AMRITSAR

25TH ANNUAL CONFERENCE OF ASSOCIATION OF RADIATION ONCOLOGISTS OF INDIA - NORTH ZONE

NZ AROICON

21ST & 22ND SEPTEMBER, 2019

Venue : Sri Guru Ram Das University of Medical Sciences - Amritsar

(Under the auspices of Punjab Medical Council)

THEME : CHANGING TREATMENT PARADIGMS WITH HIGH TECH RADIATION

25 SILVER JUBILEE

Web : www.aroiconference.in
Email : nzaroiamritsar@gmail.com

ABSTRACTS BOOK

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Dear Colleague

Greetings from **NZ AROICON !**

As we all gather up to be part of this grand gathering of **Silver Jubilee Conference of Association of Radiation Oncologists of India (NZ AROICON 2019)** being held at **Amritsar** on **21st & 22nd September 2019,** We welcome you all on behalf of **Association of Radiation Oncologists of India.**

The **AROI** attaches a very high importance to the academic & research activities in Radiation Oncology with its related disciplines. To improve the overall standards of post-graduate teaching, clinical practice and adequate growth of this discipline the Indian College of Radiation Oncologists was established as a dedicated and integral part of the Association in 1992.

This year, the conference has a special significance. The theme of the conference is **"Changing Treatment Paradigms with High Tech Radiation".** Also, this year is a mile stone year as we are celebrating Silver Jubilee Conference of Association of Radiation Oncologists of India

The organizing team for the conference has worked relentlessly to ensure you have a great time learning and exploring newer avenues in radiation oncology.

Once again, we welcome each & every one of you to celebrate 25th annual Conference of Association of Radiation Oncologists of India. Let us make this event Landmark.

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Dr. Sanaullah Kuchay, Srinagar

SCIENTIFIC PROGRAM - SATURDAY, 21ST SEPTEMBER 2019

Time	Topic
08:00 AM - 08:30 AM	**REGISTRATIONS**
08:30 AM - 09.40 AM	**SESSION 1 - Gynecological Cancer**
Chairpersons	Dr. H L Kapoor, Mandi ; Dr. Kishore Singh, Delhi; Dr. Kamlesh Passi, Ludhiana; Dr. Parveen Kaur, Ludhiana
08:30 AM - 08:45 AM	**Recent Advances In Surgical Management of Gynaecological Cancers**
Speaker	Dr. Veena Jain, Ludhiana
08:45 AM - 09:00 AM	**Adjuvant Therapy Decision In Early Endometrial Cancers**
Speaker	Dr. Sapna Marcus Bhatti, Bathinda
09:00 AM - 09:15 AM	**Updates Of Radiotherapy In Cancer Cervix**
Speaker	Dr. Bhavana Rai, Chandigarh
09:15 AM - 9.40 AM	**Panel: From Point A to MRI guided Brachytherapy in Cancer Cervix- Rationalising Brachytherapy Practice In India**
Moderator	Dr. Sajal Goel, Jalandhar
Panelists	Dr. Meenakshi Mittal, Mohali; Dr. Munish Gairola, Delhi; Dr. Anil Dhull, Rohtak; Dr. Vikas Roshan, Jammu; Dr. Aman Sharma, Shimla
9.40 AM - 10.10 AM	**SESSION 2 - Preventive Oncology as Evolving Discipline**
Chairpersons	Dr. G K Rath, Delhi; Dr. Rajesh Vashistha, Bathinda; Dr. M K Mahajan Ludhiana; Dr. Amal Roy Chaudhoory, Delhi
09.40 AM - 09.55 AM	**Role of Radiation Oncologist in Cancer Prevention and Screening**
Speaker	Dr. Abhishek Shankar, Delhi
09.55 AM - 10.05 AM	**Cancer Awarness : How to use limited resources and by innovations**
Speaker	Dr. Deepak Abrol, Kathua
10.05 AM- 10.20 AM	**Head and Neck Cancers - Decisions based on pathology**
Speaker	Dr. Ashutosh Gupta, Jammu
10:20 AM - 11:10 AM	**Inauguration Ceremony**
11:10 AM - 11:30 AM	**TEA Break**
11:30 AM - 12.40 PM	**SESSION 3 - Genitourinary Cancer**
Chairpersons	Dr. Naveen Kanda, Ludhiana; Dr. Sameer Dogra, Ludhiana; Dr. Rajeev K Seam, Maulana; Dr. Arun Kumar Rathi, Delhi
11:30 AM - 11:45 AM	**Bladder Preservation - Current Status**
Speaker	Dr. Pamela Alice Jeyaraj, Ludhiana
11:45 AM - 12:00 PM	**SBRT for Prostate Cancer**
Speaker	Dr. Sajal Kakkar, Mohali
12:00 PM - 12:15 PM	**Management of Pelvic Lymph node in Ca Prostate -Evidence and Rationale**
Speaker	Dr. Deepika Chauhan. Noida

SCIENTIFIC PROGRAM - SATURDAY, 21ST SEPTEMBER 2019

Time	Topic
12:15 PM - 12.40 PM	**Panel Discussion Adjuvant Radiotherapy In Testicular Germ Cell Tumours**
Moderator	Dr. Rajesh Pasricha, Rishikesh
Panelists	Dr. Kislay Dimri, Chandigarh; Dr. Arun Kumar Verma, Delhi; Dr. Pradeep Garg, Faridkot; Dr. Jaineet Sachdeva, Ludhiana; Dr. Harpreet Singh, Delhi
12.40 PM - 01.25 PM	**Dr. B D Gupta Memorial ORATION**
Chairpersons	Dr. Rakesh Kapoor, Chandigarh; Dr. Deepak Abrol, Kathua
Topic	**Artificial intelligence in Oncology**
Orator	Dr. Vivek Kaushal, Rohtak
01.25 PM- 01.45 PM	**Lunch Symposium**
Chairpersons	Dr. Manish Gupta, Shimla; Dr. Dinesh Singh, Delhi; Col. Dr. Ashok Kumar, Delhi; Dr. Shantnu Pal, Kolkata
Topic	**SGRT. The Leading Way of Motion Management**
Speaker	Dr. Prasad Raj Dandekar, Mumbai
01.45 PM-02.30 PM	**LUNCH**
02.30 PM - 03.40 PM	**SESSION 4 - CNS Tumors**
Chairpersons	Dr. Shelly Hukku, Delhi; Dr. Daulat Singh, Srinagar; Dr. Shikha Chawla, Jalandhar; Dr. G K Jadhav, Delhi
02.30 PM - 02.45 PM	**Highlights of Paediatric High Grade Glioma**
Speaker	Dr. Indu Bansal, Delhi
02.45 PM - 03:00 PM	**Biology and Current Management of Childhood Medulloblastoma**
Speaker	Dr. Anil Kumar Anand, Delhi
03:00 PM - 03.15 PM	**Principal and Practice Of Chemotherapy in Recurrent Low and High grade Gliomas**
Speaker	Dr. Kunal Jain, Ludhiana
03.15 PM - 03.40 PM	**Panel Discussion : Issues in Paediatric Neuro Oncology**
Moderator	Dr. Meenu Gupta, Dehradun
Panelists	Dr. Manoj Sharma Delhi; Dr. Vinod Nimbran, Mohali; Dr. Rahul Sharma, Jammu; Dr. Ashutosh Gupta, Jammu; Dr. Arun K. Aggarwal Hisar
03.40 PM - 05.30 PM	**SESSION 5 - Best Paper Session,**
Chairpersons	Dr. Nafees Ahmed Siddiqui, Lucknow; Dr. Awadhesh Kumar Pandey, Chandigarh; Dr. Manjit Singh Jaura, Bathinda; Dr. G V Giri, Bengaluru
Judges	Dr. Manoj Gupta, Rishikesh; Dr. Raja Paramjit Singh, Faridkot; Dr. Rakesh Kapoor, Chandigarh; Dr. Sandhya Sood, Ludhiana ; Dr. Vikas Roshan, Jammu ; Dr. Pooja Nandwani Patel, Ahmedabad

SCIENTIFIC PROGRAM - SATURDAY, 21ST SEPTEMBER 2019

Time	Topic
05.30 PM - 06.00 PM	**SESSION 6 - Lung Cancer Symposium**
Chairpersons	Dr. Harjot Kaur Bagga Patiala; Dr. Sunny Jain, Faridabad; Dr. Kumar T Bhowmick, Delhi; Dr. Amit Dhiman Ludhiana
05:30 PM - 05.45 PM	**Molecular Testing In Lung Cancer**
Speaker	Dr. Jatin Sarin, Mohali
05:45 PM - 06.00 PM	**Improved Survival With Immunotherapy In Lung Cancer A myth or reality**
Speaker	Dr. Jagdev S Sekhon, Ludhiana
06.00PM -7.00PM	**General Body Meeting**
7:30 PM	**Banquet Dinner**
11.30 AM -12.40 PM	**Poster Session**
Judges	Dr. Jaskaran Sing Sethi, Delhi; Dr. Madhup Rastogi, Lucknow; Dr. Vikas Roshan, Jammu; Dr. Manish Gupta, Shimla; Dr. Bhavana Rai Chandigarh ; Dr. Meenu Gupta, Dehradun

