



CONGRESS



YKPO

13th USTKA ONCOLOGICAL DAYS

31 st of August – 4th of September 2016

Ohrid - Macedonia

“Progress in surgery and oncology”

FIRST

**POLISH – MACEDONIAN
SURGICAL AND ONCOLOGICAL DAYS**



President of Scientific and Organising Committee: **prof. Zoran Stojčev**

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XIII USTECKIE DNI ONKOLOGICZNE

13th USTKA ONCOLOGICAL DAYS

XIII Онколошки денови на Устка“



„Postępy w chirurgii i onkologii”

“Progress in surgery and oncology”

“Прогрес во хирургијата и онкологијата”



31 sierpień – 4 wrzesień 2016 r. Ohrid, Macedonia

31st of August – 4th of September 2016. Ohrid, Macedonia

31 август - 4 септември, 2016 Охрид Македонија



Patronat Honorowy: Prezydent Macedonii – Gjorge Ivanov

Honorary Patronage: President of The Republic of Macedonia – Gjorge Ivanov

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Prof. Marek Kudła Prof. Marzena Wełnicka – Jaśkiewicz
Prof. Andrzej Kułakowski Prof. Mariusz Wyleżoł
Prof. Han- Kwang Yang Prof. Wojciech Zegarski

Prof. Paweł Lampe

02.IX. 2016r.

13.00-13.300 Inaguracja konferencji
Inaugural Conference

Инаугурација на конференцијата

Prowadzenie: Krystyna Danilecka–Wojewódzka – Wiceprezydent miasta
Chair: Vice president of Słupsk

Водење Вице претседател на градот Слупск

Otwarcie i powitanie zaproszonych gości:
Welcome address:

Отварање и поздрав на поканетите гости:

Gjorge Ivanov – Prezydent Republiki Macedonii
Gjorge Ivanov – President of The Republic of Macedonia

Ѓорге Иванов – Претседател на Република Македонија

Jacek Multanowski – Ambasador Rzeczypospolitej Polskiej
w Republice Macedonii

Jacek Multanowski – Ambassador of The Republic of Poland to the Republic of
Macedonia

Јацек Мултановски – Амбасадор на Република Полска во Република Македонија

Gorica Atanasowa Gjorevska – Ambasador Republiki Macedonii w Polsce
Gorica Atanasowa Gjorevska – Chargé d’Affaires Embassy of the Republic of Macedonia in Republic of Poland

Горица Атанасова Ѓоревска – Амбасадор на Република Македонија во Полска

Saso Stefanovski – Dyrektor NFZ
Saso Stefanovski - Director of FZO

Сашо Стефановски- Директор ФЗО

Przedstawiciel Macedońskiej Izby Lekarskiej
Representative of Doctors Chamber of Macedonia (LKM)

Преставник на Лекарската Комора на Македонија

Nikola P. Bakračeski – Prezydent miasta Ohrid
Nikola Bakračeski – Mayor of city Ohrid

Никола Бакрачески – Градоначалник на градот Охрид

Zoran Stojčev – Przewodniczący komitetu naukowego i organizacyjnego
Zoran Stojčev – President of Scientific and Organising Committee

Зоран Стојчев – Претседател на научниот и организацискиот Комитет

PROGRAM: XIII USTECKIE DNI ONKOLOGICZNE Ohrid/Macedonia - 31.08 - 4.09. 2016r.

Nikola Jankulovski – Rektor Uniwersytetu Cyryla i Metodiego w Skopje
Nikola Jankulovski – Rector of the University „St.Cirillus and Methodius» Skopje

Никола Јанкуловски – Ректор на Универзитетот Св Кирил и Методи во Скопје

Milan Risteski – Przewodniczący Komitetu Naukowego i Organizacyjnego
Milan Risteski – President of Scientific and Organising Committee

Милан Ристески – Претседател на научниот и организацискиот комитет

PROGRAM NAUKOWY SCIENTIFIC PROGRAMME НАУЧЕН ПРОГРАМ

Prowadzenie: **Grzegorz Wallner, Józef Kładny, Adam Dziński**

Chair:Водење:

Godz. **13.30-14.00** Wykład inauguracyjny

Inagural lecture

Инагурациско предавање

Prof. Edward Towpik

(Dyrektor Muzeum Historii Medycyny Warszawskiego Uniwersytetu Medycznego) „Od Aleksandra Wielkiego do Klimenta i Nauma”

“From Aleksander the Great to Clement and Naum”

“Од Александер Велики до Климент и Наум,,

Wykłady: / **Lectures** / Предавања:

Godz. **14.00-14.15** **Prof. Nikola Jankulovski**

(Rector of the University „St.Cirillus and Methodius Skopje) „Przegląd historyczny i perspektywa rozwoju Chirurgii Onkologicznej w Macedonii

“Surgery and the prospects for the treatment of cancer in the 21st century”

“Хирургија и перспективи на лечењето на ракот во XXI век”

- Godz. 14.15-14.30 Prof. Andrzej Kułakowski**
(Nestor Polskiej Chirurgii Onkologicznej)
„Chirurgia a perspektywy leczenia nowotworów w XXI wieku”
“Surgery and the prospects for the treatment of cancer in the 21st century”
“Хирургија и перспективи на лечењето на ракот во XXI век”
- Godz. 14.30-15.00 Prof. Maria Siemionow**
(Illinois, USA)
„Granice chirurgii rekonstrukcyjnej u człowieka”
“The limits of reconstructive surgery on humans”
“Граници на реконструктивна хирургија кај човекот”
- Godz. 15.00-15.15 Prof. Bogusław Maciejewski**
(Centrum Onkologii , Gliwice)
Targeted therapy (Golden Bullet)
“Can we recognize the targets and don’t miss’em”
- Godz. 15.15-15.30 Prof. Grzegorz Wallner**
(Uniwersytet Medyczny w Lublinie Konsultant Krajowy
w dziedzinie chirurgii ogólnej)
„Choroba refluksowa a gruczolakorak przełyku”
“Gastro-esophageal reflux disease and esophageal adenocarcinoma”
“Гастроезофагеален рефлукс и аденокарцином на Хранопроводот”

