heidelberg. In 2001 he became a Co-director of the Institute for gynecologic oncology in Mannheim. He is the founder of the German Osteoncolgical Society and has been its chairman since 2010. His fields of research are: detection of disseminated tumor cells in bone marrow and peripheral blood of breast cancer patients, prognostic impact of minimal residual disease, phenotyping of tumor cells, therapy monitoring, pathogenesis of bone metastasis, tumor cell dormancy and metastasis genes, cytokines and bone metastases, clinical studies with bisphosphonates and denosumab for treatment and prophylaxis of bone metastases, primary chemotherapy in breast cancer patients, endocrinology of menopause, staging and therapy of gynecological malignancies, breast cancer prevention, bone metabolism.



Dr. Rossitza Krasteva



Dr. Rossitza Krasteva Ruseva, the Chairman of Young Oncologist Club, is one of the leading specialists in medical oncology in Bulgaria.

She has graduated the Medical University in Sofia in September 1994 and did two specializations after that - Internal Medicine (2001) and Oncology (2005). She also won a number of fellowships for further training in Bulgaria and abroad, as well as attended specialized courses in university hospital in Italy, Greece, Germany and Switzerland.

All of Dr. Krasteva's professional and scientific interests are in the field of medical oncology. Her career as a medical oncologist includes working at the Clinic of Medical Oncology at the University Hospital Queen Joanna – ISUL, the International Oncology Consulting Center and Serdika Hospital in Sofia. She is currently the Head of Medical Oncology Clinic, Central Bulgarian Comprehensive Cancer Services, Uni Hospital, Panagyurishte. She has been a Principal Investigator and a sub-researcher in several phase II and III clinical trials for adjuvant treatment and treatment of metastatic disease in solid tumors.

Dr. Krasteva is a member of Bulgarian Cancer Society, Bulgarian Association of Medical Oncology, The Balkan Union of Oncology, ESMO and ASCO. She was elected the first Chairman of Young Oncologist Club Bulgaria. Dr. Krasteva speaks 2 foreign languages - English and Russian.



Dr. Antoaneta Tomova



Dr. Antoaneta Tomova is a specialist in medical oncology from Plovdiv, Bulgaria. She is currently the Head of the First Chemotherapy Department of Plovdiv Complex Oncology Centre.

Dr. Tomova has graduated the Medical University in Sofia in 1985. She has dedicated more than 25 years to medical oncology and chemotherapy. Her main areas of expertise are in the fields of medical oncology, palliative care, pain management, and symptom control.

Dr. Tomova has attended more than 60 specialized courses abroad so far. She is a member of Bulgarian Cancer Society, BUON, UICC, ESMO and ASCO, where she has presented a poster. She was named Doctor of the Year in 2009 from the National Association of Patient with Oncology Diseases, and was voted The Doctor Whom Patients Trust in 2012.

Dr. Tomova speaks 2 foreign languages - English and Russian.



Poster Session

An open-label Phase IV clinical study to evaluate the safety, tolerability, and use of medical resources in first-line treatment with Capecitabine (Xeloda) of patients with metastatic colorectal cancer.

A. Tomova

BACKGROUND: Colorectal cancer is one of the most common malignancies, accounting for about 1,360,000 new cases worldwide every year. It is the third most common cancer in men (746,000 cases, 10.0% of the total) and the second in women (614,000 cases, 9.2% of the total) worldwide. Almost 55% of the cases occur in more developed regions. As first-line treatment for metastatic CC, capecitabine is an established alternative to the combination of fluorouracil and leucovorin (Fu/L) and is associated with fewer adverse effects than the Mayo Clinic regimen. Because of the efficacy of capecitabine in metastatic and adjuvant setting in CC pts the further data regarding capecitabine toxicity and tolerability are needed.

OBJECTIVES: Primary objectives: To evaluate the safety, tolerability, and response to treatment (response rate). Secondary objectives: Evaluation of the use of medical resources in first-line treatment of patients with metastatic colorectal cancer in Bulgarian settings.



PATIENTS AND METHODS: Men and women over 18 with colorectal cancer with visceral (internal) metastases (no bone or brain metastases), who had not received previous chemotherapy. ECOG performance score of 0-1, signed informed consent for the study and laboratory parameters with accepted norms for chemotherapy are required. Main exclusion criteria: Therapy due to other malignancies in the last 5 years. An exception is made for basal skin cancer and carcinoma in situ of the cervix. Patients with progressive disease on the background of adjuvant therapy with 5-fluorouracil, completed for less than 6 months before the start of the clinical study. Proven bone or brain metastases. Severe hepatic insufficiency. Moderate or severe impaired renal function with creatinine clearance below 30 ml. / min. or serum creatinine levels greater than 1.5 times the upper limit of the reference values. Intake of any medicine or exposure to a procedure in the process of studying, i.e. participation in another similar study within 6 weeks prior to the capecitabine treatment.

After screening, all eligible patients received Xeloda at a starting dose of 1250 mg/m² twice daily for 14 days followed by 7 days' rest. Baseline tumor assessment was made at a maximum of 21 days before study start. Tumor assessments during the study were made after the 3rd and after the 6th cycle. Assessments of adverse events (AEs) were performed at each study visit. Utilization of medical resources was assessed for each study visit and includes: duration of the visit, number of unscheduled visits, number of telephone calls, number of completed and scheduled visits.

RESULTS: From October 2004 till April 2006 twenty eight patients from five Bulgarian sites were entered.

After the 3rd cycle, 2 (7%) patients had complete response (CR), 7 (25%) partial response (PR), 10 (36%) stable disease (SD), 7 (25%) progressive disease, and 2 (7%) patients withdrew consent. With regard to the dynamics of the response between the 3rd and 6th cycle, the changes are as follows: PR – one patient with partial response had improved to CR, and one worsened to progressive disease. SD – Two patients with stable disease had improved to partial response and one worsened to progressive disease.

Overall complete response was observed in 3 patients or 11% after the 6th cycle. The patients with partial response (PR) after the 6th cycle were seven (25%), as many as the patients with stable disease. This means that overall 36% of the patients had complete or partial response (CR and PR) after the 6th cycle. A total of 61% of the patients had clinical benefit from the treatment.

Adverse events (AEs) were observed in 19 patients (or 68%), but no serious adverse events (SAE), including death, were observed in the study patients. The majority of the AEs (approximately 72% of all observed events) were mild and the rest were moderate; 59% of them were treatment related. 12.5% of the adverse events (3 patients or 10.7% of all patients) required postponement of the course of treatment. 81.3% of AEs did not require interruption or postponement of the study treatment. One patient (3.6% of all patients) withdrew from the study and his treatment was terminated. This patient had two 2 adverse events – 6.3% of all adverse events.

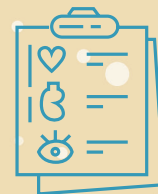
The most common adverse events (AE) were: Nausea - observed in 8 patients; Hand-foot syndrome – 6 patients; Diarrhea and skin toxicity – in 4 patients; the less frequent adverse events were:

Thrombocytopenia and adynamia – 2 patients; the other listed adverse events occurred only once and represent a total of 18.8% of the adverse events; the longest adverse event was the hand-foot syndrome, and diarrhea was the shortest event. 31.3% of the adverse events required treatment.

97% of the planned visits were completed. There were 69 visits for laboratory tests. 17 consultations were given by phone. There were 4 extra visits due to adverse events. The average time spent on a standard visit was 5 hours and the most common duration was 7 hours. The duration of the standard visits varied from 1 to 7 hours. The visits due to adverse events were much shorter – their average duration was 1 hour, and they usually lasted from 1 to 2 hours.

CONCLUSIONS: Efficacy: The observed overall response rate after the 6th treatment cycle was 36% and 61% of the patients received clinical benefit from the treatment. Safety: The majority of the adverse events were mild, and the rest adverse events were moderate. Overall, the treatment was well tolerated. The most frequent AEs were: Nausea, Hand-foot syndrome, Diarrhea and skin toxicity.

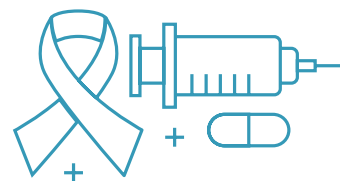
This study (ML18017, NCT02567331) was funded by F. Hoffmann-La Roche Ltd



Dr. Lyubomira Dimitrova

Dr. Lyubomira Dimitrova graduated cum laude from Medical University, Sofia in 2010. She has been a resident in Aleksandrovska University Hospital, Sofia in the period 2011-2015. She has acquired a Board certification in Pathology in 2016.

Dr. Dimitrova is one of the leading pathology specialists in Uni Hospital Panagyurishte and Associate member of the tumor board. She is an active participant in Bulgarian and international conferences with oncological profile. She attended training courses in Belgrade (Serbia), Craiova (Romania), Uppsala (Sweden), Salzburg (Austria) and Basel (Switzerland). Her professional focus is in tumor diagnostics – prognostic and predictive markers. She has also special interests in Lung cancer, Uropathology and Neuroendocrine tumors.



Dr. Mauro Papotti

Immunodiagnostics or Contemporary Diagnostics Of Lung Cancer

With neuroendocrine tumor (e.g. carcinoids and small cell carcinoma) exclusion, lung cancers include squamous cell carcinoma (SqC), adenocarcinoma (ADC) and the rare large cell carcinoma under the comprehensive term “non-small cell lung carcinoma” (NSCLC). In biopsy and cytology specimens, an accurate histotyping takes advantage from lineage markers, including p40 for SqC and TTF1 for ADC, thus reducing the diagnosis of undifferentiated or “not otherwise specified/NOS” NSCLC. In both cytological and histological materials, the use of a limited marker panel will help to save tissue for further molecular analyses. In this regard, nuclear markers (i.e. p40 and TTF1) perform better than cytoplasmic or membrane markers (e.g. cytokeratins, napsin, desmocollin3, etc.), especially in poorly cellular or necrotic specimens. Several ADC morphological patterns exist, having different prognostic implications, also based on the invasive component and the presence of specific variants. A grading system was proposed for ADC and the NSCLC TNM staging (underwent some changes in the T and N descriptors (8th edition, 2017). Genetically, ADC has a mean somatic mutation rate of 12.0 events/Mb, including the known genetic alterations (EGFR, KRAS, ERBB2, BRAF, PIK3CA, ALK, ROS1, MET, ARID1A, etc.) (Cell 2012). In SqC, recurrent mutations were found in 11 genes, including TP53, SOX2, DDR2, NFE2L2, KEAP1, PIK3CA, CDKN2A, RB1, etc.) (Nature 2012). Re-biopsy or liquid biopsy are useful to assess genetic changes along progression (present in up to 30% of cases). Some of these markers may be predictors of response to targeted therapies. PDL1 expression in tumor cells is associated to a better response to immune checkpoint inhibitors, and is increasingly investigated as a predictive marker of response, using specific antibodies for individual treatments. Strict interpretation rules of the immuno-histochemical findings and a clear cut distinction between PDL1 expression in tumor cells rather than immune cells are recommended.