SCIENTIFIC PROGRAM - SUNDAY, 22ND SEPTEMBER HALL - A

Time	Topic
08:00 AM - 09:00 AM	**REGISTRATIONS**
09:00 AM - 10:10 AM	**SESSION 7 - Head and Neck Cancer**
Chairpersons	Dr. Satish Jain, Ludhiana; Dr. Shubh Mahindru, Ludhiana; Dr. Amit Dhawan, Amritsar; Dr. Prahlad Duggal, Amritsar
09:00 AM - 09:15 AM	**Surgical Approach To Oral Cavity Cancer With Emphasis on Margin Assessment**
Speaker	Dr. Shamit Chopra, Jalandhar
09:15 AM - 09:30 AM	**Adjuvant Therapy Decision in Head and Neck Melanoma**
Speaker	Dr. Sushmita Ghoshal, Chandigarh
09:30 AM - 09.45 AM	**Multidisiplinary Management Of Paranasal Sinus Cancer**
Speaker	Dr. Munish Gairola, Delhi
09.45 AM - 10:10 AM	**Panel Discussion : Does Advanced Radiation Planning (IGRT, IMRT)Improve QOL and Outcome**
Moderator	Dr. Kundan Singh Chufail, Delhi
Panelists	Dr. Kuldeep Sharma, Delhi ; Dr. Robin Khosa Delhi; Dr. Sandeep Kaur, Jammu; Dr. Pankaj Kumar, Mohali; Dr. Anchal Aggarwal, Jalandhar
10:10 AM - 10:40 AM	**Tea Break**
10:40 AM - 11:55 AM	**SESSION 8 - Breast Cancer**
Chairpersons	Dr. Manish B Pandey Delhi; Dr. Rajiv Devgan, Amritsar; Dr. Muninder Kumar, Kangra; Dr. Sumant Gupta, Faridabad
10:40 AM - 10:55 AM	**Lifting the barriers for Radiothetapy in Post Mastectomy Reconstructed Breast**
Speaker	Dr. Kanika Sharma Sood, Delhi
10:55 AM - 11:10 AM	**Optimal management of Ductal Carcinoma in Situ**
Speaker	Dr. Swarupa Mitra, Delhi
11:10 AM - 11:25 AM	**Approach to a patient of carcinoma breast with Brain Metastasis**
Speaker	Dr. Archana Dutta, Jalandhar
11:25 AM - 11.50 AM	**Debate: Local Breast Radiotherapy in OligoMetastatic Breast Carcinoma**
For	Dr. Buddhi Singh Yadav, Chandigarh
Against	Dr. Jaskaran Singh Sethi, Delhi
Jury	Dr. Sandhya Sood, Ludhiana
11:50 AM - 01:00 PM	**SESSION 9 - GI Cancer**
Chairpersons	Dr. H P Yadav, Delhi; Dr. G S Brar, Ludhiana; Dr. S K Sharma, Jalandhar; Dr. Abhinav Mahajan, Amritsar

SCIENTIFIC PROGRAM - SUNDAY, 22ND SEPTEMBER HALL - A

Time	Topic
11.50 AM - 12:05 PM	**Advances in Surgery of Rectal Cancer**
Speaker	Dr. Sumeet Jain, Ludhiana
12:05 PM - 12:20 PM	**Definitive CRT or NACRT- Surgery in Ca Esophagus**
Speaker	Dr. Anjali K Pahuja, Delhi
12:20 PM - 12:35 PM	**Locally Advanced GE junction Cancer - CRT or Perioperative CT**
Speaker	Dr. Manjinder Singh Sidhu, Bathinda
12.35 PM-12.45PM	**Cost Effectiveness Of Sorafinib in HCC**
Speaker	Dr. Nidhi Gupta, Chandigarh
12.45 PM - 01:15 PM	**Panel Discussion : Hepatocellular Carcinoma. Advances in Management**
Moderator	Dr. Parneet Singh, Panchkula
Panelists	Dr. Sanaullah Kuchay, Srinagar; Dr. Himanshu Shrivastava, Jalandhar; Dr. Parveen Ahlawat, Delhi; Dr. Manishi Bansal, Mohali; Dr. Mohit Sharma, Amritsar
01:15 PM - 02.00PM	**Valedictory**
2.00 PM	**Lunch**

SCIENTIFIC PROGRAM - SUNDAY, 22ND SEPTEMBER HALL - B

Time	Topic
10.00 AM - 11:00AM	**NZ AROI QUIZ**
Quiz Master	Dr. Jaineet Sachdeva Ludhiana; Dr Meenakshi Mittal Mohali
Judges	Dr. Sunny Jain, Faridabad; Dr. Anil Thakwani, Delhi; Dr. Divya Khosla, Chandigarh
11:00 AM - 01.00PM	**Proffered Paper Session**
Chairpersons	Dr. Jaspinder Kaur, Patiala; Dr. Yashpal Verma, Rohtak; Dr. Manoj Kumar Sharma, Delhi; Dr. Gagandeep Singh, Amritsar

ABSTRACT SUMMARY

1	**Shailley**	**Title :** Malignant Decidual Mesothelioma- A Case Report Of Unusual Subtype Of Mesothelioma
	Institute :	Pt. B. D. Sharma PGIMS, Rohtak
2	**Anil Khurana**	**Title:** Abo Blood Type And Cancer : Preliminary Findings Of An Observational Study
	Institute :	Pt. B. D. Sharma PGIMS, Rohtak
3	**Apurva Pandey**	**Title :** a Case Of Synchronous Malignancy : Ca Tonsil With Ca Esophagus
	Institute :	MMIMSR, Mullana, Ambala
4	**Vigneshwaran Chandran**	**Title :** Prognostic Factors And Survival Outcomes In Patients With Primary Mediastinal Germ Cell Tumours-a Single Institute Experience
	Institute :	PGIMER, Chandigarh
5	**Vibhay V. Pareek**	**Title :** Ventricular – Subventricular Zone Involvement – A Predictive Factor For Survival In Glioblastoma
	Institute :	All India Institute Of Medical Sciences, New Delhi
6	**Varshu Goel**	**Title :** Assessment Of Feasibility, Compliance, Response And Toxicity In Locally Advanced Carcinoma Cervix (Iacc) Patients Undergoing Chemoradiotherapy With Gemcitabine And Cisplatin.
	Institute :	Maulana Azad Medical College And Associated Lok Nayak Hospital, Delhi
7	**Mrinalini**	**Title :** To Compare The Outcome And Toxicity Of Post Ebrt Brachytherapy With Concurrent Brachytherapy In Carcinoma Cervix Patients
	Institute :	Regional Cancer Centre IGMC, Shimla
8	**Reema Bhatti**	**Title :** A Comparitive Study Of Administration Of Cisplatin – Etoposide Vs Carboplatin – Paclitaxel Based Chemoradiation In Locally Advanced Non Metastatic Unresectable Non Small Cell Lung Cancer.
	Institute :	IGMC, Shimla

ABSTRACT SUMMARY

9	**Ritu Sharma**	**Title :** Comparison Of Concomitant Boost Radiotherapy Against Chemoradiation In Locally Advanced Head And Neck Cancers.
	Institute :	Tertiary Cancer Centre, IGMA Shimla.
10	**Jyoti Sharma**	**Title :** Comparative Study Of Whole Brain Radiation Therapy (wbrt) Vs Concurrent Wbrt Along With Temozolamide In Brain Metastasis: A Prospective Randomized Trial
	Institute :	IGMC, Shimla
11	**Shabnum Thakur**	**Title :** To Compare The Outcome And Toxicity Of Concomitant Chemoradiotherapy Vs Concomitant Chemoradiotherapy Followed By Intraluminal Brachytherapy In Middle One-third Of Carcinoma Esophagus"- A Prospective Randomised Trial
	Institute :	IGMC, Shimla
12	**Neelam Singh**	**Title :** Primary Extranodal Marginal Zone B Cell Lymphoma Of Urinary Bladder
	Institute :	Indraprastha Apollo Hospital, New Delhi
13	**Avradeep Datta**	**Title :** Unplanned Treatment Breaks During Radical Radiotherapy In Head And Neck Squamous Cell Cancer Patients: A Retrospective Analysis From A Tertiary Care Centre In India
	Institute :	PGIMER, Chandigarh
14	**Arputha Anumanth Raj**	**Title :** Low And High Dose Tbi Using 3d Conformal Radiation Therapy Technique.
	Institute :	Christian Medical College And Hospital, Ludhiana
15	**Aprajita Mall**	**Title :** Outcome Of Induction Chemotherapy Followed By Concurrent Chemoradiation Therapy In Locally Advanced Head And Neck Cancers.
	Institute :	Christian Medical College And Hospital, Ludhiana
16	**Abhishek Arora**	**Title :** Stereotactic Radiosurgery For Oligometastasis In Brain And Liver In A Carcinoma Esophagus Patient: A Rare Case Report
	Institute :	Geetanjali Medical College And Hospital, Udaipur, Rajasthan.

ABSTRACT SUMMARY

17 Anshuma Bansal
Title : Evaluation Of Acute Toxicity And Correlating Grade ≥3 Acute Mucositis With Oral Mucosa Dose In Oropharyngeal Cancers Treated With Vmat
Institute : GMC, Patiala

18 Deep Shankar Pruthi
Title : Dosimetric Correlation Of Bone Marrow Irradiation With Hematological Toxicity In Concurrent Chemo-radiation Of Carcinoma Cervix Patients.
Institute : Action Cancer Hospital, New Delhi

19 Shaifali Mahajan
Title : Relevance Of Established Risk Factors In Carcinoma Breast: An Institutional Experience
Institute : Christian Medical College And Hospital, Ludhiana

20 Parul Priyanka
Title : Cutaneous Metastasis In Carcinoma Rectum : A Rare Case Presentation
Institute : Guru Gobind Singh Medical College And Hospital, Faridkot

21 Blessy K Rajan
Title : Extranodal B Cell Non Hodgkin Lymphoma Of Nasal Cavity - A Case Report
Institute : Pt. B. D. Sharma PGIMS, Rohtak

22 Priya Gupta
Title : Correlation Of Neutrophil Lymphocyte Ratio And Platelet Lymphocyte Ratio With Disease-free Survival In Patients Undergoing Head And Irradiation
Institute : Christian Medical College And Hospital, Ludhiana

23 Sagar Raut
Title : Treatment And Outcomes Of Metastatic Carcinoma Gall Bladder –a Retrospective Analysis From A Tertiary Care Hospital
Institute : All India Institute Of Medical Sciences, Rishikesh

24 Gokula Krishnan
Title : Re-irradiation For Recurrent Primary Cns Tumours
Institute : PGIMER, Chandigarh

25 Subhadra Choubey
Title : Comparision Between Two Hypofractionated Palliative Radiotherapy Schedules In Locally Advanced Head And Neck Squamous Cell Cancer
Institute : Lok Nayak Hospital, New Delhi