Godz. 15.30-15.45 Przerwa na kawę / *Coffee break* / Кафе пауза

Godz. 15.45-16.00 **Prof. Wojciech Kielan, Zygmunt Grzebieniak,**

Julia Rudno-Rudzińska, Krzysztof Kotulski

(Uniwersytet Medyczny we Wrocławiu)

„Strategia leczenia raka połączenia przełykowo -
żołądkowego”

**“Treatment strategy of the carcinoma of the esophageal-gas-
tric junction”**

„Стратегија на лечење на хранопроводно-желудочната врска”

Godz. 16.00-16.30 **Prof. Han- Kwang Yang**

(National University, Seoul, South Korea)

„Chirurgia laparoskopowa raka żołądka”

“Laparoscopic surgery for stomach cancer”

“Лапароскопска хирургија на ракот на желудникот”

Godz. 16.30-16.45 **Prof. Zoran Stojčev**

(Akademia Pomorska Słupsk, Radomskie Centrum Onkologii)

„Markery molekularne w raku żołądka”

“Molecular markers in stomach cancer”

“Молекуларни маркери во ракот на желудникот,,

Godz. 16.45-17.00 **Prof. Józef Kładny**

(Pomorski Uniwersytet Medyczny w Szczecinie)

„Współczesne znaczenie badań genetycznych w praktyce chirurga onkologa”

**“Contemporary knowledge of genetic testing
in the practices oncological surgeons”**

“Денешно значење на генетските испитувања во праксата
на хирург онколог”

Godz. 17.00-17.15 **Prof. Adam Dziki**

(Uniwersytet Medyczny w Łodzi)

„Postępy w chirurgii jelita grubego”

“Progress in large bowel surgery”

“Напредок во хирургиата на дебелото црево”

Godz. 17.15-17.30 **Prof Aleksander Dimovski**

„Dziedziczne nowotwory przewodu pokarmowego-przegląd genetyczny”

“Hereditary gastrointestinal cancers-genetic overview”

“Хередитарни гастроинтестинални карциноми генетски преглед”

Godz. 17.30-18.00

Dr Zulejha Akgun – “MEMORIAL HOSPITALS”, Satelite symposium

Godz. 20.00

Uroczysta kolacja / **Gala dinner** / Свечена вечера

03.IX.2016r.

Prowadzenie: Paweł Lampe, Zbigniew Lorenc, Marek Szczepkowski

Chair:

Водење:

Wykłady: / Lectures: / Предавања:

- Godz. 9.00-9.15 Prof. Leszek Miszczyk**
(Centrum Onkologii, Gliwice)
“Stereotactic hypofractionated radiosurgery with CyberKnife (Gliwice experience) - Sunrise or challenge?”
- Godz. 9.15-9.30 Prof. Piotr Krokowicz**
(Uniwersytet Medyczny w Poznaniu)
„Wskaźania do leczenia chirurgicznego polipowatości rodzinnej”
“Indications to the surgical treatment of familial polyposis coli”
“Индикации за операција на фамилиарната полиповатост на дебелото црево”
- Godz. 9.30-9.45 Prof. Wojciech Zegarski**
(Kujawsko-Pomorskie Centrum Onkologii, Bydgoszcz)
„Chirurgia małoinwazyjna w nowotworach jelita grubego”
“Minimal invasive surgery for large bowel cancer”
“Минимално инвазијна хирургија на дебелото црево”
- Godz. 09.45-10.00 Prof. Paweł Lampe**
(Śląski Uniwersytet Medyczny, Katowice)
„Chirurgia raka trzustki: Postęp czy stagnacja?,,
“Surgery for carcinoma of the pancreas: Progress or stagnation?”
“Хирургија на панкреасот - напредок или стагнација”

Godz. **10.00-10.15** **Prof. Marzena Wełnicka – Jaśkiewicz**

(Gdański Uniwersytet Medyczny) „Postępy w leczeniu raka piersi”

“Progress in the treatment of breast cancer”

“Напредок во лечењето на ракот на градата,,

Godz. **10.15-10.30** **Prof. Tadeusz Pieńkowski**

(Radomskie Centrum Onkologii)

„Systemowe leczenie celowane chorych na raka piersi”

„Target treatment of the Brest ”

Godz. **10.30-10.45** **Prof. Janusz Jaśkiewicz**

(Swissmed, Gdańsk)

„Przemieszczanie czy zastępowanie w rekonstrukcji piersi”

“Displacement or replacement in breast reconstruction”

“Преместување или застапување во реконструкција на градата”

Godz. **10.45-11.15** **Prof. Andrea Arsovski, Dr Ogden Daskalov**

“RE-MEDIKA”, Satellite Symposium

Godz. **11.15-11.45** **Dr Maja Stojcevska Capova,**

“Acibadem Sistina”, Satellite Symposium

Godz. **11.45-12.00** **Przerwa na kawę/ *Coffee break* /Кафе пауза**

Prowadzenie: **Nagy Habib, Bogusław Maciejewski, Janusz Jaśkiewicz**

Chair:

Водење:

Godz.12.00-12.30 **Prof. Nagy Habib**

(Hammersmith Hospital, London, England)

„Innowacyjne techniki w chirurgii wątroby”

“Modern technics in hepatic surgery”

“Модерни техники во хирургијата на црниот дроб”

Godz. 12.30-12.45 **Prof. Andrzej W. Szawłowski**

(Centrum Onkologii , Warszawa)

„Powikłania w chirurgii onkologicznej nowotworów układu pokarmowego”

“Complications of surgical oncology for digestive cancer”

“Компликации во онколошката хирургија на дигестивниот систем”

Godz. 12.45-13.00 **Prof. Beata Kos-Kudła**

(Śląski Uniwersytet Medyczny, Katowice)

„Nowotwory neuroendokrynne układu pokarmowego w świetle nowych zaleceń europejskich”

“Management algorithm for neuroendocrine tumors in light of the current European recommendations”

”Неуроендокринни тумори во светлото новите европски препораки”

Godz. 13.00-13.15 **Prof. Anna Nasierowska-Guttmejer**

Prezes Polskiego Towarzystwa Patologów.