Present position: Full Professor of Pathology, University of Turin; Head, Division of Pathology, Città della Salute Hospital, Turin, Italy; Vice-Chair, Medical School, University of Turin

Resident program training in Oncology (University of Modena, 1983) and in Pathology (University of Torino, 1991).

DIAGNOSTIC ACTIVITY – Since 1982, diagnostic cytology exfoliative and fine needle aspiration biopsies and of pulmonary, thoracic and endocrine surgical pathology. Application of immunohistochemistry and molecular techniques to histological and cytological specimens for diagnostic, prognostic and predictive purposes.

Teaching activity - Pathology courses at the University of Turin First Medical School in Turin (years 1992-2003 and from 2015-date) and Second Medical School in Orbassano (from 1997-date). Pathology course at the Laboratory Technician School, University of Turin (1994-date). Cytopathology and surgical pathology courses at the Post-graduate Schools in Pathology, Oncology, Respiratory Medicine, Thoracic Surgery and Endocrinology (years 1987-date).

SCIENTIFIC ACTIVITY – Thoracic pathology (lung and mesothelium), Endocrine pathology (parathyroid, thyroid and adrenal glands as well as neuroendocrine tumors) and immuno-histochemical and molecular biology techniques applied to diagnostic pathology and aspiration biopsy cytology. Receptor analysis in endocrine tumors.

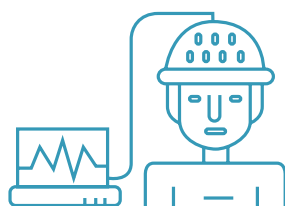
Over 400 papers in peer review journals e 420 abstracts.

Member of the International Academy of Pathology (IAP), European Society of Pathology (ESP), Società Italiana di Anatomia Patologica (SIAPEC), Endocrine Pathology Society, International Association for the Study of Lung Cancer (IASLC), European Neuroendocrine Tumor Society (ENETS).

Since 1982 obtained grants for research projects funded by the National Research Council (Rome), the Italian Ministry of University and Education, the Regione Piemonte (Turin), Fondazione Berlucchi, Compagnia di San Paolo (Turin) and the Associazione italiana per la ricerca sul cancro (AIRC, Milan).

Member of the Editorial Board of Pathologica, Virchows Archives, Archives of Pathology, J Endocrinological Investigations, American Journal of Clinical Pathology, Journal of Pathology, J Clinical Pathology.

1990-1999 Secretary and 2000- 2003 President of the “European School of Pathology (EScoP)”, founded in Torino by the European Society of Pathology (ESP).

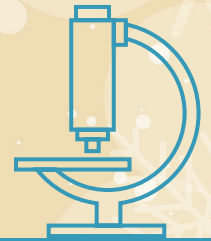


Dr. Hristo Spassov



Dr. Hristo Spassov is an intern, working and specializing in medical oncology since 2014 at Serdika Hospital in Sofia, Bulgaria.

Dr. Spassov has graduated Plovdiv English Language School in 2007 and Sofia Medical University in 2014. During his medical education he has participated in European Youth exchange programmes in Czechia and Poland. Dr. Spassov speaks 2 foreign languages - English and German.



Dr. Paolo Castellucci

PET/CT Diagnostics And Follow-up Of Lung Cancer

The use of PET/CT imaging using 2-(18F)-fluoro-2-deoxy-D-glucose (FDG) in the work-up and management of patients with lung cancer has greatly increased in recent decades. PET/CT combines functional and anatomical information to study various aspects of lung cancer, allowing accurate disease staging and providing useful data to characterize indeterminate pulmonary nodules. In this application, the accuracy of PET/CT has been shown to be greater than other imaging modalities, making PET/CT with FDG a valuable noninvasive method to characterize lung lesions and to stage lung cancer.

The most relevant indications and main limitations of PET/CT, will be summarized and briefly discussed in the presentation. In particular, an overview of the applications of FDG PET/CT treatment response evaluation, radiotherapy planning, recurrence assessment and prognostic value in lung cancer patients. The potential future applications of PET/CT with FDG in lung cancer will also be presented.

The interpretation of FDG PET/CT findings presents numerous pitfalls and potential confounders. Some interesting clinical cases will be reviewed.

Academic titles

School of Medicine at the Università degli Studi di Bologna, graduation in Medicine and Surgery

School of Medicine at the Università degli Studi di Bologna, Residency in Nuclear Medicine

School of Medicine at the Università Modena e Reggio: Residency in Medical Radiology

Work experience

December 2002 - present: Dirigente Medico di I livello (registrar) at the Servizio di Medicina Nucleare e Centro PET della Azienda Univeristario Ospedaliera S.Orsola –Malpighi di Bologna. From 2005 Professor at the “Scuola di specializzazione in medicina nucleare”, at the University of Bologna.

March 2001 - December 2002: Dirigente Medico di I livello (registrar) at the Servizio di Medicina Nucleare dell’Ospedale S. Croce e Carle di Cuneo; clinical applications of PET in oncology and cardiology.

November - December 2001: Visiting fellow at the CETIR PET center Barcelona, Spain clinical application of PET in oncology and cardiology (Director Prof. Ignasi Carriò).

January - December 2000: Research fellow at the “Istituto Europeo di Oncologia” (I.E.O.) experience on Radio Target Therapy with 90Y and somatostatin analog (DOTA-TOC) and radio-guided surgery (ROLL; SNB) (Director, Dr. Giovanni Paganelli).

June - December 1998: fellow at the Department of Radiology, Service of Nuclear Medicine and PET Center, Hospital of the University of Pennsylvania, Philadelphia (Director, Prof. Abass Alavi).

Skillness: Large experience in whole body PET/CT scan reading using 18F-FDG, 11C-Choline, 11C-Methionine, 11C-Acetate, 68Ga-DOTA-NOC, 18F-DOPA, 11C-Ephedrine, 64Cu-ATSM. The PET centre at the Azienda Ospedaliera S.Orsola–Malpighi, Bologna is provided with 3 PET/CT scanners and the output is about 7000-8000 scans per year.

Brain PET scans in oncology (11C Methionine) or brain disorders (18F-FDG). Large experience in organizing a PET centre. Experience in Radio Target Therapy with somatostatin analog (90Y-dota-TOC). Experience radio-



guided surgery (sentinel node detection in breast, melanoma, genito-urinary tract and ROLL).

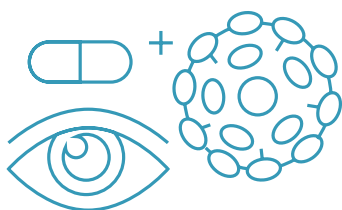
Italian referent for H10 EORTC protocol on the application of PET in Hodgkin Lymphoma.

Member of the EANM group about the application of Choline PET in prostate cancer.

Languages

English: good knowledge of written and spoken language; Portuguese (Brazilian): excellent knowledge of the spoken language; Spanish: fair knowledge of the spoken language.

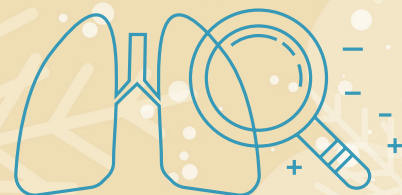
Publications: Author and Co-Author of more than 100 full papers publications in the field of Oncological applications of PET.



Dr. Krasimir Koynov



Dr Koynov was born in 1953 and graduated in Medicine in 1980 at the Medical Academy in Sofia. He got a specialty in Internal Medicine in 1987 and Medical Oncology in 2005. Dr. Koynov is one of the leading experts in Medical Oncology in Bulgaria. He has worked for many years at the UMHAT Queen Joanna (ISUL), and in the period 2010-2012 headed its Medical Oncology Clinic. Currently, he is a Head of the Second Department of Medical Oncology at Serdica Hospital in Sofia. Dr. Koynov has served as the lead investigator in more than 150 clinical trials from phase I to phase IV in the field of Prostate cancer, Breast cancer, Lung cancer, Colorectal cancer and other Solid tumours. He has been a lecturer of numerous prestigious scientific forums, and he is also a consultant of the leading medical institutions in Sofia in the field of medical oncology. Dr. Koynov is a member of ESMO, ASCO and BUON.