ABSTRACT SUMMARY

26	**Palak Garg**	**Title :** Mammographic Density And Molecular Subtypes Of Breast Cancer. Is There A Link?
	Institute :	Christian Medical College And Hospital, Ludhiana
27	**Manraj Singh Kang**	**Title :** Case Of Temporary Tracheostomy- Uncommon Severe Latecomplication Of Radiotherapy In Carcinoma Oropharynx"
	Institute :	Guru Gobind Singh Medical College And Hospital, Faridkot
28	**Neeraj Kumar**	**Title :** Retrospective Review Of Granulosa Cell Tumor Of Ovary-Experience Of 5-year
	Institute :	Pt. B. D. Sharma PGIMS, Rohtak
29	**Yogesh Kumar**	**Title :** Software Cobacalcyy For Calculation Of Treatment Time For Radiotherapy On Telecobalt
	Institute :	Pt. B. D. Sharma PGIMS, Rohtak
30	**Savita Rani**	**Title :** A Rare Synchronous Cancer: Carcinoma Breast With Renal Carcinoma
	Institute :	Guru Gobind Singh Medical College And Hospital, Faridkot
31	**Karan Sood**	**Title :** Predictors In Laryngeal Cancer Assessment: A Preliminary Analysis To Predict Survival Outcome.
	Institute :	Government Medical College & Hospital Chandigarh
32	**Kumar Prabhat**	**Title :** Biodosimetric Evaluation Of Head And Neck Cancer Patients Undergoing Radiotherapy Or Concurrent Chemoradiotherapy By Dicentric Chromosomal Aberration Assay.
	Institute :	Maulana Azad Medical College And Associated Lok Nayak Hospital, Delhi
33	**Gaurav Goel**	**Title :** Correlation Of Neutrophil Lymphocyte Ratio And Platelet Lymphocyte Ratio With Radiation Induced Mucositis In Patients Undergoing Head And Neck Cancer Irradiation
	Institute :	Christian Medical College And Hospital, Ludhiana

ABSTRACT SUMMARY

34	**Bhanu Vashistha**	**Title :** Patterns Of Failure In Patients With Breast Cancer Receiving Post Operative Radiation Therapy.
	Institute :	Christian Medical College And Hospital, Ludhiana
35	**Debanjan Sikdar**	**Title :** Pattern Of Failure In Head And Neck Squamous Cell Cancer Treated With Radiotherapy – Initial Experience From Aiims Rishikesh.
	Institute :	All India Institute Of Medical Sciences, Rishikesh
36	**Abhishek Soni**	**Title :** Relation Of Neutrophil-to-lymphocyte Ratio To Survival And Toxicity In Head And Neck Cancer Patients Treated With Radiation With Or Without Chemotherapy
	Institute :	Pt. B. D. Sharma PGIMS, Rohtak
37	**Oshin Suri**	**Title :** Dosimetric Comparison Of Imrt Versus 3d-crt For Post Mastectomychest Wall Irradiation."
	Institute :	Guru Gobind Singh Medical College And Hospital, Faridkot
38	**Prudhvi Inampudi**	**Title :** Nhl Ovary With Cns Dissemination–a Rare Case Report With Review Of Literature
	Institute :	MMIMSR, Mullana, Ambala
39	**Sonali Karnwal**	**Title :** Etiological And Clinical Prognostic Factors In Oropharynx Carcinoma Treated With Chemoradiation.
	Institute :	Guru Gobind Singh Medical College And Hospital, Faridkot
40	**Sunder Singh**	**Title :** Proton Therapy- Is It A Real Miracle In Modern Oncology
	Institute :	Pt. B. D. Sharma PGIMS, Rohtak
41	**Abhilasha Sinha**	**Title :** Dosimetric Analysis And Comparison Of Gastrointestinal Tract Toxicity In Patients Of Carcinoma Cervix Treated With Three-dimensional Conformal Radiotherapy And Intensity Modulated Radiotherapy
	Institute :	Guru Gobind Singh Medical College And Hospital, Faridkot
42	**Vipul Bansal**	**Title :** Inflammatory Myofibroblastic Sarcoma Of Breast
	Institute :	Kainos Superspeciality Hospital, PGIMS, Rohtak
43	**Dr. Arun K Aggarwal**	**Title :** STUDY THE EFFICACY OF GAMMA & DELTA TOCOTRIENOL IN ORAL SUBMUCOUS FIBROSIS (OSMF): AN ORAL PREMALIGNANT CONDITION
	Institute:	Aadhar Hospital, Hisar

ABSTRACT

Title : Malignant decidual mesothelioma- A case report of unusual subtype of Mesothelioma

Authors : **Shailley Arora Sehgal,** Anil Khurana, Paramjeet Kaur, Om Prakash, Yashpal Verma, Abhishek Soni, Ashok Chauhan

Institute : PT B D Sharma PGIMS, Rohtak (Haryana)

Background & Introduction:

Malignant decidual mesothelioma (MDM) is a rare variant of Primary Malignant epithelioid mesothelioma amongst them that resembles decidua or decidual type changes. It was initially thought as aggressive tumor. This variant has been reported in a wide age range (8–75 years) and asbestos exposure has been associated as risk factor. Surgery followed by chemotherapy is the mainstay of treatment.

Case presentation:

We reported a case of malignant decidual peritoneal mesothelioma in a 42-year-old female to add to the limited literature. The patient had a short history of abdominal pain and distention. There is no history of exposure to asbestos. Radiological evaluation revealed multiple diaphragmatic, mesenteric and paraaortic nodes with free fluid in abdomen and pelvis with smooth thin enhancing peritoneum, mesenteric stranding and mild omental thickening. Initially a provisional diagnosis of Koch's abdomen was made. At laparotomy she was found to have ascites and numerous nodules in the peritoneal cavity and omentum. Histopathological features were suggestive of malignant peritoneal mesothelioma with classical features of abundant glassy acidophilic cytoplasm. On immunohistochemistry D2-40 membranous was positive.

The patient had Performance status 2 and was given gemcetabine and cisplatin based chemotherapy and completed 6 cycles with 2 interim episodes of grade 2 anemia and neutropenia which were managed with blood transfusion and growth factors. Presently on first follow up she is asymptomatic and clinically and radiologically disease free.

Conclusions:

We describe presentation, clinical features, histopathological, and radiological findings of MDM, and the treatment along with review of the previous literature.

ABSTRACT

Title: ABO blood type and cancer : preliminary findings of an observational study

Authors: Anil Khurana, Shailley Arora Sehgal, Paramjeet Kaur, Om Prakash, Abhishek Soni, Ashok Chauhan

Institute: PT B D Sharma PGIMS,Rohtak(Haryana)

Background & Introduction:

After discovery of ABO blood group by Karl Landsteiner in 1901 it has been correlated with numerous diseases with varying results around the world. The proposed mechanism for causation of cancer is alterations in surface glycoconjugates which lead to modifications in intercellular adhesion, membrane signaling, and immunosurveillance. Various phenomic study have shown association between ovarian, cervical, pancreatic, gastric cancers and leukemia etc with a particular blood group but no definitive conclusion have been made till date.

Material and methods:

In this observational study 200 cases of confirmed histopathology of cancer of any site were analyzed for blood group. Blood group was tested as part of routine work up. The ABO blood type was determined using a standard agglutination test for the presence of ABO antigens in subject's whole blood. The test result of the ABO blood type was recorded and noted with other demographic parameters e.g. age, gender, rural/urban, smoker/non smoker and smoking index. Patients' confirmed histopathological diagnosis of cancer was noted separately and correlation was calculated.

Results:

The data on the ABO blood type frequency revealed that blood group B positive was most frequent i.e. 28% slightly less than O positive i.e. 26% amongst 200 cancer patients. Least frequent blood group was AB negative with only 2 patients and correlation study suggested only head and neck cancers were significantly correlated with B positive blood group.

Conclusion :

Maximum number of patients was of B positive blood group and significantly correlated with head and neck cancers. However a large prospective study is warranted before a particular blood group is designated as risk factor.

ABSTRACT

Title: A CASE OF SYNCHRONOUS MALIGNANCY : CA TONSIL WITH CA ESOPHAGUS

Authors: Dr Apurva Pandey, Dr. Rajeev Seam

Institute: M M Institute of Medical sciences and research

Background & Introduction:

The incidence of synchronous second primary cancers (SPC) in patients with squamous esophageal cancer (EC) is reported to be 5% to 10%. The most well known sites for SPC are aerodigestive tract organs, such as the oral cavity, pharynx, larynx and lung. We present a case report with synchronous tonsil and Oesophageal Cancer.

Methods:

55 year old male came with c/o swelling in right side of neck since 9 month and decreased hearing and tinnitus since 3 months was diagnosed with Squamous cell carcinoma of tonsillar fossa and oesophagus

Results:

Patient was given chemotherapy with TPF and palliative RT was given to esophagus with dose 25gy/10# After which re CT was done and planned for RT to tonsillar carcinoma with 35gy/15#.

Conclusions:

High index of suspicion is necessary in patients with history of smoking or tobacco chewing for occurrence of synchronous Head and neck cancer with tumours of aero digestive ,especially oesophagus.

ABSTRACT

Title: Prognostic Factors And Survival Outcomes In Patients With Primary Mediastinal Germ Cell Tumours-a Single Institute Experience

Authors: V. Chandran, C. Dracham, R. Madan, A. Elangovan, R. Kapoor

Institute: Postgraduate Institue Of Medical Education And Research

Background And Introduction:

Primary Mediastinal Germ Cell Tumour (pmgct) Is A Rare And An Heterogeneous Entity. These Are Typically Diagnosed In Young Adults And Carry A Poor Prognosis Compared To Their Gonadal And Retroperitoneal Counterparts. We Conducted This Study To Evaluate The Prognostic Factors And Survival Outcomes In Pmgct That May Allow A More Adapted Treatment Strategy To Improve Survival.

Methods: Case Records Of Patients Who Presented With Pmgct Over A Period Of Six Years From January 2013 - December 2018 Were Retrospectively Evaluated. Poor Prognostic Factors For Survival Were Evaluated With Univariate And Multivariate Analysis Using Cox-regression Method. Survival Analyses Were Calculated Using Kaplan-meier (log-rank) Method. Data Were Analysed With Statistical Package For Social Sciences For Windows (spss V23.0).