(Szpital MSW, Warszawa)

„Patomorfologiczna diagnostyka nowotworów dziś i jutro”

“Patomorfological diagnosis of tumor, today and tomorrow”

“Патоморфолошка дијагностика денес и утре”

PROGRAM: XIII USTECKIE DNI ONKOLOGICZNE Ohrid/Macedonia - 31.08 - 4.09. 2016r.

Godz. 13.15-13.45 **Dr Zvonko Atanasov**

“FILIP VTORI”, Satellite symposium

Godz. 13.45-15.15 Przerwa na obiad / **Lunch break** / Пауза на ручек

Prowadzenie: **Marek Krawczyk, Andrzej Stelmach, Mariusz Wyleżół, Krzysztof Paśnik**

Chair:

Водење:

Godz. 15.15-15.30 **Prof. Marek Krawczyk**

(Warszawski Uniwersytet Medyczny)

„Transplantacja wątroby”

“Hepatic transplantation”

“Трансплантација на црниот дроб,,

Godz. 15.30-15.45 **Prof. Tomasz Banasiewicz**

(Uniwersytet Medyczny w Poznaniu)

„Terapia podciśnieniowa”

“Low-pressure therapy”

“Вакуум терапија”

Godz. 15.45-16.00 **Prof. Marek Kudła**

(Śląski Uniwersytet Medyczny, Katowice)

„Zastosowanie USG 2D, 3D i 4D w diagnostyce raka jajnika”

“The use of modern diagnostic options 2D, 3D and 4D ultrasonography in the diagnosis of ovarian cancer.”

“Користење на Ехо 2Д, 3Д и 4Д во дијагностика на ракот на јајникот”

- Godz. 16.00-16.15 **Prof. Marek Szczepkowski**
(Szpital Bielański w Warszawie)
„Miejsce Transanal Endoscopic Microsurgery
we współczesnej chirurgii raka odbytnicy”
“Place of TEM in contemporary rectal cancer surgery”
“Местото на TEM во модерната хирургия на ракот на ректум”
- Godz. 16.15-16.30 **Prof. Mariusz Wyleżół, Prof. Krzysztof Paśnik,**
(Kierownik Kliniki Chirurgii Ogólnej,
Wojskowy Instytut Medycyny Lotniczej Warszawa)
(Wojskowy Uniwersytet Medyczny, Warszawa
Prezes-Elekt Towarzystwa Chirurgów Polskich)
„Chirurgia bariatryczna i onkologia”
“Bariatric surgery and oncology”
“Бариатрична хирургия и онкология”
- Godz. 16.30-16.45 **Prof. Wiesław Tarnowski**
(Centrum Medyczne Kształcenia Podyplomowego, Warszawa)
„Metaboliczne aspekty operacji bariatrycznych”
“Metabolic aspects of bariatric surgery”
“Метаболични аспекти на бариатричната хирургия”
- Godz. 16.45 **ZAKOŃCZENIE WYKŁADÓW I SESJI NAUKOWYCH**
The end of lectures and scientific sessions
Завршување на научните сесии
- Godz. 18.00 **Wyjazd do Strugi**

Andrzej Kułakowski

The Maria Skłodowska-Curie Memorial Cancer Center and Institute of Oncology, Warsaw, Poland

SURGERY AND THE PROSPECT OF NEOPLASTIC DISEASES TREATMENT IN XXI CENTURY.

In 21th century the number of new cancer cases will increase globally to more than 15 millions per year. Improved living standards and longer life expectation will rise cancer incidence which will become a leading cause of death.

Oncology, a new medical specialty, started in the second half of 20th century. The discovery of DNA, genome, cell biology, prevention, diagnosis and combined treatment (surgery, radiation therapy, cytotoxic drugs, endocrine therapy, targeted therapy, immunotherapy) made a significant progress in cancer treatment. Computerisation and international medical infrastructures started to promote research and patient care.

In the 21th century oncology will continue to study still unclear cell mechanisms (nanomedicine) and will accelerate research diagnosis and treatment of cancer. Surgery will become minimally traumatic, robotic surgery will be promoted, transplantology and biotechnology of artificial organs will be applicable. More effective drugs and vaccines will be used. Image guided individualised therapy will be implemented. Transplantology with use of artificial organs produced based on stem cells or transgenic animals will be more widely used by surgeons. Telesurgery will become popular. At the end of 21th century most cancers will be prevented or early cured. New technologies will prolong human lifespan to 140 years.

Maria Siemionow MD PhD

Department of Orthopaedics University of Illinois at Chicago

Temat:

THE LIMITS OF HUMAN RECONSTRUCTIVE SURGERY?

INTRODUCTION:

The new era in reconstructive transplantation introduced Vascularized Composite Allografts (VCA) such as human face, hand, larynx and abdominal wall into the armamentarium of reconstructive surgery. The main obstacle of routine application of these new transplants is the need for lifelong immunosuppression, which bears the risk of development of severe side effects.

THE GOAL:

There is an urgent need for development of new strategies for tolerance induction in VCA transplantation.

THE METHODS:

We have developed different experimental models of face, limb, larynx and abdominal wall transplantation in rat models, as well as have performed cadaver studies for procurement of face and abdominal wall transplantation. We have introduced several approaches to minimize side effects of lifelong immunosuppression with the final goal of achieving tolerance. These included application of selectively blocking antibodies (alpha-beta TCR), in combination with donor bone marrow transplantation, as well as the new approach of using cellular therapeutics, including chimeric cells, bone marrow stromal cells, and mesenchymal stem cells.

RESULTS:

Our animal and cadaver studies confirmed feasibility of performing VCA transplants. In addition tolerance inducing strategies with bone marrow supportive therapies resulted in extension of allograft survival, making a step forward to the clinical applications of these therapies.

CONCLUSIONS:

In summary, our experimental research and cadaver studies on face transplantation led in 2008 to the clinical case of the US first face transplantation in humans.