Prof. Christian Manegold

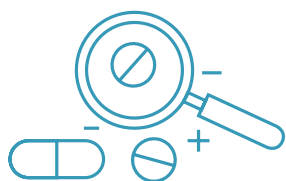
Advanced Non-Small Cell Lung Cancer (NSCLC): Management considerations for wild type tumors

Despite fast growing information of tumor molecular biology, the increase in the therapeutic portfolio, and a significant improvement in diagnostic radiology, treatment of advanced NSCLC in 2017 remains palliative with still no curative perspective for the vast majority of patients. Therefore, the main treatment goals include the change from an acute into a chronic disease, extending survival times as well as improving or just maintaining quality of life. In order to assure an optimal palliation the majority of patients with advanced NSCLC – considering the high age and concomitant comorbidities – frequently may require modifications of the treatment standard. Furthermore, it can also not be ignored that recently approved novel agents and innovative diagnostic technology represent a growing burden of financial toxicity leading to regional differences in the availability of modern therapy and in the access to molecular testing and modern imaging. Nonetheless, treatment algorithms for advanced NSCLC have over the last decade gradually gained in complexity by incorporating a number of diagnostic and therapeutic achievements allowing personalization, individualization, and precision of therapy. Not only patient factors such as performance status (PS), comorbidity, and patients' treatment expectation must lead to treatment differentiation and modification but also disease characteristics such as tumor stage, tumor load, histological type (squamous vs non-squamous) and the molecular profile of the tumor (mutant vs wild type) influence the process in reaching the goal of optimal sustainable palliation. Other critical elements in realizing personalized therapy and precision medicine within the process of optimal palliation consist in a rational selection of anti-cancer agents (predictive factors, mode of action, toxicity profile) and their appropriate application (single agent, concomitant combinations, drug sequencing) as well as other novel therapeutic actions such as interventional radiology, modern radio therapy, and minimal surgery. Optimal therapeutic management for sustainable palliation should definitely be based on clinically reliable evidence presented by frequently updated treatment recommendations. Today's treatment algorithm for advanced NSCLC is challenged by a number of newer agents, such as tyrosine kinase inhibitors, monoclonal antibodies, checkpoint inhibitors, and the incorporation of new treatment strategies such as continuation or switch maintenance therapy. For advanced NSCLC it is generally accepted that platinum based doubled chemotherapy remains the backbone for the majority of our patients with good PS and this combination therapy should be modified according to feasibility and tolerability, comorbidity, patients' age over 70 years, PS. For wild type non-squamous NSCLC there is pemetrexed which has been shown to be favorable over older cytotoxic agents if combined with platinum based components. In addition, pemetrexed has also sufficiently demonstrated that if it is continued in case non-progression under four cycles of standard platinum based doublet chemotherapy not containing pemetrexed (switch maintenance) or containing pemetrexed (continuation maintenance) prolongs survival. Another agent, the small molecule and EGFR-tyrosine kinase inhibitor erlotinib also prolongs survival if used in the switch maintenance setting but its benefit depends on the quality of response to the chemotherapy and is restricted to patients which have experienced disease stabilization only. The VEGFR-targeting antibody, bevacizumab, if added to platinum based doublet therapy, specifically to carboplatin/paclitaxel significantly improves response rate, duration of response, progression free survival, as well as overall survival in eligible patients. Human immune checkpoint inhibitor-antibodies inhibiting the PD-1 receptor or PD-1 ligand have recently been integrated into the treatment algorithms of wild type NSCLC. Pembrolizumab is currently the only checkpoint inhibitor approved and recommended for first line therapy in patients with a PD-L1 expression level $\geq 50\%$ and with negative or unknown EGFR/ALC/ROS1 testing. In wild type squamous NSCLC the given treatment options are still limited and platinum based therapy (no pemetrexed, no bevacizumab) remains the recommended treatment standard. Nonetheless, just recently the EGFR-targeting monoclonal antibody necitumumab has shown to significantly improve survival if combined with the



standard doublet regimen cisplatin/gemcitabine in comparison to cisplatin/gemcitabine only and therefore, has just recently approved. Maintenance therapy in squamous tumors with docetaxel or erlotinib (switch) or gemcitabine (continuation) may be justified in some patients even here the statistical evidence is weak. Last but not least, second-/subsequent-line therapy is another strong element contributing to sustainable palliation in patients with advanced NSCLC. For tumor without driver mutations agents available before 2014 include docetaxel, pemetrexed (for non-squamous cell tumors only) and erlotinib. In recent years the two antiangiogenic agents nintedanib and ramucirumab (both in combination with docetaxel) and three immune checkpoint inhibitors (nivolumab, pembrolizumab, atezolizumab) have been added to the armamentarium to treat patients with advanced non-mutated NSCLC who have progressed on or after first-line therapy.

Dr. Christian Manegold, studied medicine in Berlin and Heidelberg, Germany, graduating with a Dr. from the Ruprecht Karls University in Heidelberg in 1974. He took up a residency in the pathology department of the same university in 1976 and worked the USA for 3 years, before returning to Heidelberg in 1979. He gained board certification in internal medicine and in haematology/oncology in 1985 and 1986, followed by a professional appointment as Consultant in Haematology/Oncology at the Thoracic Hospital in Heidelberg, and Head of Interdisciplinary Thoracic Oncology at the Department of Surgery, Heidelberg Medical Centre Mannheim, Germany, a post he held from 2004 to 2013. He was appointed Professor at Ruprecht Karls University in Heidelberg in 1996. He has been the Senior Advisor at the Interdisciplinary Cancer Centre in Mannheim since 2013. Professor Manegold has extensive experience as a clinical investigator, and national and international trial leader as well as a member or leader of independent data monitoring committees (IDMC) in numerous clinical trials in oncology, both in thoracic cancers and other indications. Professor Manegold is a member of the German Cancer Society, the European Society of Medical Oncology (ESMO), the American Society of Clinical Oncology (ASCO), and the International Association for the Study of Lung Cancer (IASLC). He was a Chairman of the European Organisation for Research and Treatment of Cancer Lung Cancer Group (EORTC-LCG) from 2000 to 2003. He served as a Chairman of the IASLC Ethics/Sponsorship Committee from 2007 to 2009 and as member of the IASLC Board of Directors from 2011 to 2015.



Dr. Sofia Baka



Dr. Baka, is a Consultant, Medical Oncologist and works at the Interbalcan Medical Center of Thessaloniki, Greece. She is the Director of the Medical Oncology Department-Clinical Research Unit. She has graduated from the Medical School of the Aristotle University of Thessaloniki in 1993, and completed her Specialist Training in Internal Medicine in 2001, at the Hippocrateon University Hospital of Thessaloniki. Following her PhD on lung cancer immunotherapy, from the Biology Department of Aristotle University Medical School, Dr. Baka has worked as a Clinical Research Registrar and a Specialist Registrar in Medical Oncology for 5 years at the Christie Hospital in Manchester and completed her Specialist Training in Oncology (CCST). During that time she has attended the Master Course in Oncology, University of Manchester. He has written several papers in major scientific medical journals. Dr. Baka has participated as Principal or Co-Investigator in several clinical trials.



Dr. Anna Simeonova-Chergou

Management of Brain Metastases

Central nervous system (CNS) is the most common site of failure with brain metastases incidences of 40-60% in NSCLC and 15-20% in SCLC (after prophylactic cranial irradiation (PCI), 50-60% without PCI). Untreated patients have median survival (MS) of 4-6 months and most targeted therapies or antibodies do not reach sufficient levels in the CNS. Key predictors of survival: age, performance status, extracranial disease extent, number of brain metastases. Treatment options for patients with brain metastases are surgery with stereotactic radiosurgery (SRS) or whole brain radiotherapy (WBRT) (or intraoperative Radiotherapy?), stereotactic radiosurgery alone or whole-brain irradiation alone. The WBRT can be delivered conventionally or hippocampal-sparing to preserve the neuro-cognitive functions. After surgical resection without any further treatment, the local recurrence rates (LR) are 50-60% within 6-12 months, with the addition of SRS the LR rates can be decreased by ca. 20% (local control of 85%).

PROFESSIONAL EXPERIENCE:

Feb 2013 Consultant at the Radiation Oncology Department, University hospital of Mannheim, University of Heidelberg

Jan 2013 German Boards certification as Radiation Oncologist

Mar 2010 to Dec 2010 Research Rotation, Department of Radiation Oncology, Oregon Health and Science University, Portland, Oregon, USA

Sept 2007 to Jan 2013 Resident at the Radiation Oncology Department, University hospital of Mannheim, University of Heidelberg

EDUCATION: Oct 1999 to May 2009 University of Heidelberg, Germany Major subject: Medicine

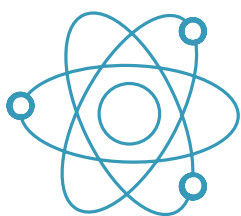
DISSERTATION THESIS: Simeonova, A. (January 2012) Comparison of the anisotropic aperture based intensity modulated therapy with 3D-conformal radiation for the therapy of large lung carcinoma, Doctoral Dissertation, University of Heidelberg



Dr. Yanislav Iliev



Dr Yanislav Iliev is a medical oncologist working in the Department of Medical Oncology at UMHAT Pulmed, Plovdiv, Bulgaria. He was born in 1979 in Plovdiv and graduated the Medical University in Pleven in 2003. He specialized Medical Oncology in 2013. He has worked in the Emergency care as well as in the Department of Internal medicine, Sector of Oncology and Hematology at UMHAT Dr.Tota Venkova, Gabrovo. He has attended many educational courses and specializations in Belgium, Croatia and Switzerland. He also has an experience as a subinvestigator in Phase 2, 3, 4 Clinical Trials. Dr Iliev is a member of ESMO and ESO. He speaks English, Russian and German language.



Prof. Wieland Voigt



Novel Imaging in Oncology

Recent advances in the understanding of oncological diseases as well as new medical technology enabled the development of various new treatment options. Amongst them are new drug classes in medical oncology, advanced dose delivery and planning concepts in radiation therapy or new strategies and procedures in surgical and interventional management of cancer. To unleash the potential of all these innovations and apply them in the sense of precision medicine it requires besides molecular diagnostics an increasingly detailed imaging-based characterization of the individual disease. This goes beyond anatomical information but rather into functional and molecular characterization for medical or radiation treatment planning and new ways of image guidance of surgical or interventional procedures. In my key note lecture I will discuss the subsequent imaging procedures with their relevance for one of the four pillars in oncological therapy. Medical oncologists rely on molecular testing either of tissue based biopsies or to a growing extend, also on liquid biopsies to select a proper targeted therapy. However, a tissue core might be taken in a non-representative part of the tumor and the liquid biopsy lacks spatial resolution. Therefore, both methods do not fully address the potential sampling bias related to existing tumor heterogeneity. To complement this informational gap, advanced imaging technologies might play a growing role as they capture the entire tumor load of a patient. With the latest innovations in imaging hardware, deep machine learning and the development of advanced tracers, imaging is now able to directly visualize more precisely treatment response, drug targets or potentially gene expression patterns. Examples discussed in this key note lecture are visualization of Her-2 expression in breast cancer, PSMA expression in prostate cancer, IL-2 PET to monitor immune response or hypoxia 18F-FAZA PET for potential dose escalation in IMRT planning concepts



aiming to overcome hypoxia related radio resistance. Texture analysis and radiogenomics based on deep machine learning is a fully new concept in current radiological research. It aims to delineate predictive and prognostic information from the radiological image to guide therapy or risk-stratify patients. Recent data suggest a potential role of fully integrated simultaneous MR-PET for improved response assessment after SBRT which is currently not properly addressed by standard imaging follow up. Recently, radioembolization for patients with liver metastases from colorectal cancer was proven effective to control local disease. To visualize dose distribution after embolization advanced PET-technology to resolve so called “Bremsstrahlung” from the ^{90}Y radioisotope was shown feasible. Latest angiography systems and cone beam CT technology in addition enable a more safe and efficient delivery of embolization therapies in liver malignancies. A new therapeutic trend, called oligometastatic treatment was proven effective in several types of cancer. To optimally select patients for such kind of locally aggressive treatment optimal staging with high sensitivity and specificity is crucial. Latest developments in whole body imaging with either MRI or e.g. PET-MRI do support this concept due to their improved detection rate for tumor lesions in particular in soft tissue regions of the body. The added value of multiparametric MRI (mpMRI) in the diagnostic of prostate cancer becomes more widely accepted. Early evidence suggests a value of mpMRI before initial biopsy to guide fusion targeting and to rule out non-organ confined disease as well as in the initiation and serial monitoring of men on AS. The added value of mpMRI for prostate cancer diagnostic will be discussed in light of the current literature.