Results: A Total Of 38 Patient's Data Were Analysed, Majority Of These Patients Were Males (94.7%) With A Median Age Of 25-years. Non-seminomatous Histology Was Predominant (57.9%). Fourteen-patients (36.8%) Presented With Complications At Their Initial Presentation Such As Superior Vena Caval Obstruction (n=12;31.5%), Malignant Cardiac Tamponade (n=2;5.2%) And Spinal Cord Compression (n=2;5.2%). Majority Of The Patients Were Treated By Multimodality Approach Using Chemotherapy, Surgery, And Radiotherapy. After A Median Follow-up Of 13 Months, 16-patients (42.1%) Had Complete Response And The Rest Of The Patients Had Progressive Disease (57.9%). Five-year Survival Rate Was 38.6%. Patients Who Presented With Complications Had Significantly Less Survival As Compared With The Patients Without Complications (p=0.003). Non-seminomatous Histology (p=0.019), Disease Extension Beyond Mediastinum At Presentation (p=0.004), And Patients With Incomplete Treatment (p=0.000) Were The Other Statistically Significant Factors Affecting The Survival.

ABSTRACT

Title: Ventricular – Subventricular zone involvement – A Predictive factor for survival in Glioblastoma

Authors: **Dr. Vibhay Pareek**

Institute: National Cancer Institute, AIIMS, New Delhi

Background & Introduction:

MRI imaging is an essential tool in diagnosing glioblastoma and it can give various anatomical details related to disease. It gives an assessment of involvement of disease with ventricular – subventricular zone (VSVZ), subgranular (SGZ) and corpus callosum (CC). This study aims at assessment of survival outcomes in diseases involving neurogenic zones and corpus callosum and the associated prognostic factors.

Methods:

We retrospectively analyzed 376 adult patients treated for histologically proven Glioblastoma. MRI studies were assessed for the tumor volume and its association with the neurogenic zones and corpus callosum. Age of patient, comorbidities associated, performance status, extent of resection and radiation doses received by these structures were evaluated. Overall (OS) and progression free (PFS) survivals were calculated and analyzed with multivariate Cox analyses.

Results:

Of the 376 patients, 121 had VSVZ involved, 62 had CC involved and 43 had SGZ involved and remaining 150 had cortical involvement and the latter served as controls. Overall median age was 60.4 years, median Karnofsky performance score (KPS) was 80 and median tumor volume was 34.7 cm3. Gross total resection (GTR) was seen in 50.6% and subtotal resection in 38.1% and rest were unresectable. On multivariate cox analyses, VSVZ was found to be an independent factor for poor OS and PFS. Besides, increasing age, lower KPS, less than GTR status were associated independent factors for reduced survival.

Conclusions:

Patients with GBMs contacting the VSVZ and SGZ neurogenic zones exhibit divergent clinical patterns of tumor recurrence and survival and VSVZ involvement are associated with early recurrences and lower survival. VSVZ has a rich stem cell and growth factor microenvironment and these structures can be considered as organs at risk in uninvolved disease for probably better outcomes.

ABSTRACT

Title: Assessment Of Feasibility, Compliance, Response And Toxicity In Locally Advanced.

Authors: **Dr. Varshu Goel,** Dr. Kishore Singh, Dr. A. K. Rathi, Dr. Gauri Gandhi, Dr. A. Manchanda, Dr. Anurita Srivastava.

Institute: Maulana Azad Medical College And Associated Lok Nayak Hospital, Delhi

Carcinoma Cervix (lacc) Patients Undergoing Chemoradiotherapy With Gemcitabine And Cisplatin.

Background:

Nci Alert In 1991 Established Cisplatin-based Chemoradiotherapy As A Standard Of Care In Lacc. Unfortunately, In Developing Countries Like India, Where Majority Of Population Comes From Low Socio-economic Status, Only 60% Overall Survival Is Seen At 5 Years With Uncontrolled Pelvic Disease Being The Most Common Cause Of Death. Thus, Locoregional Control Becomes Of Paramount Importance To Improve Survival.

Purpose:

To Assess The Feasibility, Compliance, Response And Toxicity Of Gemcitabine And Cisplatin As Concurrent Chemotherapy With External Beam Radiotherapy In Lacc Patients In Indian Scenario

Methodology:

Eligible Chemotherapy- And Radiotherapy Naïve Patients, Aged 18-65 Years, Figo 2009 Stage Iib To Iva Lacc, Ecog Performance Status £ 2, With Acceptable Cardiac Function And Normal Baseline Hematological And Biochemical Parameters, Were Recruited After An Informed Consent To Receive External Beam Radiotherapy 45-50 Gy In 25 Fractions For 5 Weeks With Concurrent Cisplatin 40 Mg/m2 And Gemcitabine 125 Mg/m2 Weekly, Followed By High Dose Rate Brachytherapy. Response Assessment Was Done By Recist 1.1/who Criteria On Cect Pelvis Imaging At The End Of The Treatment. Tolerance, Efficacy And Treatment Compliance Was Documented In Terms Of Hematological, Gastrointestinal, Genitourinary And Dermatological Toxicities As Per Ctcae V 4.03 And Rtog Toxicity Scoring Criteria.

Results: Between August 2017 And August 2018, 26 Patients Of Biopsy Proven Locally Advanced Cervix Cancer (figo 2009 Stage Iib-iva) With Atleast One Measurable Lesion On Imaging Were Enrolled For A Single Arm Prospective Study. 20 (76.9%) Were Figo Stage Iib And 10 (38.5%) patients had ECOG score 2. Complete or Partial Response (CR or PR) was seen in 21 (80.7%) patients at the end of the chemoradiation treatment. The concurrent chemotherapy was either delayed or doses were modified when there was ^{3} grade 3 acute hematologic/ non-hematologic toxicity. Overall, 6 (23%) patients interrupted treatment during CCRT in view of ^{3} grade 3 acute hematological and gastro-intestinal toxicities, which was manageable in this trial setting. An interim analysis of the tolerance of our first 10 patients led us to modify the dose schedule of concurrent

ABSTRACT

chemotherapy with weekly cisplatin (30 mg/m2) followed by gemcitabine (75 mg/m2) for initiation, which could then be escalated as per tolerance to maximum of initially planned doses. The treatment interruptions led to a delay in starting brachytherapy, and despite all efforts, the overall treatment time was prolonged (> 8 weeks) in 7 (26.9%) patients. There was one mortality during our study period after completion of chemoradiation, probably attributable to treatment toxicity.

CONCLUSIONS:

Despite 80% response rates, the combination of gemcitabine with concurrent cisplatin and radiotherapy was not well tolerated by our inadequately nourished and poor performance scored patients. In view of increased toxicity, there is a need to define optimal dose schedule for concurrent gemcitabine with standard cisplatin based chemoradiation. To assess the impact on recurrences, a longer follow-up period is required.

ABSTRACT

Title: To Compare The Outcome And Toxicity Of Post Ebrt Brachytherapy With Concurrent Brachytherapy In Carcinoma Cervix Patients

Authors: Dr. Mrinalini, Dr. Manish Gupta

Institute: INDIRA GANDHI MEDICAL COLLEGE & HOSPITAL SHIMLA (HP)

Background &Introduction:

Carcinoma cervix is the world wide most common gynecological malignancy and fourth most common malignancy in women where developing countries hold a big load of ca cervix .The majority of women belong to the lower socioeconomic status, are rural, aged between 35 and 64 years and highly noncompliant for complete treatment and follow-up. The treatment of carcinoma cervix includes a combination of EBRT and brachytherapy which takes about 8-10 weeks, with 2-3 consequent visits to hospital . This study is designed to compare this conventional treatment with concurrent brachytherapy , where the total treatment will be completed in a time of 5-6 wks.

Methods:

All patients aged 35-70 yr of ca cervix stage IB to IIIB previously untreated were studied for a period of 1 year. Total 80 patients were randomized in two arms. 39 patients in control arm (conventional schedule) received EBRT @50 Gy/25# /5wk with Inj Cisplatin 40 mg/m2 i.v weekly , followed by HDR- ICBT as soon as fit for it after completion of EBRT @ 7Gy/# for 3 sessions at weekly intervals . 41 patients in study arm (concurrent arm) treated with EBRT @ 50 Gy/25#/5wk with Inj Cisplatin (40mg/m2) i.v weekly with HDR ICBT in between on 3rd 4th 5th or 6th week @7Gy/# 3 sessions. No EBRT or Chemotherapy on day of ICBT

Results: Awaited

Conclusions: Awaited

ABSTRACT

Title: A Comparitive Study Of Administration Of Cisplatin – Etoposide Vs Carboplatin – Paclitaxel Based Chemoradiation In Locally Advanced Non Metastatic Unresectable Non Small Cell Lung Cancer.

Authors: **Dr. Reema Bhatti,** Dr. Manish Gupta

Institute: Indra Gandhi Medical College & Hospital, Shimla (hp)

Background & Introduction:

Lung Cancer Constitutes 13% Of All Cancers Worldwide. In India Incidence In Males Has Increased And It Is Now The Most Common Cancer Along With Oral Cancers (11.3% Of All Cancer Cases) And Causes 13.7% Of Cancer Deaths In Indian Males. In Indian Females Incidence Is 3.1% Of All Cancers. In Patients With Non Small Cell Lung Cancer, The Most Important Prognostic Factor Is Tumor Stage. For Locally Advanced Stage Iii Disease Combined Modality Therapy Including Radiation & Chemotherapy Is Recommended. This Study Is Designed To Compare Local Control, Toxicity, & The Overall Quality Of Life Between Concomitant Chemoradiation Using Cisplatin – Etoposide Vs Carboplatin – Paclitaxel For Inoperable Locally Advanced Non Metastatic Non Small Cell Lung Cancer.

Methods:

All Patients Aged <70 Yrs Of Ca Lung (nsclc) Locally Advanced Non Metastatic Unresectable (stage Iii A & Iii B), Previously Untreated Were Studied For A Period Of 1 Year. Total 40 Patients Were Randomised In Two Arms : 20 In Arm- A Received Ebrt @ 60gy/ 30#/ 2gy/ #/ 6 Weeks With Inj. Cisplatin 20mg/m2 Iv D1-5 & D26-30 & Inj. Etoposide 50mg/m2 Iv D1-5 & D26-30. 20 In Arm-b Received Ebrt @60gy/ 30#/ 2g Y/ #/ 6 Weeks With Inj. Paclitaxel 50mg/m2 Iv Weekly & Inj. Carboplatin (auc 2) Iv Weekly.