Bogusław Maciejewski¹

1 Cancer Center–Institute, Gliwice, Poland

TARGETED THERAPY (GOLDEN BULLOT) – CAN WE RECOGNIZE THE TARGET AND DON'T MISS'EM

Abstract

Biological (molecular) and functional targets in malignant tumors are presented and its importance for tumor survival or complete death (local control) is discussed. There are a few high-tech techniques and methods in radiotherapy (3D-IMRT, IGRT, IART, IORT) which are more and more widely used in practice, alone or combined with concurrent chemotherapy. Theoretically these methods offer therapeutic gain but preliminary assumed probability of tumor control may differ significantly from that achieved by irradiation. There are some important reasons for such difference – geographical, biological misses, cellular architecture of the tumor, hypoxic, proliferative, apoptotic fractions, intrinsic resistance. Recently some studies are focused on angiogenesis and vascular network in the tumor and on its importance for tumor curability. Due to high dose gradient within irradiated volume biologically normalized doses if given in 2.0 Gy fractions, physical DVH may differ from biological (BNVH). Therefore, there are “hills and dales” within irradiated area which have a crucial impact on treatment outcome. Promising perspective is to implement CT/MRI imaging fusions by “biological eye view” of tumor cellularity by the PET images using various radiotracers. All these problems are presented based on clinical examples.

Grzegorz Wallner¹, Michał Solecki¹, Jan Wallner², Justyna Wyroślak-Najs¹.

From GERD to oesophageal adenocarcinoma

- 1. 2nd DEPARTMENT OF GENERAL, GASTROINTESTINAL AND
ONCOLOGICAL SURGERY OF THE ALIMENTARY TRACT,
MEDICAL UNIVERSITY OF LUBLIN, POLAND**
- 2. DEPARTMENT OF MAXILLO-FACIAL SURGERY, MEDICAL
UNIVERSITY OF LUBLIN, POLAND**

During last decades gastro-oesophageal reflux disease morbidity is still increasing. Number of patients referred to diagnostic centers due to its complications is still rising. Prolonged exposition of oesophageal epithelium on acid contents refluxed from stomach leads to changes in its structure. The first big step is intestinal metaplasia, the Barrett's oesophagus. The risk of carcinogenesis is much higher when intestinal metaplasia is incomplete or it is mixed squamous and columnar epithelium. The most exposed part of oesophagus is squamo-columnar junction where $\text{pH} < 4$ is for 80-95% of day. Due to this it was found that there is a histopathological order of changes in Barrett's carcinoma from normal epithelium via metaplasia, low grade and high grade dysplasia to adenocarcinoma. A lot of molecular markers as EGFR, TGF- β , IL-1 β , PAF, p53, changes in DNA etc. Anatomical construction of oesophago-gastric junction and different types of epithelium makes differences in classification of adenocarcinoma. The most controversial is type Sievert's III. Is it still oesophagus or maybe stomach? All these things cause problems in clinical classification and staging. How can we treat our patients without it? Such complicated problem required a multidisciplinary team to solve it. From general practitioners to surgeons and oncologists, palliative care specialist. Individualisation of care plan for each patient will give the possibility to reduce number of explorative laparotomies, improperly treated patients (wrong staging = wrong treatment). New surgical techniques with better visualisation like minimally invasive surgery allow to complete the diagnostic process and remove more lymph nodes. Proper diagnosis/staging together with oncological and/or surgical treatment significantly increases the mean number of free of disease years or cured patients.

Wojciech Kielan, Zygmunt Grzebieniak, Julia Rudno-Rudzińska, Krzysztof Kotulski

Treatment strategy of the carcinoma of esophageal-gastric junction.

2ND DEPARTMENT OF GENERAL AND ONCOLOGICAL SURGERY, MEDICAL UNIVERSITY WROCŁAW, POLAND

According to Siewert' classification we divided esophageal-gastric junction cancer into three types. Type I is a cancer of distal esophagus, type II is true carcinoma of the cardia and type III is subcardial gastric carcinoma. Nowadays it is observed the regression of the incidence of gastric cancer in the world but the number of esophageal-gastric junction cancer is increasing. According to the Polish Consensus About Treatment of Cardia Cancer is following: type I is laparotomy, gastrectomy and right thoracotomy with resection of part of esophagus, lymphadenectomy of the abdomen part, mediastinal and lower oesophagus. Type II is gastrectomy and lymphadenectomy of the lower part of esophagus and abdominal lymphadenectomy. Type III is standard gastrectomy and D2 lymphadenectomy. There are several questions between East and West about the surgical treatment of cardia cancer. General question is, in Siewert type I: should we treat cardia cancer as esophageal cancer; in Siewert type II: how much extend the lymphadenectomy should be necessary and what kind of surgical approach transthoracic (right side or left side approach) transhiatal should be performed. In type III the general question is: is it esophageal or gastric cancer. Siewert classification of esophageal-gastric junction cancer now is for us the best classification. Despite the proper surgical treatment, the chemotherapy is obligatory in complex treatment. Surgical treatment of cardia cancer should be treated in the very experienced centers.

Zoran Stojcev

“Molecular markers in gastric cancer”

POMERANIAN UNIVERSITY IN SLUPSK, CANCER CENTRE IN RADOM

Gastric cancer (carcinoma ventriculi) belongs to upper gastrointestinal neoplasms and, similarly to all other cancers from the group, is marked by high malignancy. Despite aggressive surgical treatment based on international standards (the so-called D2 resection) as well as the introduction of combination therapy methods (mainly chemo-radiotherapy) aimed at an improvement of the 5- and 10-year survival rates, the treatment results are still unsatisfying.

For the above reasons, in an attempt to improve gastric cancer treatment results, the promotion of early diagnostics is accompanied by a search for new prognostic and predictive factors which will perhaps create new possibilities to improve treatment effectiveness.

Owing to research into the carcinogenesis of gastric cancer, we know that the process involves an activation of oncogenes and matrix metalloproteinases, a suppression of tumour suppressor genes, and an inactivation of DNA repair genes and cell adhesion molecules. These changes define the biological characteristics of cancer cells and may constitute a potential aim of cancer therapy.