In summary, with the aforementioned, imaging will be able to improve functional and molecular characterization of tumors, provide prognostic and predictive information to guide patient stratification and therapy selection. However, it will take further significant efforts to standardize image acquisition, reading and reporting and intensive research to provide a solid scientific basis to allow once large scale routine application of imaging as a biomarker in oncology.

STI Medical Innovations and Management, Steinbeis University, Gürtelstr. 29A/30, 10247 Berlin, Siemens Healthineers, Medical Office, Hartmann Str. 16, 91052 Erlangen.

Professor Voigt studied medicine at the Medical University in Hannover and Martin-Luther-University in Halle/Wittenberg, Germany. After graduation he took an additional 2 years training in molecular tumor biology and pharmacology at Roswell Park Cancer Institute in Buffalo, USA. He continued his career at Martin-Luther-University Halle/Wittenberg and became a board certified specialist for Internal Medicine, Hematology and Oncology as well as Palliative Care. He holds a doctoral degree in medicine and is habilitated for Internal Medicine and Oncology. After 13 years serving in Halle in various leading positions, Professor Voigt took a position as a global Chief Medical Officer at Siemens Healthineers where he in addition serves in a role of a principle key expert. As further expansion of his assignments he was appointed for a professorship at Steinbeis University for Innovation in Oncology as part of the Steinbeis Transfer Institute Medical Innovations and Management.



Prof. Jacek Niklinski

Systematic biobanking and advanced molecular analysis for precise non-small cell lung cancer diagnosis and therapy: The Polish MOBIT project

Jacek Niklinski and MOBIT Study Group. Medical University of Bialystok, Bialystok, Poland

Personalized and precision medicine is gaining recognition due to the limitations by standard diagnosis and treatment; many areas of medicine, from cancer to psychiatry, are moving towards tailored and individualized treatment for patients based on their clinical characteristics and genetic signatures as well as novel imaging techniques. Advances in whole genome sequencing have led to identification of genes involved in a variety of diseases. Moreover, biomarkers indicating severity of disease or susceptibility to treatment are increasingly being characterized. The continued identification of new genes and biomarkers specific to disease subtypes and individual patients is essential and inevitable for translation into personalized medicine, in estimating both, disease risk and response to therapy. Taking into consideration the mostly unsolved necessity of tailored therapy in oncology the innovative project MOBIT (molecular biomarkers for individualized therapy) was designed (funded by the National Centre for Research and Development in the framework of the program 'Prevention practices and treatment of civilization diseases' – STRATEGMED (contract no. STRATEGMED2/266484/2/NCBR/2015).

The aims of the project are: (i) establishing integrative management of precise tumor diagnosis and therapy including systematic biobanking, novel imaging techniques, and advanced molecular analysis by collecting comprehensive tumor tissues, liquid biopsies (whole blood, serum, plasma), and urine specimens (supernatant; sediment) as well as (ii) developing personalized lung cancer diagnostics based on tumor heterogeneity and integrated genomics, transcriptomics, metabolomics, and radiomics PET/MRI analysis. The rationale of this innovative project is to elucidate new promising biomarkers using high-throughput technologies as the next-generation sequencing (NGS) and advanced imaging techniques. The particular attention is being paid to identify microRNAs as biomarkers for diagnosis of early NSCLC and to detect specific microRNAs differentiating adenocarcinomas and squamous cell carcinomas. The idea is to appoint liquid biopsy as an equivalent to tissue sampling. With plethora of data gathered and biostatistical evaluation, these approaches can have the potential to identify genes and proteins that correspond to lung cancer progression or response to therapeutics. Therefore, patients with malignancies may benefit not only from new diagnostic tools but also are invaluable in all phases of clinical trials paving the way to novel tailored therapies, and new guidelines and recommendations. It will affect the health-care costs by precisely bringing new therapies to the appropriate patients. The project is to draw interest in and to invite national and international, private and public, preclinical and clinical initiatives to establish individualized and precise procedures for integrating novel diagnosis, therapies and advanced imaging techniques.

Professor of Medicine, Medical University of Bialystok, Bialystok, Poland.

Currently Head of Department of Clinical Molecular Biology, Medical University of Bialystok, Poland and Rector's Representative for the Commercialization and Development of Cooperation with the Business Environment.

Professor Jacek Niklinski obtained his medical degree from the Medical University of Bialystok, Poland in 1988, and subsequently received specialization in general surgery and thoracic surgery in 1992 and 1998, respectively. In 1991, he completed his PhD, and in 2004 he obtained the title of Professor of Medicine.



From 1995-1997 he was Visiting Scientist at the National Cancer Institute, National Institutes of Health, Bethesda, USA, from 1988-2008 was a NATO and UICC grantee at the Institut Curie, Paris, France and Germans Trias and Pujol, the Health Sciences Institute and Hospital in Badalona, Spain, and visiting physician and scientist in Thoraxklinik, Heidelberg, Germany, and Ruhrlandklinik Essen, Germany.

Since 2008 he is Head of Department of Clinical Molecular Biology, Medical University of Bialystok, Poland.

From the 1.09.2008 until the 1.09.2016, Professor Jacek Niklinski was the Rector of the Medical University of Bialystok, Bialystok, Poland.

In March 2006, the Belarusian State Medical University, awarded Professor Jacek Niklinski with the honorary doctor.

As an active researcher, he has received numerous grants and performed many national and international projects, including EUELC project: a multi-centre, multipurpose study to investigate early stage NSCLC, and to establish a biobank for ongoing collaboration, European Network Project – Genomic Profiling in Lung Cancer, and Molecular Biomarkers for Individualized Therapy (MOBIT) Project.

His main interest involves translational molecular biology research, with particular emphasis on evaluation of molecular mechanisms responsible for tumor development and progression and clinical implementation of molecular biomarkers for detection and therapy in non-small cell lung cancer, as well as significance of molecular biomarkers and Myc-interacting proteins in neoplastic diseases. He has authored and co-authored over 120 peer-reviewed international scientific papers (IF- 189, h-index- 25) and book chapters and coordinated several multinational studies.

Professor Jacek Niklinski is a recipient of the Scientific Award of Polish Academy of Science and many Awards of Ministry of Health of Poland and IASLC Young Investigators Awards.

Professor Jacek Niklinski is a laureate of the European Medal for “Promoting the scientific achievements of the idea of a common Europe and promoting the image of Poland abroad” awarded in 2014 by the European Economic and Social Committee and Business Center Club.

Professor Jacek Niklinski is Editor-in-Chief of Advances in Medical Sciences Journal (IF-1.4).



Assoc. Prof. Andrian Tonev

Assoc. Prof. Andrian Tonev is the Head of the Department of Vascular Surgery at Uni Hospital, Panagyurishte.

He graduated in Medicine at the Medical University in Sofia in 1994. From 1995 to 1997 he worked as a mentor at the Vascular Surgery Clinic at the National Center for Infectious Diseases. From 1999 to 2015 he worked at the Vascular Surgery and Angiology Clinic of the University Hospital St. Catherine. Since 2015, he has been actively involved in kidney transplantation with a team of urologists, responsible for the vascular part of the operation.

Assoc. Prof. Tonev is a member of the Bulgarian National Society of Angiology and Vascular Surgery, the European Association of Vascular Surgery, the Bulgarian Association of Breast, Cardiac and Vascular Surgery, the Bulgarian Surgical Society and the Bulgarian Society of Fleabology.



Prof. Tatiana Hadjieva

Managing of Oligometastatic Disease by Radiosurgery

There is no clear and stated by consensus definition of oligometastatic disease. In practice it was started by meaning of 1-3 lesions in one organ than definition was enlarged up to four or more sites in different body organs. The main rationale is that metastasis has to be small and treated by curative intent. Stereotactic brain and body radiosurgery now a day could be provided by different machines. More old generation facilities are Gamma knife and Cyber knife and recently linear accelerators with radiosurgery features became more cost-effective and popular. The fractionation could be one large dose fraction of 24-30 Gy or 5 fractions of 7-9 Gy, given every day or rare every other day. The term abbreviation is RS for single brain fraction, SRS for several fractions in brain and SBRT for single or several fractions to different body metastases. A new mechanism of action is discovered for such large fractions. It includes the well known hit to DNA double strands, but second action was elucidated to be on tumour blood system. It works by attacking ceramides that finally produce apoptosis of tumour endothelial blood cells. The third effect of radiosurgery is so called bystander effect, stimulating host immune system by antigens released from disrupted tumour cells.

The presentation will describe indications, techniques and results in common metastatic tumours as lung, breast, melanoma, renal, urogenital and gastrointestinal sites.

Prof. Hadjieva has graduated Medicine in Higher Medical University, Sofia, Bulgaria with an award for primacy. She received a Postgraduate Speciality in Radiation Oncology and Nuclear Medicine in 1979 and in Oncology - 2000. In 1988 she defended a PhD thesis in Thyroid Carcinoma Treatment, and in 2004 became a Doctor of Medical Sciences, D sc. In 1995 she was habilitated as Associate Professor and in 2005 as Full Professor in the University Radiotherapy Clinic, Medical faculty, Sofia.