Results: awaited

Conclusions: awaited

ABSTRACT

Title: Comparison Of Concomitant Boost Radiotherapy Against Chemoradiation In Locally Advanced Head And Neck Cancers.

Authors: **Dr. Ritu Sharma,** Dr. Rajeev Kumar Seam

Institute: Tertiary Cancer Centre, Igma Shimla.

Abstract

Background & Introduction:

Head And Neck Cancers Constitute 6% Of All Cancers Worldwide. Majority Are Related To Alcohol And Smoking .these Usually Occur In Males In 5th Decade. The Management Requires Multidisciplinary Approach .surgery And Radiotherapy Are Curative And Chemotherapy Is Used In Adjuvant Setting. Concurrent Chemoradiotherapy With Cisplatin Represents Standard Strategy In Locally Advanced Cancers. In Developing Countries Taking Into Account Social Conditions, Nutritional Status And The Infrastructure, Concomitant Boost Radiotherapy Offers An Attractive Alternative Strategy.

Methods:

Squamous Cell Carcinoma Of Stage Iii, Iv A,ivb Of Oropharynx ,hypopharynx And Larynx Were Studied For One Year .51 Patients Were Randomized In Control And Study Arms (26 In Control Arm And 25 In Study Arm). Patients Were Randomly Assigned To Receive Chemoradiation To A Dose Of 66gy In 33 Fractions Over 6.5 Weeks With Weekly Cisplatin @30mg Mt Sq Or Concomitant Boost Radiotherapy Alone To A Dose Of 67.5 Gy In 40 Fractions Over 5 Weeks.

Results:

Conclusions:

ABSTRACT

Title: Comparative study of whole Brain Radiation Therapy (WBRT) VS Concurrent WBRT along with temozolamide in Brain Metastasis: A prospective Randomized Trial

Authors: **Dr. Jyoti Sharma,** Dr. Vikas Fotedar

Institute: IGMC, Shimla

Background & Introduction:

Brain metastasis develops in nearly 30% of cancer patients however true incidence is not known. Lung cancer amounts to 50 % of cases followed by Breast 15 to 20 % and remaining by melanoma, renal cell cancer & colon cancer. WBRT & surgery are mainstay of treatment along with corticosteroids and anticonvulsants (in patients with h/o seizure). Although maximum patients ultimately undergo systemic progression, significant number die from neurological progression. Role of chemotherapy in management of brain mets is limited and controversial in view of limited ability of chemo drugs to cross the blood brain barrier but one point of view is that blood brain barrier may already be disrupted by presence of brain metastasis. Multiple trials of concomitant radiosensitizers have been performed to optimize brain control out of which trials of temozolamide shows promise. Temozolamide (TMZ) is an oral alkylating agent with excellent CNS penetration. This study is designed to investigate and compare response of brain lesions and quality of life with addition of TMZ to WBRT.

Methods: Patients of histologically proven lung cancer (Non-Small Cell Lung Cancer) and Breast cancer with brain metastasis aged 18 to 75 years were studied for one year. Total 33 patients were enrolled. 17 patients in control arm received WBRT alone 30 Gy/10#/5days a week. 16 patients enrolled in study arm received 30 Gy/10#/5 days a week plus Temozolamide 75mg /m2/day 1 hour before RT. WBRT treatment was given using Cobalt 60 (Theratron/Equinox) machines. Thermoplastic Cast was used for immobilization in all patients and symptomatic treatment given as and when required. Post WBRT MRI was done to assess response to the therapy at 45 days. Quality of life was evaluated by FACT-G questionnaire.

Results: Awaited

Conclusions: Awaited

ABSTRACT

Title : "To Compare The Outcome And Toxicity Of Concomitant Chemoradiotherapy Vs Concomitant Chemoradiotherapy Followed By Intraluminal Brachytherapy In Middle One-third Of Carcinoma Esophagus"- A Prospective Randomised Trial.

Authors : **Dr. Shabnum Thakur,** Dr. Manish Gupta

Institute : Indira Gandhi Medical College & Hospital Shimla (hp)

Background & Introduction :

Esophageal Carcinoma Accounts For Approximately 1% Of All Malignancy And 6% Of All Gastrointestinal Malignancies. The Treatment Requires Good Local Control But As It Lies Adjacent To Highly Radiation-sensitive Organs Such As The Lungs, Bone Marrow Etc. It Is Difficult To Irradiate With High Doses. The Study Was Designed To Establish The Optimal Irradiation Method By Clinically Evaluating External Irradiation Alone And In Combination With Intraluminal Brachytherapy.

Methods : All Patients 30 To 70 Years, Previously Untreated Lesions <10 Cm On Barium Swallow And Endoscopy And Histologically Proven Cases Of Middle One–third Of Esophageal Carcinoma Were Included For One Year. Total 36 Patients Were Randomized Equally Into 2 Groups. In Control Group (concomitant Chemoradiation) Received Total Dose Of 60gy In 30# Starting Day 1 Of Chemotherapy @ 2gy/# & 5#/week Along With Injection Cisplatin 30 Mg/m2 Iv Weekly And In Study Group (concomitant Chemoradiation Followed By Intraluminal Brachytherapy) Received Total Dose Of 50 Gy In 25# Starting Day 1 Of Chemotherapy @ 2gy/# & 5#/week Followed By Ilbt To A Total Dose Of 10 Gy In 2# Of 5 Gy Each, 1 Week Apart Without Chemotherapy After A Gap Of 2-3 Weeks.

Results: On First Follow Up Disease Response Was Assessed By Ugi Endoscopy, Overall 20 Patients (58.0%) Were With No Evidence Of Disease, 12 Patients (35.2%) Were Having Partial Response And 2 Patient (5.8%) Was Having Residual Disease. In Control Arm There Were 10(58.8%) Patients With No Evidence Of Disease And 7 Patients (41.1%) Were Having Partial Response. In The Study Arm 10 Patients (58.8%) Were With No Evidence Of Disease And 5 Patients (29%) Were Having Partial Response And 2 Patient(11%) Had Residual Disease . ThereWas No Statistical Significant Difference In The Disease Response (p=0.496). Eating And Dysphagia Were Improved At The End Of Treatment And On 1st Follow Up In Both Arms But More Betterment Seen In Study Group And The Difference Between Both Groups Are Statistically Significant (p=.00). Pulmonary Toxicities G3 Were Seen In Only Control Arm During Treatment. There Was Statistical Significant Difference In The G2 Toxicity In Both The Arms (p=0.019). At 1st Follow Up The Number Of Patients Who Experienced Stricture Formation Was Higher In Study Arm As Compared To Control Arm But Difference Was Not Statistically Significant(p=0.66)

Conclusions: There was comparable loco-regional disease control in CCRT arm and CCRT followed by ILBT arm. On long term follow up, similar incidence of toxicities was seen in both arms, but CCRT with ILBT is easily tolerated.

ABSTRACT

Title: Primary extranodal marginal zone B cell lymphoma of urinary bladder

Authors: Neelam Singh, Robin Khosa

Institute: Indraprastha Apollo Hospital, New Delhi

Background & Introduction:

Primary lymphoma of urinary bladder is rare, and very few cases have been reported since it was first described in 1885. It constitutes less than 1% of neoplasms of the urinary bladder. Its frequency is reported to be as low as 0.2% of the extranodal lymphomas. The most prevalent histological subtype of primary malignant lymphoma of the urinary bladder is extranodal- marginal zone lymphoma of MALT (mucosa associated lymphoid tissue) type.

Case Summary:

A 67 year old lady presented with an episode of painless hematuria. CECT KUB revealed a mass involving posterior wall, left lateral wall and base of bladder with diffusely and irregularly thickened wall with maximum thickness of 2.3 cm. PET-CT showed FDG avid lobulated enhancing mucosal thickening, involving urinary bladder along left lateral posterior wall including bladder trigone and left vesicoureteric junction (VUJ) and extending into bladder dome and base and medially upto right VUJ. She underwent TURBT and histopathology showed poorly differentiated carcinoma.

MRI done post TURBT showed lobulated enhancing mass lesion (22x63x71 mm) in posterior bladder wall with loss of fat planes with uterus and infiltration of bilateral VUJ, in close proximity to left ilio-psoas muscle. On Immunohistochemistry tumor cells were positive for CD20 and negative for cytokeratin, CD3, CD5, CD10, CD43, bcl 6 and MUM-1. The final diagnosis was low grade B-cell Non-Hodgkins lymphoma of marginal zone type.

Method:

Patient was planned for postoperative radiotherapy using IGRT and RapidArc technique. A pelvic radiation planning CT scan of 3 mm slice thickness was done followed by target and OARs delineation. The PTV was prescribed 36 Gy in 20 fractions over 4 weeks.

Conclusion:

Primary NHL of the bladder is a rare disease in which diagnosis is exclusively histological. Radiotherapy can be used as first intention especially in low grade Non-Hodgkins lymphoma.

Title: Unplanned Treatment Breaks during Radical Radiotherapy in Head and Neck Squamous Cell cancer patients: A Retrospective Analysis from a Tertiary Care Centre In India

Authors: Avradeep Datta, Treshita Dey, Amit Bahl, Sushmita Ghoshal

Institute: Post Graduate Institute Of Medical Education and Research (PGIMER), Chandigarh

Background & Introduction:

Chemo-radiotherapy is the current standard of care for locally advanced cases of Head and Neck Squamous cell Carcinoma patients. However, owing to the poor performance and nutritional status of our patients, the acute treatment related toxicities lead to frequent unplanned treatment breaks which can affect the locoregional control and overall survival.

Methods:

A retrospective analysis was done on 331 patients radically treated in a tertiary care centre in 2017. All Head and Neck cancer patients satisfying predetermined inclusion and exclusion criteria were selected. Unplanned treatment breaks (if any) and their reasons thereof were documented.