My work aimed at an evaluation of gene expression profile in gastric cancer in terms of their potential prognostic significance, including relation to cancer staging and patient survival. The analysis of prognostic significance took place in the context of differences between gene expression level in the cancer tissue in relation to the adjacent gastric mucosa, since they play a key role in the development of a relevant diagnostic test.

STEREOTACTIC HYPOFRACTIONATED RADIO-SURGERY WITH CYBERKNIFE (GLIWICE EXPERIENCE) - SUNRISE OR CHALLENGE?

¹Radiotherapy Department, MSC m. Center and Institute of Oncology, Gliwice branch

In the last 15 years rapid development of radisurgical/radioablative techniques, being an alternative for some conventional surgical procedures is a robust reality in the oncology and neurosurgery. The best examples are solitary small lung, liver and brain tumors, non advanced prostate cancers, oligometastases located in other, difficult for surgery locations and finally some functional disorders as trigeminalgia and Parkinson disease. There are some situations, in which radiosurgery is an equivalent alternative for conventional operations, i.e. small solitary lung, brain tumors, bone and nodal metastases of the prostate cancer, the non advanced prostate cancer itself and trigeminalgia. All these procedures can be effectively done with CyberKnife (CK). CK is a small linear accelerator mounted on the arm of Kuka robot having six degrees of freedom. This system obtain the robotic treatment couch with six degrees of freedom and tracking system allowing to follow a target mobility during irradiation. This device can mimic breathing mobility of particular tumors and follows it. All these aspects make this system extremely precise and flexible. It allows to shrink margins and to decrease a risk of adverse effects, increasing possibility of tumor cure. The good example proving such statement could be an example of prostate cancer patients (PCP). Our experiences are in this field quite large. We treated 400 PCP between 2011 and 2015 (low and intermediate risk group). All patients were irradiated using fraction dose 7.25 Gy to the total dose 36.25 Gy. The irradiation was tracked on the base on three implanted fiducials. Patients were irradiated every other day, so the overall treatment time was 9 days (versus 56 days for conventional irradiation) and acute as well late adverse effects were neglectible. The percentage of locoregional relapses was 2.25% in the follow up time ranging 54 months (mean 17, median 15) what is an excellent result comparing to conventional methods - radiotherapy as well as surgery. Obtained result permit to form a conclusion that CK based radiosurgery is more than promising and to allow to believe that in the future the vast percentage of surgical procedures could be substituted with

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INDICATIONS TO THE SURGICAL TREATMENT OF FAMILIAR POLYPOSIS COLI.

Familial adenomatous polyposis (FAP) is an inherited condition in which numerous adenomatous polyps form mainly in the epithelium of the large intestine. Polyps can also occur in the upper gastrointestinal tract, especially the upper part of small intestine (duodenum). While these polyps start out benign, malignant transformation into colon cancer occurs when they are left untreated. There are three variants of syndrome, FAP and attenuated FAP are caused by APC gene defects on chromosome 5 while autosomal recessive FAP (or MYH-associated polyposis) is caused by defects in the MUTYH gene on chromosome 1. Most individuals with the APC mutation will develop colon cancer by the age of 40. The rationale is to remove the colon or colon and rectum to substantially reduce the risk of colorectal cancer. Thus the aim is to undertake surgery before cancer develops. Predictive genetic testing or screening large bowel endoscopy is first performed around the age of 12-14 in asymptomatic, at risk individuals. Surgery was undertaken in the late teens or early twenties. Treatment for FAP depends on the genotype. Surgical options in FAP included: total proctocolectomy with permanent ileostomy (TPC), colectomy with ileorectal anastomosis (IRA) and restorative proctocolectomy with formation of ileoanal pouch (RPC). Risk factors for desmoid tumor include family history of the disease and a mutation 3' of codon 1400 of the APC gene. Surgical trauma is also thought to play a role in the initiation of desmoid disease. There is some evidence that a delay in surgery may reduce the risk of desmoid formation and also that laparoscopic restorative proctocolectomy may increase the risk.

PROGRESS IN BREAST CANCER TREATMENT

Recently, the treatment of early-stage as well as advanced-stage breast cancer is changing rapidly. At the last European Breast Cancer Conference (2015) on the treatment of early-stage breast cancer it was agreed that the inability to administer radiotherapy and positive surgical margins are the only absolute contraindications for breast conserving therapy (BCT). Finally, it was also confirmed that axillary lymphadenectomy may be omitted when 1-2 sentinel lymph nodes are affected and strictly defined clinical conditions are met. Hormone therapy is becoming increasingly emphasized in systemic adjunctive therapy, including prolongation up to 10 or even 15 years in some cases. Taxane chemotherapy is recommended in so called triple-negative breast cancer patients, whereas the most difficult therapeutic decisions are made in HR-positive and HER2-negative breast cancer patients. Coadministration of pertuzumab, trastuzumab, and docetaxel in advanced-stage breast cancer, with HER2 overexpression, can prolong patient survival. At present, research is carried out using new biological therapeutic options based on signal transmission inhibitors such as PI3K, mTOR, and CDK4/6.

Based to the ongoing advances even metastatic breast cancer is now beginning to be considered as a chronic condition.