Since 1975 she was appointed in UH "Queen Joanna" as junior assistant in Radiotherapy Department and worked there more than 40 years becoming Head of the department and modernizing it to high-tech radiotherapy centre in 2009. Later she moved to organize a new RT Department in the private City Clinic Oncology serving as Head of the department up to August 2017. Now, Prof. Hadjieva is working in UH "St Ivan Rilski in Radiotherapy and Radiosurgery Clinic, Sofia.

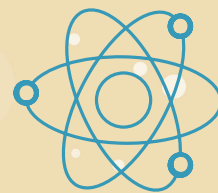
Dr. Hadjieva was appreciated as an invited lecturer in Germany, Belgium, Israel, Turkey, Ukraine, Poland etc.

She is the author of more than 120 publications in journals (in English and in Bulgarian), participated as co-author in 40 monographs, guidelines, handbooks and gave over 100 talks on International Congresses and National Meetings.

Prof. Hadjieva has served for many years as an expert in following organisations and committees: National Head and Neck Cancer Treatment Committee 1981-2015; Endocrine Disease Treatment Group 1987-2015; Member of National Committee for Evaluation of Consequences after Chernobyl Accident 1990-1995; Council for Medical Science, Medical University, Sofia, 1998 - 2004 ; National Council for Radiation Protection, Committee of Peaceful Use of Atomic Energy, 2002-2015; Scientific Committee for Roentgenology, Nuclear Medicine, Radiotherapy and Radiobiology at the Council of Ministries from 2005 till the end ; National Representative for Radiation Oncology, Ministry of Healthcare, from 2000-2006 and 2015; National Health Insurance Fund, Responsible for Radiotherapy, since 2001

As member of international societies such as European Society of Nuclear Medicine, ESTRO, ASTRO, BUON, ESMO etc she promotes Bulgarian radiotherapy care abroad.

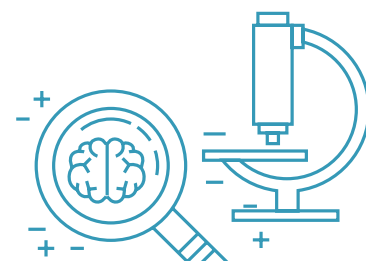
Dr. Hadjieva is a lecturer for medical and dentists students in several universities in Sofia and Stara Zagora, specially



for English students; a senior lecturer and organizer of postgraduate education for Radiation therapy and lecturer in Oncology for different specialties as ENT, surgery, endocrinology, European School of Oncology.

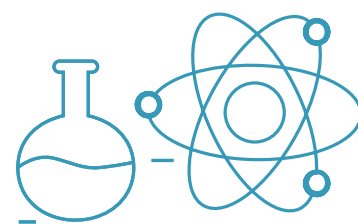
She was a long years the Head of State Commission for Radiotherapy licensing.

For all this lifelong doctors' and educational work in 2014 Prof. Hadjieva was decorated by Life appreciation "Prof. Chilov's" award for excellence in therapy and education in Medical University, Sofia.



Dr. Aleksandar Gerasimov

Aleksandar Gerasimov was born in 1987 in Vratsa. He graduated the Medical University in 2012 with honors. He started working in the Clinic of Medical Oncology at the University Hospital for Active Treatment in Oncology, Sofia in 2012 as a scientific assistant. Dr. Gerasimov started his post-graduate study in Medical oncology in 2013. His scientific interests are in the fields of prostate cancer, breast cancer, neuroendocrine tumors. He specialized NET in Uppsala, Sweden in 2014 and Jerusalem, Israel in 2017. He did an internship in Breast cancer center of excellence in Instituto Europeo di Oncologia, Milan, Italy in 2016. Dr. Gerasimov is preparing dissertation for PHD in the fields of prostate and breast cancer.



Dr. Teodora Karanikolova

Dr. Karanikolova graduated from the Medical University of Sofia, Bulgaria in 2010. She began her career in medicine in SHATO, Sofia in 2011. Later on she started specializing Medical Oncology. In 2013 Dr. Karanikolova became one of the "Teodora Zaharieva" laureates. Since 2014 she is working at the Department of Medical Oncology in MHAT "Nadezhda". Along with her clinical work in breast, colon and lung cancer she participated in many clinical trials and scientific forums. She has published several articles on breast cancer but after attending various preceptorship courses she changed her focus to malignant melanoma and immuno-oncology.



Prof. Robert Pirker



New aspects of the TNM Classification for Lung Cancer

Diagnosis of lung cancer is based on histology, immunohistology, molecular tumor analyses and tumor stage. Tumor stage is associated with prognosis and affects treatment. The 8th edition of the TNM classification of lung cancer has recently been published and offers better prognostication and better management of patients with lung cancer (1). This new classification is based on data from 94708 cases from 35 sources around the globe. A total of 77156 patients, who had been diagnosed with lung cancer from 1999 to 2010, were evaluable. The project was organized and funded by the International Association for the Study of Lung Cancer (IASLC).

Tumors are classified based on their size (2). T1 is now divided into T1a (≤ 1 cm in greatest dimension), T1b (> 1 cm but ≤ 2 cm) and T1c (> 2 cm but ≤ 3 cm). T2 tumors are divided into T2a (> 3 cm but ≤ 4 cm,) T2b (> 4 cm but ≤ 5 cm). Tumors > 5 cm but ≤ 7 cm are classified as T3 tumors, and tumors > 7 cm in greatest dimension as T4 tumors. T4 tumors also refer to tumors with separate tumor nodule(s) in a different ipsilateral lobe, tumors with involvement of diaphragm, mediastinum, heart, great vessels, trachea, esophagus and vertebral body or carina.

The lymph node descriptors remain unchanged but the number of involved nodal stations has prognostic significance (3). However, stage III is divided into stages IIIA, IIIB and IIIC. T3 tumors with N2 involvement are now grouped as stage IIIB, and T3 or T4 tumors associated with N3 disease as stage IIIC.

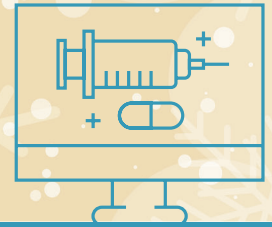
Changes in the classification of the M descriptor and of stage IV disease have occurred (4). Intrathoracic metastases to the contralateral lung remain M1a. Tumors with pleural or pericardial nodule(s) and malignant pleural or pericardial effusion are also classified as M1a. M1b refers to cases with single extrathoracic metastasis and M1c involves multiple metastases in one or more organs. M1a and M1b are classified as stage IVA and M1c as stage IVB.

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Robert Pirker is currently Professor of Medicine and Program Director for Lung Cancer at the Department of Medicine I, Medical University of Vienna, Austria. He obtained a master's degree in Biochemistry in 1978 and his medical degree in 1979 from the University of Vienna. Robert Pirker trained in Internal Medicine, Hemato-Oncology and Nuclear Medicine at the University of Vienna. He also worked as NIH Visiting Fellow at the Laboratory of Molecular Biology (Chief: Dr. Ira Pastan), National Cancer Institute, Bethesda, MD, USA (1983-86).

His research interests are chemotherapy and targeted therapy of lung cancer, drug resistance mechanisms of cancer, and management of chemotherapy-induced anaemia. He has published more than 170 articles, reviews or book chapters. He has been an ESMO Faculty Member on Chest Tumors and a member including chair of the IASLC Education Committee. He is a current member of the IASLC Board of Directors. He was Congress President of the 8th and 14th Central European Lung Cancer Congresses, Chair of the Scientific Committee of the European Multidisciplinary Conference on Thoracic Oncology in 2009, and Conference President of the IASLC 17th World Conference on Lung Cancer in 2016 in Vienna, Austria.



Prof. Lothar R. Pilz

WORKSHOP 1

Interpretation of Phase II/III Study Data

Introduction: Published results of Phase II and III studies are part of treatment and/or diagnosis development and as an inherent element of the medical research based on evidence. Hence, subsequently, statistical methods are an essential part in proving the usefulness of results. The rationale of a Phase II or III study has to be transferred and formed in hypotheses which are the basis for the translation into statistical terms. Core of study reports are statistical tests of the main aims and their alternatives (hypotheses). Beside this tasks the proper description of the study population and co-founding variables for the study hypotheses are inevitable. [1]

Clearly, medical researchers need some sound understanding of statistical principles which can be taken, however, not as a matter of course. The aim of the workshop is to communicate among readers of medical journals and study reports statistical matters focusing on basic statistical considerations to enable a better understanding of clinical study results. [2]

Essentials of statistical analysis and reporting in Phase II/III studies: Phase II studies aim to demonstrate the activity and efficacy of a treatment or the practicability of a diagnostic method obeying strong in- and exclusion criteria for an assigned population to be treated. Generally they are defined by a prospective determined dose scheme and deliver information to be able to define an optimal treatment scheme, which will be tested in a following comparing study of effectiveness in Phase III to a standard therapy which has the purpose to detect the effectiveness of that new treatment in comparison to an established standard. Sometimes it is used to demonstrate just equivalence to a proven standard which in every case plays the role of a control group. Noteworthy, in oncology the control by placebo is rather uncommon.

In interpreting a report of a clinical study some items have to be observed:

- (i) Which hypotheses support the main aim? How they are related to a real biomedical basis?
- (ii) Which tests are performed under a given level of significance (p-values) to prove the main hypotheses?
- (iii) In which tables, graphs, and figures are the research results are made visible? What is the information transported by them?
- (iv) Are possible associations assessed and quantified by reported measures like p-values and by using confidence intervals to express the uncertainty of those associations?
- (v) In randomized trials, are the comparisons are an inherent part of those associations?

In the sequel some of the methods are described useful in the interpretation process

Randomization is a process in which each of the patients has the same but not necessarily the equal chance to be assigned to predefined treatment arms ensuring that the treatment arms are comparable with respect to known or unknown risk factors. Hence, it is a method to remove selection and accidental bias and to guarantee the validity of statistical tests.