Results:

Out of 331 patients included, 89% were males, the most common site being oropharynx (42%). 82% patients presented with locally advanced disease. 37% patients received concurrent chemotherapy. 62% of patients who received concurrent chemo had unplanned treatment breaks compared to 53% ($p=0.044$) in the patients receiving radiotherapy only. A subgroup analysis of only locally advanced cases revealed 64% breaks in the chemo arm compared to 58% in the non- chemo arm. Recipients of 3-weekly chemo regimen recorded a 71.6% treatment break compared to 55% in the weekly regimen. The response to treatment was affected by treatment breaks. 74.6% patients had complete clinical response when there was no unplanned break compared to only 45% patients ($p<0.0001$) having complete clinical response when there was unplanned break. Most common reasons for treatment break were Grade 3 mucositis followed by Grade 3 dermatitis.

Conclusions:

Appropriate case selection is warranted while prescribing concurrent chemotherapy to our patients in order to improve the therapeutic ratio.

ABSTRACT

Title: Low and High dose TBI using 3D conformal radiation therapy technique.

Authors: Mr. Arputha Anumanth Raj,

Dr. Pamela Jeyaraj, Mrs. Manjinder Dhanoa, Dr. Chepcy Philip

Institute: Christian Medical College & Hospital, Ludhiana

Background & Introduction:

TBI is a radiation technique used as a conditioning regime for bone marrow transplantation. In view of the complex delivery of treatment set up, it is mandatory to ensure proper delivery of the prescribed radiation dose while maintaining normal tissue tolerance limits. 3D- CRT based TBI is done with an extended SSD of 120 cm and covering the whole body in AP-PA fields within +/-10% variation in the prescribed dose while shielding the OAR with MLCs. We present the technique and feasibility of delivering TBI using Elekta Compact 6MV linear accelerator.

Methods: The treatment planning procedure was initiated with immobilization of the whole body using specialized vaclock cushion. The whole body CT scan was performed with multiple field markers with a slice thickness of 3mm. In XiO, the whole body is divided into number of field segments mostly 4 to 5 depending up on the longitudinal dimension of the patient. Unlike the normal treatment, the SSD for 3D CRT based TBI is 120 cm instead of 100 cm. Once the planning procedure was completed using the recommended beam arrangement which in this case AP-PA, the prescribed dose to the whole body is achived with a marigin of +/- 10% variation from the same. After approval by the Oncologist team, the plan is exported to the lineac for execution.

Results:

As per the plan, the treatment was executed and checked for the dose homogeneity by entrance and exit dosimetry using GaF chromic films which are placed at the all the field centers both anteriorly and posteriorly. After the treatment, the films are scanned, checked and verified for its corresponding dose absorption using preinstalled dose calculation software programme. The results shows the corresponding dose received by the films fall well within the +/-10% dose margin from the prescribed dose.

Conclusions:

It is feasible to execute a total body irradiation using 3D CRT technique and we conclude that the deviations (if any) are well within the acceptable levels.

Key words: TBI, Elekta Compact, 3DCRT, Dosimetry, Homogeneity.

ABSTRACT

Title: Outcome of induction chemotherapy followed by concurrent chemoradiation therapy in locally advanced head and neck cancers.

Authors: Dr. Aprajita Mall, Dr. Pamela Jeyaraj, Dr. Preety Negi, Dr. Ashwin Oommen Philips

Institute: Christian Medical College and Hospital, Ludhiana

Background &Introduction:

Although concurrent chemoradiotherapy is the standard of care for inoperable locally advanced head and neck cancer (LAHNC) patients, induction chemotherapy (ICT) is considered an effective alternative approach by head and neck oncologists worldwide. Induction chemotherapy continues to be actively pursued because of its potential to control locoregional disease,possible eradication of micrometastasis and organ preservation without jeopardizing overall survival.

Methods:

This retrospective study was conductedin 30 patients with histologically confirmed locally advanced head and neck cancers.Patients received 2 – 3 cycles of induction chemotherapy every 3weekly. Haematological parameters was noted for all the patients pre- and post-induction chemotherapy. Clinical response assessment was performed post-induction chemotherapy followed by external beam radiation therapy (RT) to the primary site and draining nodal regions to a dose of 66 – 70 Gy in 33 – 35 fractions over 6 – 6.5 weeks along with concurrent chemotherapy with weekly carboplatin (AUC-2) or cisplatin 40 mg/m2. During the course of radiation, oral mucositis was graded on a weekly basis and any gap in the treatment was noted. Clinical and radiological response at 8 weeks following completion of chemoradiation was assessed by MRI face and neck region using RECIST version 1.0

Results:

Out of 30 patients enrolled in the study, majority were in the age group of 40-60 years. 72% of the patients presented with primary in oral cavity followed by oropharynx comprising 15%. Out of which 3% patients were stage I or III, remaining 96% were stage IV disease. All the patients received 3 cycles of ICT out of which CT had to be deferred after 2 cycles in 16% of the patients due to bradycardia. Post ICT ,EBRT to a dose of 70 Gy/ 35 F/ 7weeks was given to 76% patients. During RT, mucositis grade I was observed in 3%, grade II in 40% and grade III in 57% patients.In subsequent follow ups it was observed that patients who were free of disease were 46%, residual disease was seen in 16%, recurrence in 6% and 3% patients expired.

Conclusions:

The potential advantages of ICT include organ function preservation in advanced carcinomas controlling micrometastasis disease providing symptom control and allowing rapid tumour shrinkage thus the loco regional control before initiating RT and with minimal radiation induced mucosal toxicities.

ABSTRACT

Title: Stereotactic Radiosurgery for Oligometastasis in Brain and Liver in a Carcinoma Esophagus Patient: A Rare Case Report

Authors: Dr. Abhishek Arora, Dr Ramesh Purohit, Dr Kiran Chigurupalli, Dr Menal Bhandari, Dr Deepanjali Patel

Institute: Geetanjali Medical College and Hospital, Udaipur, Rajasthan.

Background &Introduction:

Metastases remain the leading cause of cancer death worldwide. The common sites of metastasis include Brain, Lung, liver and bones. Due to easy availability of Advanced Diagnostic facilities, more number of patients present for treatment with oligometastatic condition. Initially, surgical resection was anecdotally considered to be the treatment of choice for overall survival benefit due to lack of randomized data. We present here a case of Carcinoma Esophagus who presented with oligometastasis in liver and brain treated with stereotaxy with an aim to demonstrate that Radiosurgery is an effective treatment modality for oligometastasis.

Methods:

With his Primary disease being controlled well, he was treated with stereotactic radiosurgery for liver metastasis at dose of 48Gy in 3 fractions. He subsequently received 4 cycles of chemotherapy (Irinotecan + Platin). He then presented with Brain Metastasis for which he received Whole Brain Radiation Therapy. 6 months later he was diagnosed with solitary brain metastasis of size 11x10x09 mm for which he received Stereotactic Radiosurgery 18 Gy in single fraction.

Results:

No acute toxicity was noted during the course of treatment. Patient is on regular follow up. After 2 years of diagnosis of liver metastasis he is currently asymptomatic with preserved hepatic function. The liver lesion had complete resolution on subsequent scans. He shows improvement in power but has residual weakness in right side lower limb.

Conclusions:

Stereotaxy provides high level of local control with minimal associated toxicities. It also provides an effective treatment alternative for patients who are unfit for surgical resections and those who are not willing for invasive procedures. Benefits and risk balance for aggressive local treatment should be carefully assessed given the lack of randomized data.The safety and efficacy of SABR as oligometastasis-directed treatment is increasingly being evaluated within prospective clinical trials.

ABSTRACT

Title: DOSIMETRIC CORRELATION OF BONE MARROW IRRADIATION WITH HEMATOLOGICAL TOXICITY IN CONCURRENT CHEMO-RADIATION OF CARCINOMA CERVIX PATIENTS.

Authors: **Deep Shankar Pruthi,**
Puneet Nagpal, Babita Singh, Ashu Yadav, Manish Pandey, Harpreet Singh

Institute: Action Cancer Hospital, New Delhi

Background & Introduction:

Hematological toxicity is known side effect in carcinoma cervix patients who undergo concurrent chemo-radiation. The reason being approximately 40% of the total Bone Marrow lies within the pelvic bones. Therefore, our aim was to identify dosimetric parameters which are associated with acute hematological toxicity in such patients.

Methods:

We retrospectively analyzed 75 patients who developed hematological toxicity during chemo-radiotherapy for carcinoma cervix stage IB – IVA from Jan 2016 to Jan 2019. All patients were treated using Rapid Arc Technique. Pelvic bone marrow was contoured for each patient and divided into 3 sub sites i.e. ilium, lower pelvis and lumbo-sacral spine. The volume of each region and total bone marrow receiving 10, 20, 30, 40 and 50Gy was calculated. Hematological toxicity was assessed using the Radiation Therapy Oncology Group Toxicity criteria.

Results:

Out of 75 patients, 69 patients were analyzed. 6 patients were excluded as they did not receive concurrent chemotherapy. The median dose of radiotherapy was 50.4Gy/28# @ 1.8Gy per fraction. Cisplatin was given as concurrent chemotherapy @ 40mg/m2 and the median number of cycles were 5. Out of these 69 patients, Grade 2 and 3 leukopenia was seen in 25 patients (36.2%) and 6 patients (8.6%) respectively. Grade 2 anaemia and thrombocytopenia was seen in 33 patients (47.8%) and 5 patients (7.2%) respectively.

Patients with BM V10 > 95%, V20 > 82% and V40 > 38% were more likely to develop Grade 2 and 3 leukopenia as compared to patients with BM V10 < 95%, V20 < 82% and V40 < 38% which is at par with the literature. The use of colony stimulating factors was needed in 33 patients (47.8%). Treatment was delayed in 5 patients (7.2%).

Conclusions:

The volume of pelvic bone marrow receiving radiotherapy is an important factor to be taken into consideration during chemo-radiotherapy for carcinoma cervix patients.