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ONCOPLASTIC BREAST SURGERY

Many skills and procedures of plastic and reconstructive surgery are inseparably associated with breast surgery in patients suffering from breast carcinoma. Surgical oncologists and plastic surgeons may operate simultaneously or separately, one after another, focusing on consecutive stages of oncoplastic surgery. In many countries, a breast surgeon would perform all those procedures by himself. Only very complicated operations such as TRAM or DIEP are performed with the support of a plastic surgeon. Delayed breast reconstruction (DBR) is a standard procedure performed in patients after breast resection due to carcinoma. These procedures consist of two stages. At the beginning, an expander is inserted followed later by implants and/or the patient's own tissue - mostly pedunculated latissimus dorsi flaps. Using similar techniques, immediate breast reconstruction (IBR) may be performed (at the same time). In some clinical cases, a final implant may be used for IBR, omitting the "expansion" stage performed with an expander and/or preserving the nipple-areolar complex. Breast reconstruction techniques are also applied in breast conserving therapy (BCT). In so-called standard BCT, where 20-30% of the gland tissue is resected, the tumor bed must be reconstructed using the parenchymal reconstruction method. On the other hand, in oncoplastic BCT, with the resection of 40-50% of the gland volume, two basic techniques may be used: local flap displacement or replacement with different LD flaps. In order to achieve the best possible aesthetic effect in breast reconstruction, skin must be preserved as much as possible - skin sparing mastectomy (SSM). Except for implants and musculocutaneous flaps of the patient's own tissue chosen randomly for reconstruction, also the greater omentum flap obtained via laparoscopy may be used, as well as autogenic transplantation of specially prepared adipose-derived cells. Reconstructive surgery requires knowledge of many operative techniques, is often multi-stage, and may require subsequent corrective procedures, following the main procedure. A sympathetic cooperation with the patient based on informing her about possible complications along with an informed "extended" consent for the procedure supported with photographic documentation of the initial condition, the draft of incision lines and treatment plans are absolutely crucial.

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LASER TREATMENT OF PULMONARY METASTASES

Metastatic lung changes are a frequent pathology in oncology. About 30% of all lung tumors are metastatic. It is due their rich vascularity of the blood and lymph vessels. Metastases may originate from any primary localization of the tumor, but most often originate from the colon, kidneys and breasts. Only 11.3% of unoperated patients in stage IV are surviving 5 years, while the operated patient's survival rate for 5 years was 40%. From the oncologic aspect, a number of studies have shown better results than classical wedge resections in terms of survival, the occurrence of relapses and the length of period without signs of disease.

In the past, treatment consisted of classical way of surgery combination with chemotherapy.

The classic method of surgery involves a large surgical incision, removal of metastatic deposit with significant part of the surrounding healthy lung tissue, the possibility of greater bleeding, a large number of postoperative complications and long postoperative recovery. Laser technology in the thoracic surgery opened up new possibilities in the treatment of patients with tumor diseases. This particularly applies to the surgical treatment of lung metastases. Using lasers made possible a very precise removal of metastatic changes with maximally preserving healthy lung parenchyma, at the same time allowing precise stopping of bleeding, so intraoperative blood loss is minimal and postoperative creating air fistula is reduced to minimum.

Using laser allows removal not only single, but also of many metastases which may be mutual. With this technique, during resection of metastases the global architecture of bronchial and vascular tree is preserved, with maximum preservation of healthy lung parenchyma and maintains normal lung capacity. The method is safe, efficient and gives good post-operative results. The effect of the laser beam on the metastasis bearing has positive effects of lower tendency to recreate metastases.

PHI Re-Medika in November 2009, had purchased diode laser brand Dornier Multibeam (940 nanometers), multipurpose laser with variable strength used for resection of pulmonary metastases. From that time until today, we treated more patients with lung metastases from various primary localisations. All interventions have orderly findings; postoperative patients stayed in the hospital an average of 5 days and no major complications. Given the minimal invasiveness and good results, we believe that laser resection of metastases in lungs have to be popularized as one possible solution to this serious and difficult problem oncology.

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MDCT COLONOGRAPHY – VIRTUAL COLONOSCOPY COLORECTAL CANCER- EARLY DETECTION

Introduction

Colorectal cancer is the third most common diagnosed malignancy in men and the second leading cause of death from malignancies.

Colorectal cancer incidence sharply increases with age, 25 from 100.000- 45-50 years of age, 300 from 100.000 – 75 years of age per year, equally common in men and women, and rectal more in men.

Early diagnostics is the basis for effective therapy and increases the chance of survival.

MDCT colonography - Virtual colonoscopy presents diagnostic procedure of preview and analysis of the interior of the colon through “journey through it”, with great relevance in the detection of cancer, diverticulitis and polyps.

Colonoscopy is the golden standard in diagnostic investigation of the colorectal malignancy. Changes localized in the lumen.

MDCT colonography detects malignancies inside or outside the lumen of the colon, one from every 200 patients, during routine MDCT of the abdomen.

Material and methods

This diagnostic procedure is possible by applying the latest MDCT systems and the latest software solutions.

MDCT Colonography, axial cross sections of 1mm, is the basis for reconstructive analysis.

The full analysis is conducted on PC- Work station, which allows 2D, 3D and Virtual analysis of intra- and extra-luminal changes in the abdomen.

With a thickness of the intersections of 0.2 to 1 mm, the recording speed from <15sec and in total, minimum radiation dose of 5mSv, MDCT presents the most accurate diagnostic procedure in many cases detrimental to further treatment.

Risks

Perforation, radiation dose (8-mSv range of 1.8 - 15 mSv), possible allergic reactions.

Conclusion

In our 10 years of experience, series of 1500 patients, we have received values of detection the colorectal cancer with sensitivity and specificity > 94% with histopathological verification- colonoscopic and postoperative.

Virtual colonoscopy is a sovereign diagnostic method, the method of choice in the early detection of cancers of the colon.

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LUNG CANCER- 3D VIRTUAL BRONCHOSCOPY, 3D MDCT ANALYSIS

14% of newly discovered ca. yearly

The second most common cancer in men and women

First leading cause of death among men and women with malignant diseases. Rate of 25% mortality of all cancers. Together more than mamma, prostate and colon ca.

The most common is at adults - 2 of 3 diagnosed are aged over 65 years and less than 2% are younger than 45 years.

Lung cancer usually originates from the bronchi (central and peripheral-type pulmonary parenchyma).

Histopathology- Non small ca. 85% - surgery, chemotherapy and radiation –Small- oat cell ca. - chemotherapy and radiation, advanced, expanded chemotherapy alone.

Non-invasive diagnostic methods

MDCT – scanning and post processing analysis (axial, sagittal, frontal and 3D Virtual) nodules >5mm.

PET scan- metabolic analysis of pathological substrate

Invasive methods- Puncture biopsy and surgery biopsy

Staging-TNM, I-45%, II-30%, III-14%, IV-1% (5-year survival)

Early detection, assessment of staging, are crucial to the prognosis of treatment and survival.