Main design issues of studies are the formulation of the primary aim, the question of blinding, and the boundary conditions of sample size calculations. [3,4,5]

Tables of baseline data and outcome events are part of most medical journal papers concerning treatments. Generally the first table displays the patients' characteristics including some demographic variables and variables related to the primary aim. The main outcome events are forming the key table of every paper stratified by treatment groups. Categorical variables are shown as number and percent by group. Continuous variables can either be presented by mean and the standard deviation or by median and the interquartile range. Latter is preferred if the data are scattered and far from normal distribution with the implication that in the sequel non-parametric tests should be favored. For composite events like severe toxicities, progression of disease, and death the number of patients experiencing any of them plus the number in each component should have been given, since we have the effect of multiple events. In focus are often variables displaying the time to the first event (e.g. progression of disease which can happen more than once during



treatment history). For time driven events in the sequel analysis of general survival times are sometimes applied leading to special statistics and graphs. [6,7]

The Kaplan-Meier plot is the most used graph to show time-to-event outcomes as death, time to progression, disease free interval etc. In general the graph displays the steadily increasing difference in incidence rates of the outcome for two or more treatment arms. To make the process clearer, the numbers at risk in each group can be shown at regular time intervals in the time axis. Individuals who did not reach the endpoint are censored (e.g. still alive, lost to follow-up) and should be marked in the plot. The conditional probabilities of Kaplan-Meier statistics indicate the probability of experiencing the endpoint under consideration beyond a certain length of follow-up. [8,9]

Estimation of treatment effects is to measure the magnitude of the difference between treatments on patient outcomes. Normally this is done by a point estimate showing the actual difference observed. Inherent in this kind of statistics is that the bigger the trial, the more precise the point estimate will be. Such uncertainty is usually expressed by a 95% confidence interval in which this percentage of the sample will be found. The primary aim of the study determines the type of estimate required. Namely, there are three main types of outcomes: (a) Binary (dichotomous) response, e.g. dead or alive, progressive or non-progressive, success or failure, respectively. (b) Time to event outcome most measured in intervals, e.g. time from randomization to death, time of inclusion in the study to treatment failure. (c) Quantitative outcome as the reduction of a certain percentage of tumor loads at a given time point (e.g. a seen reduction of 30% after exactly 6 months). [10]

Estimates based in percentage are indicated if a binary outcome has to be judged in terms of absence or presence. Then a confidence interval of the proportion of interest can be given. Relative risks are the ratio of two percentages and can be converted to relative risk reduction. Alternatively relative odds can be applied which is a cross-product relationship and shows the relation of chance. Relative risk and relative odds are sometimes called risk ratio and odds ratio instead. The absolute difference in percentage is taken as a measure of absolute risk reduction.

Estimates for time-to-event outcomes are used in all survival statistics as time to death, time to progression etc. The Kaplan-Meier plot depicts the first time of the occurrence of the event but does not in itself provide a simple estimate summarizing the treatment difference. The Kaplan-Meier estimate at the end of plotted time or at any other time between can be taken as cumulative rate of the leading event. That is only a time point estimate. Instead, the most common approach is to use a Cox proportional hazards model to obtain a hazard ratio and its 95% confidence interval. The hazard ratio can be thought of as the hazard rate in one group divided by the hazard rate in the other group averaged over the whole follow-up period. [11]

Examples from medical trials will be used to explain the statistical principles shown here.

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Senior Statistical Consultant/ Medical Faculty Mannheim, Heidelberg University, Theodor-Kutzer-Ufer 1-3, D-68167 Mannheim, Germany

Biography

Study of Mathematics and Physics 1973 –1978 at the Johann-Wolfgang-von-Goethe-University, Frankfurt and Eidgenössische Technische Hochschule (ETH), Zürich, Switzerland;

1979 - 1980 Research Assistant, University of Heidelberg, Heidelberg

1981 - 2011 Senior Researcher and Consulting Statistician, Department Mathematical Models / Biostatistics, German Cancer Research Center, Heidelberg

Since 2011 Senior Consultant for Statistics, Medical Faculty Mannheim, University of Heidelberg, Mannheim

Since 2013 Appointed Statistical Consultant, Medical University Białystok, Poland



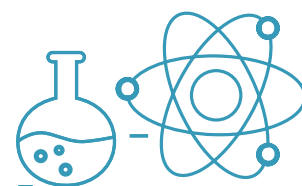
Dr. Dimitar Krastev

WORKSHOP 2

Modern Standards of Psychological Assistance in Oncology Patients in a Clinical Environment

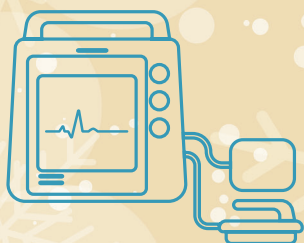
In the last few years the psychological assistance, offered to oncology patients, has developed rapidly and evolved into a highly differentiated set of standards. The standard methods used in clinical practice are based on careful research and include a multidisciplinary approach in the context of the Biopsychosocial model. In this sense, the close collaboration between physicians and clinical psychologists not only provides assistance for successful treatment, in which the patient is engaged and motivated, but also helps improve their quality of life. At the same time, treatment of oncology patients is linked to a series of psychopathological phenomena, the most common of which belong to the depression-anxiety spectrum and the overcoming of which leads to a successful treatment. Cognitive-behavioral psychology offers a wide set of instruments for both a continued counseling of patients and crisis interventions when episodes of severe distress occur.

Dimitar Krastev is a clinical psychologist in the Department of Medical Oncology at the University Hospital “Uni Hospital”. He has a Master Degree in Clinical and Advisory Psychology, graduated from Sofia University “St. Kliment Ohridski” with practical specializations at State Psychiatric Hospital “St. Ivan Rilski” Hospital, Military Medical Academy and Lozenets Hospital Sofia. He is practicing Cognitive-Behavioral Psychology and Neurofeedback. His main interests are in the field of clinical psychology, neuropsychology, psychometry and psychotherapy.



Dr. Chavdar Harsev

Dr. Harsev graduated in Clinical and Advisory Psychology at Sofia University “St. Kliment Ohridski” Sofia. He is currently working as a clinical psychologist in the Medical Oncology Department at Uni Hospital, Pannagyurishte. He has interests in the field of psychology, cognitive behavioral psychotherapy, psychoanalysis, art, psychometry.

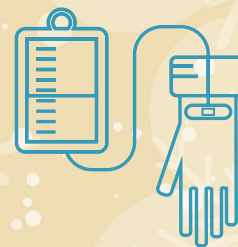


Prof. Greg Wiseman



PRESENT ACADEMIC RANK AND POSITION 1995 – Present - Academic Affiliate - Ludwig Institute for Cancer Research; Consultant - Division of Nuclear Medicine, Department of Radiology, Mayo Clinic, Rochester, Minnesota

08/01/1995 – Present - Consultant - Department of Radiology, Mayo Clinic, Rochester, Minnesota, 07/01/1996 – Present - Assistant Professor of Radiology - Mayo Clinic College of Medicine. EDUCATION 1978 - University of Wyoming, BSc, Microbiology; 1979 - University of Wyoming, BSc, Nutrition and Food Science; 1983 - University of Utah Medical center, MD; 1983 - 1986 - Mayo Clinic in Rochester, Resident, Internal Medicine; 1987 - 1989 - Mayo Clinic in Rochester, Fellow, Hematology; 1989 – 1990 - University of Washington, Resident, Nuclear Medicine; 1989 – 1992 - University of Washington, Fellow, Oncology; 1991- 1992 - University of Washington, Chief Resident, Nuclear Medicine; CERTIFICATION(S) Board Certification(s) 1988 – Present - American Board of Hematology; 1986 - Present - American Board of Internal Medicine (ABIM); 1992 – Present - American Board of Nuclear Medicine; Mayo Certification(s) 12/28/2012 - Mayo Clinic Quality Academy - Mayo Clinic Quality Fellow: Bronze Level Certification ; HONORS/AWARDS - 01/1978 - Honors - University of Wyoming; 01/1979 - Honors - University of Wyoming; 01/1991 - 01/1992 - Mallinckrodt Fellowship; PREVIOUS PROFESSIONAL POSITIONS AND MAJOR APPOINTMENTS - 1990 – 1992 - Medical Safety Consultant - Radiolabeled Monoclonal Antibody Patient Studies, NeoRx Corporation, Seattle, Washington; 1992 - Project Physician - Radiolabeled Monoclonal Antibody Patient Studies, NeoRx Corporation, Seattle, Washington; 1992 - 1995 - Radioisotope Misadministration Investigator - Nuclear Regulatory Agency; 08/01/1992 - 07/31/1995 - Senior Associate Consultant - Department of Radiology, Mayo Clinic, Rochester, Minnesota; 10/10/1992 - 07/01/1996 - Instructor of Radiology - Mayo Clinic College of Medicine; PROFESSIONAL MEMBERSHIPS - a member of American Society for Therapeutic Radiology and Oncology, American Society of Clinical Oncology, American Society of Hematology, American Society of Nuclear Cardiology, British Nuclear Medicine Society, Children's Oncology Group, Eastern Cooperative Oncology Group, International Atomic Energy Agency, International Society of Radio-labeled Blood Elements, Society of Nuclear Medicine, Clinical Trials Council, Committee on Councils, SNM Molecular Imaging Clinical Translation Advisory Committee and the Therapy Council; Vice-president of Nuclear Oncology Council; Member of Board of Directors of Nuclear Oncology Diagnosis and Therapy Council; JOURNAL RESPONSIBILITIES – Editor - Frontiers in Bioscience; Editorial Board Member, Sunnyvale, California - Journal of Nuclear Medicine & Radiation Therapy; INSTITUTIONAL/DEPARTMENTAL ADMINISTRATIVE RESPONSIBILITIES, COMMITTEE MEMBERSHIPS AND OTHER ACTIVITIES - Mayo Clinic in Rochester, Department of Radiology – Member of the Centennial Exhibit Committee, Member of the Emergency Response Committee, Member of the Research Committee, Member and Chairman of the Safety Committee; VISITING PROFESSORSHIPS - 12/1996 - Nuclear Medicine Department, La Sapienza Hospital, Rome, Italy; CLINICAL PRACTICE, INTERESTS AND ACOMPLISHMENTS - Developed standard criteria for interpretation of ventilation perfusion scans. The criteria is being used by the consulting staff, and Radiology residents for clinical interpretation. The criteria have helped to improve the reading of the on-call studies by the residents avoiding revisions of reports by the staff. Wrote the sections for the nuclear medicine procedure manual used in clinical practice at Mayo Rochester for diamox brain perfusion imaging and edited the sections on endocrine imaging, tumor imaging and tumor therapy. The manual is used in daily clinical practice. Transferred the nuclear hematology procedures previously done in laboratory medicine to Radiology as part of a continuous improvement committee recommendation. This required reviewing the procedures, discussions with Dr. Fairbanks of Lab Medicine and writing the protocols. The move of these studies is beneficial to Mayo and the patients by consolidating; RESEARCH INTERESTS - 1979: American Cancer Society of Wyoming. In vitro assay of murine sarcoma cells for sensitivity to chemotherapy agent; 1980: University of Utah Medical Student Summer Grant. Abnormal neutrophil chemotaxis in diabetics; 1981: University of Utah Medical Student Summer Grant. Inhibition of neutrophil chemotaxis by endothelial cells and prostacyclin; 1988-89: Mayo Clinic, Clinical Investigator Program. Purging of myeloma cells from bone marrow and peripheral blood for autologous bone marrow transplantation as a treatment for myeloma; 1988-89: Mechanisms of steroid interaction and cells death in lymphoma; 1989: University of Washington. Human malignant melanoma xenografts in the immunosuppressed dog as a model for radiolabeled monoclonal antibody targeting.