ABSTRACT

Title: Relevance of established risk factors in carcinoma breast: an institutional experience

Authors: Dr. Shaifali Mahajan, Dr. Pamela Jeyaraj, Dr. Vivek Immanuel

Institute: Christian Medical College & Hospital, Ludhiana

Background & Introduction:

Carcinoma breast is the most common cancer in women and the leading cause of cancer related death in women worldwide. Over 100,000 new breast cancer cases are diagnosed in India every year and the age-standardised incidence rates vary between 9 and 32 per 100,000 women. While the risk factors for carcinoma breast are well established in the western population, the application of the same in Indian women remains yet to be validated. In view of the same, this study was undertaken to evaluate the relevance of the established risk factors for carcinoma breast in patients presenting to our institution.

Methods:

This retrospective study included 65 patients with histologically confirmed diagnosis of carcinoma breast in the test group and 65 patients in the control group. After taking informed consent, all enrolled patients were made to fill a questionnaire to assess the presence or absence of the established risk factors for carcinoma breast. Results were calculated by estimating the percentage of women in whom the established risk factors were present in both groups.

Results:

Among the established risk factors for carcinoma breast, 18.4% patients in the test group were obese compared to 12.3 % in the control group and this difference was statistically significant (p value <0.002). There was no statistically significant difference between the two groups with respect to the other established risk factors such as age of menarche and menopause, parity, breast feeding, age of earliest child birth, benign breast disease, OCP and HRT use, hyper estrogenic states, family history and lifestyle.

Conclusions:

While the established risk factors for carcinoma breast have been found to be relevant in multiple national and international studies, their applicability to specific populations such as those catered to by a particular institution may vary. In our study body mass index was found to be a significant risk factor for the development of carcinoma, whereas the relevance of other risk factors is yet to be ascertained.

ABSTRACT

Title: Cutaneous metastasis in carcinoma rectum : a rare case presentation

Authors: **Dr. Parul Priyanka ,** Dr. Manraj Kang , Dr. Sapna Bhatti , Dr. Raja Paramjeet Singh Banipal, Dr. Pardeep Garg , Dr.Romi Kant Grover

Institute: Guru Gobind Singh Medical College and Hospital Faridkot

Background & Introduction: Cutaneous metastasis from abdominal malignancies occurs in less than 4% case , metastasis from colorectal cancer is rare. They usually occurs within 3 years of follow up and the most common site is post operative scar site. Cutaneous spread in carcinoma rectum indicates disseminated disease and median survival as reported in literatures is 3 to 18 months.

Methods : A 65 yr old male presented in our OPD with complain of per rectal bleeding on May 2015. Digital per rectal examination revealed ulceroproliferative mass and further biopsy was suggestive of undifferentiated adeno carcinoma. He underwent LAR (pT1N1MX) and diversion ileostomy followed by 10 cycles of FOLFOX (08/09/15). In view of entero-enteric & entero-sigmoid fistula he underwent APR with permanent colostomy followed by 6 cycles of CAPIRI (20/12/16) and continued on oral Capecitabine till july 2017. Follow up scan revealed pre-sacral recurrence and he recived 50Gy/25# /5wks Radiation to the mass with concurrent capecitabine (13/09/17). His follow up scan revealed residual disease and he was continued on oral capecitabine . patient's follow up was irregular.

Results : On August 2018 he presented with complain of painless preauricular swelling. Biopsy from the mass was suggestive of metastatic carcinomatous deposits. A further IHC panel confirmed diffuse CD20 and SAT B2 positivity in favour of adenocarcinoma of gastrointestinal origine. Patient was being planned for palliative chemotherapy but he died 1 month after the diagnosis of cutaneous metastasis. Zilvinas et al reported that liver and lung are common location for distant metastasis for colorectal cancer. Skin metastasis occurs in 4-6.5% cases and facial lesions are extremely uncommon. Sarid et al observed that rectal carcinoma metastases to the skin presenting most often as small painless subcutaneous or intradermal nodules that measure 1 to 2cm in diameter. They can mimic cysts, lipomas, neurofibromas, and granulomas. According to Kauffman et al the frequent site is abdominal skin specifically the area of previous surgical incisions. Direct spread from initial tumour, venous invasion or dissemination via lymphatics account for this type of metastasis . Rendi et al reported that cutaneous metastasis is early indicator of disseminated disease and poor prognosis. Lookingbill et al found an average survival of only 18 months in patients with skin metastases from colorectal carcinoma. Although surgical excision is unlikely to confer survival benefit, it should still be performed for palliation when the patient is very symptomatic. There are currently no data on the effectiveness of various treatment modalities .

Conclusions : Although rare , carcinoma rectum may present as cutaneous metastasis. High index of suspicion among the clinicians is required for early diagnosis. Early detection and appropriate treatment can improve survival in patients up to 1 year.

ABSTRACT

Title: Extranodal B Cell Non Hodgkin Lymphoma Of Nasal Cavity - A Case Report

Authors: Blessy K Rajan, Anil Khurana, Paramjeet Kaur, Ashok Chauhan, Abhishek Soni, Yashpal Verma

Institute: Pt. B D Sharma, Pgims Rohtak

Background & Introduction: Non Hodgkin Lymphomas Are Heterogenous Group Of Malignancies Of The Lymphoid System Which Is Characterised By Abnormal Clonal Proliferation Of B Cells ,t Cells Or Nk Cells. Nhl May Involve Lymphodes In Any Area Of Body Or It Can Be Extranodal. Extranodal Lymphoma Comprises Of 20- 30% Of All Nhl. Extranodal Non Hodgkin Lymphoma Of The Nasal Cavity And Paranasal Sinuses Are Very Rare. It Can Be Low Grade Or High Grade. The Low Grade Nhl Of Nasal Cavity And Paranasal Sinuses Usually Manifest With Obstructive Symptoms Comprising Of Nasal Obstruction ,epiphora, Nasal Mass, While High Grade Usually Present With Aggressive Symptoms Of Ulceration, Epistaxis. We Present A Unusual Case Of Extranodal Non Hodgkin Lymphoma Bcell Type In Nasal Cavity

Case Description: A 50 Year Old Female Patient Presented In The Opd With Chief Complaints Of Right Nasal Mass, Nasal Obstruction And Loss Of Sensation Of Smell For 2 Months Duration. There Was No History Of Bleeding From Nose . On Examination There Was A Large Growth Over The Right Lateral Surface Of Nose, Involving Adjacent Cheek, Root Of Nose, Right Lower Lid Medial Surface, Medial Canthus Of Right Eye. The Right Nasal Cavity Was Completely Obliterated By Proliferative Mass.

A Pet-ct Scan Revealed A Fdg Avid (suv Max-4.5) Large Homogenously Enhancing Soft Tissue Density Sinonasal Mass Lesion Extending Into Subcutaneous Plane Along Maxilla, Nasal Bone, Extending In Right Nasal Cavity, Ethemoid And Right Maxillary Sinus. Inferiorly The Lesion Is Seen Extending Along The Upper Lip On Either Side Of Midline , Main Bulk Of The Lesion On Right Side . No Intraorbital Extension Or Any Erosion Of Surrounding Bone.

On Histopathological Examination Of The Mass In Right Nasal Cavity Initially Showed Malignant Round Cell Tumor , Ck Negative, Lca And Vimentin Patchy Positive Which On Further Immunohistochemical Typing Showed Cd 19 And Cd 20 Strongly Positive, Cd 5 And Cd 3 Negative, S100,cd 31, Cd 34 Negative,bcl2 And Tdt Patchy Positive Consistent With Non Hodgkin Lymphoma –diffuse Peripheral B Cell Type Nasal Cavity. Based On The Above Findings A Diagnosis Of Extranodal Non Hodgkin Lymphoma B Cell Type Nasal Cavity Stage Ii E Was Made. After Routine Blood Investigations And Cardiac Clearance She Was Started On Chop Regimen Chemotherapy.

Conclusion: Extranodal Nhl Of The Sinonasal Tract Account For 3-5% Of All Malignancies. Primary Nhl Of Nasal Cavity Is Associated With Ebv Infection,predominantly T Cell Phenotype And Poorer Prognosis As Compared To Nodal Nhl. Extranodal Nhl Of The Paranasal

ABSTRACT

Sinuses Is More Common In The West ,of Which Maxillary Sinus Is The Most Frequently Affected Whereas Extranodal Nhl Of The Nasal Cavity Is More Common In The East. The Most Common Histologic Type Of Primary Nasal Nhl In Asian Population Is Nk/t Cell As Compared To B Cell Nhl Which Is More Common In Western Population. Our Patient Was A 50 Year Old Female Patient With Extranodal Non Hodgkin Lymphoma Of The Nasal Cavity , With B Cell Histology. In Patients With Lymphoma Of Nasal Cavity And Paranasal Sinuses, With A Combined Treatment With Chemotherapy And Local Irradiation, They Have A Better Prognosis. Our Patient Was Started On Chop Regimen Chemotherapy , She Responded Well To The Chemotherapy. Lymphoma Must Be Included In The Differential Diagnosis In Patients With Nasal Or Paranasal Sinus Lesions And A Tissue Biopsy Should Be Performed Whenever Possible , So That A Early Diagnosis Can Be Made In A Case Of Extranodal Lymphoma For Timely And Effective Intervention.

Title: Correlation of neutrophil lymphocyte ratio and platelet lymphocyte ratio with disease-free survival in patients undergoing head and irradiation

Authors: **Dr. Priya Gupta,** Dr. Preeti Negi, Dr. Jeyaraj PA, Dr. Danial Udayan

Institute: Christian Medical College and Hospital

Background & Introduction: High neutrophil to lymphocyte ratio (NLR) and platelet to lymphocyte ratio (PLR) are considered as markers of systemic inflammation. High NLR and PLR values has been associated with poor outcomes in head and neck cancer patients. This study was conducted to deduce correlation of baseline NLR and PLR values with disease-free survival in head and neck cancer patients.

Methods: This 1-year retrospective study was conducted on all head and neck cancer patients who received radiation therapy. Baseline NLR and PLR values were calculated from the complete blood count retrieved from the medical records of these patients. Correlation of NLR and PLR values with disease-free survival were evaluated using cox regression analysis.

Results: Out of the total 50 head and neck cancer patients, majority of the patients were of oral cavity (72%). Most of the patients presented with locally advanced disease (50% stage IV; 32% stage III), rest being 12% in stage II and 6% in stage I. After a median follow-up of 13 months, 64% patients had no evidence of disease, 28% had residual disease and recurrent disease in 10% of patients. Among the patients who were disease free, 75% had low NLR values while 25% had high NLR values while 37.5% had low PLR and 62.5% had high PLR values.