3D virtual bronchoscopy, 3D MDCT analysis are golden standard in the diagnosis and assessment of lung cancer.

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ULTRASOUND IN DIAGNOSIS OF CANCER IN YOUNG WOMEN

Ultrasound is a diagnostic procedure that works and sends out high frequency sound waves through the breast that are converted into an image on a monitor.

Ultrasound is not used in screening for diagnostic of breast cancer. It is more used as a complementary method to other diagnostic procedures.

If the change is seen on mammography or is palpable lump that is detected on clinical examination, the ultrasound is the best way to see whether it is a solid change (fibroadenoma cancer) or liquid content (benign cyst, a cyst with vegetation, abscess).

Ultrasound can not detect malignant calcifications.

In women aged 25-40 years, coming for examination of a palpable lump in one of the breast, because of age can be done ultrasound immediately, without mammography.

Mammography may be difficult to interpret because of the density of gland parenchyma at a young age.

Ultrasonographic irregular shadow with heterogeneous structure and dorsal reinforcement signal is change which is highly suspected for breast cancer.

For confirming the suspicion, core biopsy is indicated guided under ultrasound.

IMPACT OF MAGNETIC RESONANCE IN THE CHOICE OF SURGICAL TREATMENT OF MULTIFOCAL AND MULTICENTRIC BREAST CANCER

Biological and clinical significance of multifocal and multicentric (MF/ MC) breast cancer and selection of appropriate surgical treatment for these cancers is still debated.

Back in the early eighties Roland Holland & Associates, detect more than 40% presence of additional cancer foci in the samples after radical mastectomy.

This rate in some series is referenced and up to 60%. Although high, this rate may not have clinical significance and biological relevance in patients who received adequate local and systemic treatment.

Diagnostic opportunities that we have today using magnetic resonance imaging, allows MF and MC disease to be detected before the treatment.

Thus, the percentage of patients with diagnosed mammary cancer with two or more focus is around 20%.

In our series were treated 327 patients for a period of 3 years (2012-2014). At 68 (21%) of them is detected MF and – or MS disease. As the choice of surgical technique in this patient population, dominates the radical mastectomy before preservation techniques.

The view that MF and MC disease bring a worse outcome, today gradually is being corrected.

This can be achieved only on the basis of adequate radio diagnostics, marking nonpalpable focus, negative margins (in invasive and ductal carcinoma in situ) and adequate pathological evaluation.

Surgery then must be followed by complete breast irradiation (in preservative interventions) and systemic treatments indicated depending on tumour biology.

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COMPLICATIONS OF SURGICAL ONCOLOGY FOR DIGESTIVE CANCERS

Surgery is the main treatment modality in digestive cancers with intent for cure and palliation. There are two groups of complications which may occur as a result of inadequate surgery and / or tumor biology. Intraoperatively they are due to technical error resulting mainly in bleeding and postoperatively until 30th postoperative day and as a late postoperative event oncological complications can occur as a marker of treatment failure.

In general, amongst the surgical complications 50% of them constitute septic complications (e.g. pneumonia, peritonitis, mediastinitis, wound sepsis, urinary sepsis, meningitis, osteomyelitis), 25% are thrombo-embolic complications (e.g. thrombophlebitis, arterial emboliae, haemorrhagic diathesis) and the remaining 25% are metabolic complications (e.g. hypo- / hyperglycaemia, hypoalbuminemia and malnutrition, metabolic acidosis, electrolyte disturbances).

Amongst oncological complications 80% occur during the first six postoperative months as a systemic dissemination and within them 70% constitute distant metastases (e.g. liver, lungs, bones, brain, ovaries, suprarenal glands, spleen), 20% are distant lymph nodes metastases and 10% peritoneal or pleural dissemination (peritoneal/ pleural carcinomatosis). Those which occur later than six months postoperatively (20%) constitute local recurrence (e.g. anastomosis, tumor bed).

In digestive tract cancers all complications vary according to organ specificity.

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“MANAGEMENT ALGORITHM FOR NEUROENDOCRINE TUMORS IN THE LIGHT OF THE CURRENT EUROPEAN RECOMMENDATIONS”

During recent years there has been some increase in the incidence of gastroenteropancreatic neuroendocrine neoplasms (GEP NENs), mainly related to their improved detection with modern diagnostic methods.

Current diagnostic and therapeutic guidelines for GEP NENs proposed by European Neuroendocrine Tumor Society (ENETS) and the Polish Network of Neuroendocrine Tumors will be presented.

These guidelines refer to biochemical (determination of specific and nonspecific neuroendocrine markers) and histopathological diagnostic, which determines further management of patients with NENs and must be necessarily confirmed by immunohistochemical tests. Imaging diagnostics (endoscopic ultrasonography, computed tomography, magnetic resonance imaging) used to confirm the presence of a tumor and evaluate the disease stage should be supplemented with functional methods (somatostatin receptor scintigraphy or positron emission tomography with a ^{68}Ga labelled somatostatin analogues). In many cases, the treatment of choice in NEN is surgical intervention, in specific indications combined with locoregional therapies. In addition, pharmacological treatment is applied: somatostatin analogues, molecular targeted treatments, peptide receptor radionuclide therapies, and chemotherapy.

GEP-NENs constitute a very differentiated group of patients with diverse tumor biological behaviour, which causes a variety of potential diagnostic and therapeutic problems. The prognosis depends on histopathological diagnosis, stage of the disease, and the patient's general condition.

Therefore, these patients require personalised treatment modalities and, in particular, collaboration of multidisciplinary team of specialists experienced in the management of these neoplasms.