Dr. Qaisar Siraj

Sentinel Node Imaging In Breast Cancer

Axillary nodal status is the most powerful prognostic factor predicting recurrence and survival in breast cancer. Although axillary node dissection (AND) is the staging procedure to determine systemic spread, it has significant drawbacks in terms of morbidity, and therefore, it has been supplanted by sentinel node biopsy procedure in patients with early-stage biopsy-proven breast carcinoma without cytologically or histologically proven axillary lymph node metastases for which removal of primary tumour and axillary node dissection would be indicated. Sentinel Lymph Node (SLN) imaging/biopsy in breast cancer is aimed at identifying and removing the sentinel node(s) draining the breast cancer. If the SLN is free of tumour, then it is highly unlikely that subsequent nodes along the same pathway will contain metastasis. Complete AND can therefore be replaced by the less aggressive selective resection of the SLNs only.

Sentinel node imaging and biopsy is now the de facto standard-of-care in breast cancer patients; however, the methodology is highly non-standardized with proponents of a variety of techniques. Published studies provide evidence to support that the false-negative results do not differ with the injection site though superficial injections are better for axillary staging and deep injections for detection of SLN in the extra axillary nodal basins. Pre-operative lymphoscintigraphic imaging is highly recommended as it improves accuracy, reduces morbidity and allows speedy identification of SLN. Indications for SLNB have been extended to encompass most patients with non-metastatic breast cancer.

CURRENT PROFESSIONAL APPOINTMENTS

- Consultant in Nuclear Medicine & PET-CT: Farwania Hospital Kuwait & Molecular Imaging Centre Kuwait
- Examiner Asian Board of Nuclear Medicine: Asian School of Nuclear Medicine
- Editor-in-Chief/Founding Editor : Pakistan Journal of Nuclear Medicine
- Associate Editor: Asia Oceanic Journal of Nuclear Medicine & Biology

MEDICAL EDUCATION

Ph.D in Nuclear Medicine, 1993

Royal Free Hospital School of Medicine, University of London

M.Sc in Nuclear Medicine, 1984

Royal Free Hospital School of Medicine, University of London

Grading in Nuclear Medicine 1982, AFM College, Rawalpindi

Bachelor of Medicine & Surgery, M.B;B.S, 1977, Dow Medical College, Karachi University

AWARDS & HONOURS

- Prize for Scientific Posters, Gulf Nuclear Medicine Conference 2013
- Chairman's Award for Excellence, Portsmouth Hospitals NHS Trust, 2005
- Clinical Excellence Award (Level 4), Portsmouth Hospitals NHS Trust 2005
- Clinical Excellence Award (Level 3), Portsmouth Hospitals NHS Trust 2003
- Distinguished Alumnus, Dow Medical University, Karachi, 2004
- Best Poster Award, British Nuclear Medicine Society, 2001
- Distinction Award, Best publication, Society of Nuclear Medicine, 1997
- Distinction Award for Ph.D thesis, University of London, 1993.
- Travelling Fellowship, British Nuclear Medicine Society, 1991



Professional Experience (Past 10 Years)

Consultant in Nuclear Medicine & PET-CT, Farwaniya Hospital, 2011- present

Hon. Consultant in Nuclear Medicine & PET-CT, University College Hospital,

Consultant in Nuclear Medicine, King Fahad Specialist Hospital, Dammam, 2009-2010

Consultant & Lead Clinician in Nuclear Medicine, Portsmouth Hospitals, UK, 1999-2009

Locum Consultant in Nuclear Medicine, St. Peter's Hospital Chertsey, UK, 1999

Locum Consultant in Nuclear Medicine, Great Ormond Street Hospital, UK, 1998-1999

Locum Consultant in Nuclear Medicine, Addenbrooke's Hospital, Cambridge, 1998-1999

Locum Consultant in Nuclear Medicine, Charing Cross Hospital, London, 1997-1998

Senior Research Associate, UMDS (Guy's & St. Thomas's Hospitals), London, 1997-1998

Visiting Consultant, St. Bartholomew's Hospital, London, 1996-1997

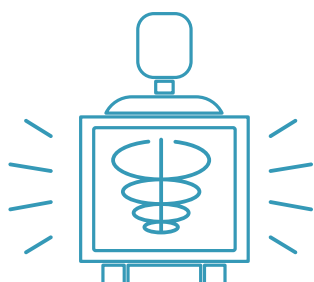
Consultant in Nuclear Medicine, Nuclear Medical Centre, AFIP, Rawalpindi, 1995-1996

L. Consultant in Nuclear Medicine (NHS sessions 4), Charing Cross Hospital, London, 1993-1994

Consultant in Nuclear Medicine (NHS sessions 2), Royal London Hospital, 1993-1994

Consultant in Nuclear Medicine (NHS sessions 4), St. Bartholomew's Hospital, London, 1993-1994

Dr. Qaisar H. Siraj has more than 74 scientific publications – editorials, book chapters and articles in journals like Lancet, Journal of Nuclear Medicine, European Journal of Nuclear Medicine Technology, Journal of Rheumatology, Journal of Pakistan Medical Association, etc.



Dr. Marchela Koleva



Dr. Marchela Koleva graduated from the Medical University in Sofia in 1992. From 1995 till 2012, she has worked and specialized in medical oncology at “Tsaritsa Yoanna - ISUL” University Hospital. She has also worked in the Department of Medical Oncology at Serdica Hospital in the period June 2012 - April 2013. Dr. Koleva headed the Department of Medical Oncology at Sofia Med Hospital in Sofia 2013-2015. Currently she is the Head of the Department of Medical Oncology at “Tsaritsa Yoanna - ISUL” University Hospital.

Dr. Marchela Koleva has different specializations in oncology in Austria, Belgium and the UK.

She is a member of a number of European professional organizations as well as of the Management Board of BAMO, Chairman of the Ethics Committee of Young Oncologist Club Bulgaria, and a member of the Bulgarian Society of Oncology.

Dr. Koleva has over than 20 publications in the field of oncology and she is a co-author of the breast cancer rehabilitation programme - Victoria.



Assoc. Prof. Ivan Ivanov

Challenges for the Pathologist in the Molecular Diagnostics of Breast Cancer

Until a few decades ago, pathology reports in cases of breast cancer had contained only information about the morphological type, stage of the tumor and eventually its grade. At that point, these predominantly prognostic factors were used for the management of breast cancer. Although useful, the mentioned characteristics were unable to identify the biological differences in most of the tumors. Later, when endocrine therapy and targeted therapy become standard treatment option, the reporting of steroid receptor status and HER2 status become a routine part of pathology reports. This led to the wide implication of immunohistochemistry and in-situ hybridization in routine pathology practice. In further attempts for identification of the patients at risk of developing relapse after treatment, the multigene signature was introduced in practice. Its introduction and adaptation to standard morphological protocols expanded the field of surgical pathology to a new level – molecular pathology and genetics. Still, surrogate markers of the genetic subtypes are introduced in contemporary morphological practice as a more affordable alternative.

The following presentation is discussing some of the important issues of contemporary breast pathology, molecular pathology and genetics in breast cancer.

KEY WORDS: molecular diagnostics, breast cancer, challenges

Assoc. Prof. Ivan Ivanov is a medical pathologist working in the Department of Pathology at UMHAT D-r G. Stranski - Pleven. He is also a lecturer in the Department of Pathology at the Medical University in Pleven. He was born in 1983 in Sevlievo, Bulgaria. Assoc. Prof. Ivanov graduated the Medical University in Pleven in 2008 and got his specialty in General and clinical pathology in 2015. His professional interests are in the field of breast pathology, tumor and lympho-vascularization and in computer-assisted histomorphometry. He is a member of the Bulgarian Society of Pathology and the European Society of Pathology. Assoc. Prof. Ivanov speaks speaks 2 foreign languages - English and German.

Dr. Ivan Terziev



Are soft tissues sarcomas difficult to diagnose?

By definition soft tissues sarcoma (from the Greek word “sarcos” meaning “fish meat”) is a malignant neoplasm which arises from mesenchymal cells. Generally in soft tissues tumors, like in lymph node pathology, the morphology frequently belies their true biological potential, resulting in numerous examples of pseudomalignancy or pseudobeneignity. Therefore, the interpretation of the soft tissues tumors should be provided by experienced pathologists. The classification of the soft tissues sarcomas is based on their microscopic resemblance to normal mesenchymal counterparts, for example, liposarcoma, leiomyosarcoma, rhabdomyosarcoma etc.

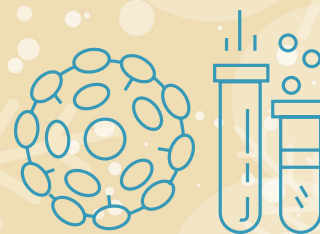
Soft tissues sarcomas are relatively uncommon neoplasms, which are more likely to arise from uncommitted young mesenchymal cells rather than from differentiated mesenchymal cells. This is confirmed by the fact that many sarcomas may be “dedifferentiated”, which means that a sarcoma, including foci of chondro-, osteo- and rhabdomyosarcoma, may be observed in well differentiated neoplasm zones of high grade spindle cells or pleomorphic cells. This fact is important in the interpretation of biopsy specimens of soft tissues sarcomas.

Some soft tissues sarcomas show stable genetic abnormalities and are thus diagnostically useful, examples include mutations of the Myo D family genes in rhabdomyosarcoma; t (11; 22) in Ewing’s sarcoma/ PNET; t(x; 18) in Synovial sarcoma etc. Unfortunately, many of the more common sarcomas in adulthood have complex karyotypes without histotype-specific features.

Immunohistochemistry is particularly important in the field of soft tissue tumours because of their variety and the frequent difficulty of diagnosis. It has a role in confirming the differentiation of tumor cells in some sarcomas. There is a small group of sarcomas in which a differential diagnosis is based only on immunohistochemical examination. These are sarcomas with hemangiopericitoid growth pattern. The term hemangiopericitoma was first proposed by Sir Arthur Purdy Stout for soft tissues tumor with characteristic “stag horn” vascular pattern, for which he believed to have arisen from pericytes of the blood vessels described by Zimmerman.

With the advent of immunohistochemical examination this group was subdivided into three distinct entities: extra-pleural solitary fibrous tumor (SFT); myopericitoma(true hemangiopericitoma) and monofasic synovial sarcoma.

Dr. Ivan Terziev was born in 1961 in the town of Blagoevgrad. He graduated medicine in 1987 at the Medical Academy in Sofia and got a specialty in anatomy and cytology in 1992. He has been working at University Hospital “Queen Joanna-ISUL” - Sofia since 1988 and he is an assistant professor at the Medical University of Sofia. Dr. Terziev has numerous publications in Bulgarian and international journals. He is a member of Bulgarian and European Society of Pathology, European Society of Neuropathology and Bulgarian-Turkish group on diseases of the thyroid and breast.



Dr. Yordan Yordanov

Oncoplastic Breast Reconstruction - Contemporary Concepts and Treatment Options

The oncological treatment of breast cancer has significantly improved over the past few decades. Being a final stage of the treatment plan of this group of patients, breast reconstruction as an art and science has also evolved. Nowadays the myriad of reconstructive procedures available and the rapidly evolving nature of the field make it a particularly challenging area in plastic surgery. The breast reconstructive surgeon is required to apply this breadth of expertise in a varying context of individual oncologic patient circumstances. Advancements in autogenous tissue techniques, refinements in implant technologies and immediate breast reconstructive techniques have resulted in superior aesthetic outcomes, with minimal disruption to the patient's lifestyle. The aim of the presentation is to highlight the reconstructive possibilities for breast cancer survivors stressing on the most contemporary concepts and treatment options for individualized approach to the patient.

Dr. Yordanov is a Board-Certified plastic surgeon and practices at the Uni Hospital - Panagyurishte and in his private practice in Sofia, Bulgaria. Dr. Yordanov performs all types of plastic surgery and specializes in facial and breast aesthetic and reconstructive surgery and microsurgery.

Dr. Yordanov has a PhD degree cum laude in plastic surgery with European Mention by the Complutense University of Madrid, Spain. He is a fellow of the European board of Plastic Reconstructive and Aesthetic Surgery (EBOPRAS) and a member of the Spanish Society of Plastic Reconstructive and Aesthetic Surgery (SECPRE) and the American Society for Aesthetic Plastic Surgery (ASAPS).

Dr. Yordanov has been trained in Spain, Belgium and USA. He is an author of over 50 scientific articles in national and international renowned journals, two monographs and a co-author in a Plastic Surgery manual book for students in Spanish.



Dr. Margarita Taushanova



Managing of Triple Negative Cancer

Triple-negative breast cancer (TNBC) accounts for 15% to 20% of all breast cancers. It is defined by the lack of estrogen receptor (ER) and progesterone receptor (PR) expression, and normal human epidermal growth factor receptor 2 (HER2) receptor gene copy number and expression. The clinical course of TNBC and the risk factors that predispose to development of this disease differ from ER-positive cancers. Multiple and early pregnancies, as well as lack of breastfeeding, have been suggested as reproductive risk factors for TNBC.

Distant metastatic recurrences tend to occur within the first 3 to 5 years after the diagnosis of TNBC. Late recurrences are relatively rare, unlike in ER-positive cancers, in which up to 50% of distant recurrences develop after 5 years. The prevalence of TNBC is higher among younger women and African-American women. The disease may also be associated with having an inherited mutation in the BRCA1 gene. Triple-negative breast cancer is typically treated with a combination of therapies such as surgery, radiation therapy, and chemotherapy. Relatively few clinically important therapeutic advances have occurred in treatment of TNBC since the introduction of taxanes as adjuvant therapy over 20 years ago. However, this is rapidly changing due to a variety of conceptually important clinical trials and emerging new options such as immune checkpoint inhibitors and antibody-drug conjugates.

Dr. Margarita Taushanova is a specialist with long-standing experience in the field of medicine and particularly in the field of medical oncology. She graduated from the Medical University in Sofia. First, she specialized Internal diseases and then Oncology. She worked as a doctor in the clinic of chemotherapy in the University Specialized Hospital for Active Treatment in Oncology, Sofia from 2002 to 2013. Since 2014 she has been working in the clinic of chemotherapy in Nadezhda Hospital, Sofia. Dr. Taushanova participates as sub investigator in numerous clinical trials in the field of treatment of solid tumors, breast cancer, lung cancer, ovarium cancer, colorectal cancer and is particularly interested in the field of triple negative breast cancer. She is a doctor of medicine from 2013 with PHD:

Diagnostic treatment of triple negative breast cancer.

Also, she is author and co-author of scientific publications in the field of medical oncology and lecturer in scientific events in the field of medical oncology.

Now Dr. Taushanova is active member of BAMO and ESMO.



Dr. Assia Konsoulova

Managing of HER 2 Positive Breast Cancer: Neo Adjuvant and Adjuvant

Administration of trastuzumab is a standard in the adjuvant treatment of HER2-positive breast cancer as it significantly reduces the number of patients with subsequent progression of the disease. Adding double anti-HER2 blockade to trastuzumab and pertuzumab as the first-line treatment for metastatic disease led to the extension of progression-free survival and overall survival - this changed the standards for the treatment of HER2-positive breast cancer as early as 2014. These results led to clinical trials for the direct administration of trastuzumab and pertuzumab in a non-adjuvant aspect - there was a statistically and clinically significant increase of the complete pathological response, which is considered to correlate with progression-free survival and disease-free survival after neoadjuvant double anti-HER2 blockade with trastuzumab and pertuzumab. Thus, upon demonstration of efficacy in metastatic disease, pertuzumab was registered directly for neoadjuvant administration. The 5-year follow-up results support the thesis that the neoadjuvant use of pertuzumab in combination with trastuzumab and docetaxel results in clinical benefit for patients with early, inflammatory or locally advanced HER2 positive breast cancer.

Dr. Assia Konsoulova is a medical oncologist, working at the Medical Oncology Clinic at the University Hospital "Sveta Marina", Varna, Bulgaria. She is also an assistant in Propedeutics to the Internal Medicine at the English-speaking students at the Medical University in Varna, Bulgaria.

Dr. Konsoulova graduated the Medical University in Varna in 2003 and specialized in Internal Medicine and Medical Oncology. She has won internships and attended more than 20 educational courses in Europe. She has more than 40 scientific publications in Medical oncology. She also defended a PhD thesis in 2016 over "Expression of some tissue and plasma biomarkers as potential predictors for antiangiogenic treatment with bevacizumab in metastatic colon cancer".

Apart from being the responsible for the European Initiative in Quality Management in Lung Cancer Care for Bulgaria, Dr. Assia Konsoulova is also a member of the ethical committee at the Society of the Young oncologists in Bulgaria, and the Union of the Quality specialists in Bulgaria. Dr. Konsoulova is also a member of ESMO, ASCO, ECCO, Bulgarian Oncology Society, and the Society of the Young Oncologists in Bulgaria. She has been a member of the scientific research commission the Medical University in Varna since 2004 and a secretary of the first board for neuroendocrine tumors at that university since 2011.

Dr Konsoulova specialized in the Friedrichstadt City Hospital in 2003, Dresden, Germany. She worked as an assistant in Medical Oncology in 2005-2006 and 2007 at the Jules-Bordet Institute as a specialist in the Brussels Free University of Belgium with a scholarship from the European Union and an ESMO scholarship. In 2012-2013 she is awarded the annual scholarship "Teodora Zaharieva" for young medical specialists in Bulgaria. She is also awarded the "Favorite Teacher" Award for 2014 from the Faculty of Medicine, English Language Education at the Medical University - Varna.

Dr. Assia Konsoulova speaks 4 foreign languages - English, French, Russian and German.



Possibilities to get pregnant after being diagnosed with breast cancer

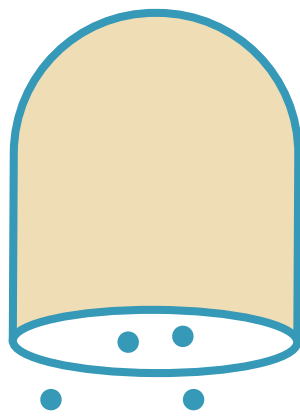
Preservation of fertility and reproductive capacity in patients with malignancy is an essential step of their treatment. Cytostatic, hormonal or target therapy reduces to a different extent their reproductive ability, which, along with the tendency to postpone parenting for advanced age, becomes a challenge for treatment specialists. The benefits of assisted reproduction could be successfully applied at different stages of the diagnosis and therapy of the cancer disease, and are directly related to the age of the patient. The multidisciplinary approach is associated with minimum risk, adequate pregnancy planning in compliance with good medical practice algorithms, normative acts, and a number of ethical norms. The individual approach is the most important in the assessment of reproductive possibilities in cancer patients.

Dr. Tanya Timeva is a highly qualified specialist in the sphere of obstetrics, gynecology and reproductive medicine. In 2007 she successfully obtains the PhD degree. In 2015 she became assoc. prof. Dr. Tanya Timeva has also been a consultant with the National Health Insurance Fund of Bulgaria in a program for fertility treatment with women along with a participation in a working group of the Bulgarian Ministry of Health for preparing the regulation in the field of assisted reproduction technologies. In April 2011, Dr. Timeva is chosen to become a national representative of the European Society of Human Reproduction and Embryology (ESHRE) with a mandate of four years. Dr. Tanya Timeva is a chairperson of the Bulgarian Association of Sterility and Reproductive Health (BASRH) 2014-2016. At present, she is a member of ESHRE Guideline Developing Group for Ovarian stimulation.

Notes



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