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„PATOMORPHOLOGICAL DIAGNOSIS OF TUMOR, TODAY AND TOMORROW”

During the past 20 years, the great progress has been made in patomorphological diagnosis of tumor. Conventional surgery and chemotherapy requires accurate histopathological diagnosis of cancer subtype and pathological tumor stage, pTNM. The World Health Organisation (WHO)/ International Agency for Research on Cancer (IARC) publishes the fourth edition of the classification of tumors. The “blue books” are accepted consensus for the histological and molecular classification of the tumor. The pTNM classification of the UICC provides the solid basis for assessment the tumor stage in the postoperative specimen with tumor. Actually the 7th edition of pTNM classification is applied. Target treatment requires the examination of predictive markers testing on tissue specimen. The tissue- based biomarkers predict the response of individual patients. Formalin-fixed and paraffin-embedded tissue specimens are used for immunohistochemistry and molecular test to detect the biomarkers. The pre-analytical variables with formalin fixation are recommended as key role in the evaluation of predictive biomarkers. The standards in diagnostic pathology have been mandatory in routine diagnosis. The national societies have published guidelines for standardization the pathological diagnosis and validation the immunohistochemical trials. The quality in diagnostic pathology includes timeliness, accuracy, completeness, conformance with current agreed standards and clarity in communication. The new trend in surgical pathology concerns the standardised cancer datasets in order structured reporting (SR). Implementation of SR is defined as series of steps from narrative, no defined single text to narrative standardized text and to electronic report with standardized structural dataset and terminology binding eg. ICD-0, SNOMED. Appropriate technology platform will be a key to many aspects of reporting, consulting, education, registration a new cases and communication. The developing target therapy in tumors requires new model of surgical pathology with recommendation for histological diagnosis, standardized reports and quality assurance in immunohistochemical and molecular assessment of prognostic, diagnostic and predictive markers.

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LOW-PRESSURE THERAPY

The number of uses for negative pressure wound therapy is growing steadily. Among those present in the literature, indications for its use can be identified as: wounds after sternotomy, hard to heal orthopedic wounds, diabetic foot, pressure ulcer, infected bypass or graft, wounds after fasciotomy, gunshot wounds, open abdomen, open abdomen with fistulae, spiders bite, infected mesh, burns, scrotum wounds, perianal wounds, pyoderma gangrenosa, plastic surgery with skin grafts, hand surgery, abscess of mediastinum, pilonidal cyst, peristomal problems and others. This of course does not exhaust all the potential uses of vacuum therapy. In general the treatment of all types of complicated wounds can be considered for vacuum therapy. It should also be emphasized that there are promising reports of using vacuum therapy prophylactically to reduce the incidence of wound infections and hence improve outcomes. Despite the operation of various vacuum therapy systems based on different kinds of equipment, their use is quite intuitive and simple. Usually, after previous experience with one type of equipment, it's easy to use devices from other companies. Changing a dressing for vacuum treatment is easy; it can generally be performed on the patient's bed or in an outpatient clinic. In many cases, the vacuum therapy can be carried out with a simple outpatient device. NPWT appears to be a method that evaluates the effectiveness of the wound treatment in everyday practice. The opinion of numerous individuals who have used it, both experienced and novice residents is consistent-NPWT is effective and works. Many doctors who had known NPWT introduced this method in their daily practice. It seems to me that the reverse situation did not happen-I do not know of doctors who for some reason have declared that they will never again be using.

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THE USE OF MODERN DIAGNOSTIC OPTIONS 2D, 3D AND 4D ULTRASONOGRAPHY IN THE DIAGNOSIS OF OVARIAN CANCER.

Ultrasound examination is the least expensive, noninvasive and commonly available method of preliminary evaluation and diagnostics of ovarian pathologies. Monochromatic 2D technique was used the earliest. Its use was based on probability scales of ovarian cancer occurrence. This technique was further enriched by addition of Spectral Doppler and then Color Doppler. Spectral Doppler however was only able to evaluate blood flow in a single vessel supplying the tumor whereas Color Doppler had low sensitivity and its signal strongly depended on the ultrasound beam angle. Breakthrough came with Power Doppler due to its high sensitivity in visualisation of small vessels and low dependence on the measurement angle. In spite of its minor weaknesses this technique is currently used in world renowned IOTA studies which resulted in commonly recognized preoperative ultrasound examination standards. Further development and step into the future came with 3D technique which combined with Power Doppler is called 3D angiography. It provides possibility for better qualitative and quantitative ovarian vascularisation evaluation and tomographic imaging (ultrasound tomography). Following these methods 4D ultrasound and 4D angiography are the latest achievements in diagnostics of ovarian pathologies. Though now still in the phase of initial development it will probably become a practical tool for preoperative evaluation and qualification of pathological changes in gynecology.

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PLACE OF TRANSANAL ENDOSCOPIC MICROSURGERY IN CONTEMPORARY RECTAL CANCER SURGERY

TEM (Transanal Endoscopic Microsurgery) is a minimally invasive technique which allows excision of rectal benign lesions and tumors. Although it was invented in 1980 by Gerhard Buess it still gains its popularity in colorectal surgery. The most common indication for performing TEM is removal of benign lesions like rectal adenomas impossible to remove during colonoscopy. In this case TEM is superior to other techniques of local excision because it has lower recurrence rate.

TEM is also an adequate treatment option for rectal tumors. It is recommended to use TEM in case of small tumors, grade T1 (most favourably sm1- sm2 in Kikuchi scale), well-differentiated tumors and with no distant metastases. In those cases TEM is superior to open surgery techniques in terms of recurrence rate and complications rate. Some authors mention that TEM is a method of choice even in T2 rectal tumors but only with addition of neoadjuvant radiotherapy.

Indications for performing TEM are still expanding. Literature shows that it could be used in palliative surgery, anorectal fistulas, recto- urethral and recto-vaginal fistulas, anastomosis stricture surgery, rectal prolapse, rectal stump excision or even pelvic abscesses drainage.

Very interesting new surgical technique in rectal cancer surgery is a connection of TEM and abdominal access in TME (Total Mesorectal Excision) -taTME (transanal TME) which uses TEM platform to excise rectum transanally with assistance of abdominal surgery (open or laparoscopic). It gives possibility to excise whole mesorectum and characterizes in low recurrence rate.

Authors presented own experience with this technique as well in typical indications as well in alternative ones such as: GIST, neuroendocrine tumors, malignant melanoma or rectal teratoma excision.



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