Conclusions: Majority of our head and neck cancer patients presented with locally advanced stages. The baseline NLR values were low for patients with no evidence of disease following treatment while PLR values had no correlation with the disease status.

Key words: Neutrophil lymphocyte ratio, platelet lymphocyte ratio, head and neck cancer.

ABSTRACT

Title: Treatment and Outcomes of Metastatic Carcinoma Gall Bladder –A Retrospective Analysis from a Tertiary Care Hospital

Authors: **Sagar Raut,** Debanjan Sikdar, Aathira T. S., Nidhi Sharma, Sweety Gupta, Deepa Joseph, Rajesh Pasricha, Manoj Gupta

Institute: All India Institute of Medical Sciences, Rishikesh

Background & Introduction: Carcinoma Gallbladder (Ca GB)is a lethal disease with poor overall survival (OS). Detection at early stages have relatively better prognosis than at advanced stages (OS at 5-years of 50% for stage I cancers and 3% for stage IV cancer). For metastatic disease, treatment recommendation is palliative chemotherapy.

Methods: Records of patients with metastatic Ca GB treated at AIIMS Rishikesh from Feb 2018 to Dec 2018 were retrospectively reviewed with an aim to analyse the treatment practice, patient compliance and outcomes.

Results: Total 67 patients were treated in department of radiation oncology with Ca GB. 37(55%)had metastatic disease.13(35%) were male, 24(64.87%) females. Mean age was 56.08 and median 55 years. 29% of cases were incidentally detected following cholecystectomy for suspected benign disease. 24(64.86%) had single site metastases,8(21.62%) at 2 sites and rest>2 sites. 64.8% had liver metastases, omentum (27%), non-regional lymph nodes (13.5%), lung (10.8%), and malignant ascites (8%). 10.8% other sites. Commonest histology was adenocarcinoma (62%). 22% carcinoma with no further characterisation. Three (8%) had neuroendocrine and one small cell carcinoma (2%). 9 patients (24.3%) had obstructive jaundice. 8 underwent PTBD and one biliary stenting. Only 46% received palliative chemotherapy, mostly gemcitabine based. Gemcitabine/ cisplatin in 41.1%, oxaliplatin/ gemcitabine (35.29%), single agent gemcitabine (17.64%). The average number of chemotherapy cycles in first line were 3.5. Seven (41.1%) defaulted after 1 (6 patients) or 2 cycles,5 (29.4%) after 4-5 cycles. Only 5 patients completed planned cycles of chemotherapy. One had PR and all others PD following chemotherapy. All 5 received second line chemo with Tab Capecitabine, Gem/cis or gem/oxali. Total days of treatment varied from 1day to 255days Mean-109days, Median-93days. 20 patients not receiving any treatment (major reasons - taking alternative medications, poor PS, raised bilirubin) reviewed in RT-OPD for 1 to 155 days, Mean-22days, Median 1 day.

Conclusions:

Majority of the patients presenting to our department with Ca GB were metastatic at presentation. Common histopathology was adenocarcinoma and the commonest metastatic site was liver. Only 46% of patients received palliative chemotherapy and the majority of them were not able to complete the planned chemotherapy cycles. Outcome was relatively poor.

ABSTRACT

Title: RE-IRRADIATION FOR RECURRENT PRIMARY CNS TUMOURS

Authors: Gokula Krishnan, Sakshi Rana, Chinnababu D, Renu madan, Narender Kumar, Rakesh Kapoor

Institute: Post graduate Institute of Medical Education and Research (PGIMER), Chandigarh.

Background &Introduction:

Radiation therapy plays an important role in the management of primary CNS tumours. Despite the various treatment modalities, more than 90 % of patient will develop recurrence. Salvage treatment for recurrence include surgical resection, re-irradiation and chemotherapy or combination of above. However there is no agreed standard of care. Advances in the field of radiation have made re-irradiation a feasible option. We conducted a study to see the impact of re-irradiation on survival.

Methods:

A retrospective analysis was done in patients with recurrent primary CNS tumour treated with re-irradiation in a tertiary care centre from 2010 to 2017. Patient profile and treatment related data were retrieved from medical records. The statistical analysis was done by SPSS software version 23. Overall survival was analysed by Kaplan-Meier test.

Results:

A total of 32 patients received re-irradiation, out of which 40.6% were high grade gliomas (13 patients) and 31.2% were low grade gliomas (10 patients).Median age at presentation of high and low grade gliomas were 43 years and 32 years respectively with median KPS being 70 for both groups. Initially all patients underwent surgery followed by adjuvant radiotherapy with dose of 54-60 Gy in 27-30 fractions over 6 weeks. Patients who received concurrent and adjuvant Temozolomide were 28.12% and 25% respectively. On completing initial treatment 37.5 % had no residual disease and 21.8 % had gross residual disease. Median time to symptomatic recurrence was 46.5 months. 71.87% underwent re-surgery following recurrence whereas all received re-irridation. For re-irradiation volumetric arc technique (VMAT) was used for all the patients with a median dose of 45Gy in 25 fractions over 5-weeks with concurrent temozolomide in 34.37%. Post treatment median follow up was 82.5 months. At the time of analysis 46.87 % patients were alive. Median overall survival was 54.5 months.

Conclusions:

With the advancement of newer imaging and treatment techniques, re-irradiation is a feasible option with better tumour control and improved survival rates. However further studies with more number of patients are needed to show the benefit of re-irradiation in patients of Recurrent Primary CNS Tumours

ABSTRACT

Title : COMPARISION BETWEEN TWO HYPOFRACTIONATED PALLIATIVE RADIOTHERAPY SCHEDULES IN LOCALLY ADVANCED HEAD AND NECK SQUAMOUS CELL CANCER

Authors : **Subhadra Choubey.,** Rathi A. K., Singh K., Arora S.

Institute : Lok Nayak Hospital

Background & introduction:

The primary aim of the study was to evaluate the response to treatment objectively (clinically) and in terms of subjective symptom relief. Also, to assess and compare the toxicity of two hypofractionated radiotherapy schedules (as per RTOG criteria). Also, Quality of life parameters of the patients were evaluated using EORTC H&N35 and QLQ C-30 Questionnaire.

Methods : Our study population consisted of 40 patients, all locally advanced (stage IVA/B) head and neck carcinoma. Twenty patients were randomised in each arm. Patients in arm A received 50 Gy in 16 fractions (Christie regime). Patients in arm B received 14 Gy in 4 fractions twice daily 6 hr apart, for 2 consecutive days repeated three times with 3-4 weeks gap (Quad shot). QoL questionnaires were filled for all patients.

Results : Overall, 57.5% patients had improvement in performance status with no statistical significant difference between the two arms. The pain relief was reported in 78% of patients with significant decrease in pain score from pre-treatment score ($p<0.0001$), but not statistically significant for the differences ($p=0.196$) in the median and mean of the pain scores when analysed post radiotherapy in both the arms. Although, the mean subjective relief was greater in Christie arm (53.75%) as compared to quad shot arm (38%), but again not statistically significant ($p=0.092$). Also, there was overall improvement in quality of life (87.5%) in our study population including improvement in pain (78.13%), speech(62.5%) and global health status(87.5%) as reported by majority of patients who filled the QoL questionnaire (31/40). But, there was no statistically significant difference between the two arms in our study. There was more (≥1 grade) toxicity recorded in Christie arm as compared to Quad shot arm ,[significant in skin ($p<0.001$), mucositis ($p<0.001$), salivary gland ($p<0.001$) and laryngitis ($p<0.001$) and non-significant for dysphagia ($p=0.049$) and anaemia ($p=0.638$)].

Conclusions : Both the palliative regimes (Christie and Quad shot) are very effective for palliation in inoperable locally advanced head and neck cancer patients. Though the toxicities were more in Christie regime than Quad shot arm, the overall survival was numerically higher in Christie arm but not significant. There was significant improvement in quality of life of patients in both the arms but, the difference between the two was not statistically significant.

ABSTRACT

Title: Mammographic density and molecular subtypes of breast cancer. Is there a link?

Authors: Palak Garg, Jeyaraj P, Sachdeva J

Institute: CMC &H, Ludhiana

Background & Introduction:

A recently recognised risk factor for breast cancer development is mammographic density, having a relative risk of 4-6 between highest and lowest categories. The biological basis for this association is not well understood, and in in particular it has not been clearly established whether this association holds for all breast carcinomas or whether the increased risk is restricted to certain subtypes, defined by receptor status or molecular profiles. We conducted this study to explore the correlation if any between mammographic density and hormone receptor status in breast cancer.

Methods:

A total of 25 patients treated in the Department of Radiation Oncology at Christian Medical College & Hospital, Ludhiana from July 2018 to June 2019 were included in the study. All histologically confirmed cases of carcinoma breast, fulfilling the inclusion and exclusion criteria were recruited. The mammographic density quantification is done according to ACR BIRADS Atlas 5th edition.

Results:

Out of 25 patients, 36% had mammographic density grade d and 24% had mammographic density grade c. Thirteen patients (52 %) were of early stage and 48% cases were of locally advanced breast cancer. On the basis of molecular subtypes, 5 were Luminal A, 12 were Luminal B, 4 were Basal type and 4 cases showed Her 2 neu overexpression. Seventy five percent of Her2neu (+) and basal type patients had high mammographic density. Increase in mammographic density was seen with estrogen receptor positivity but did not reach statistical significance

Conclusions:

The increase in mammographic density is associated with triple negative and Her 2 neu expressing subtypes.

ABSTRACT

Title: Case Of Temporary Tracheostomy- Uncommon Severe Late Complication Of Radiotherapy In Carcinoma Oropharynx

Authors: Dr. Manraj Singh Kang, Dr.oshin Suri, Dr.pardeep Garg, Dr.raja P.s.banipal, Dr.romikant Grover,dr. Sonali Karnwal, Dr. Parul Priyanka, Dr. Abhilasha Sinha

Institute: Guru Gobind Singh Medical College Hospital, Faridkot

Background & Introduction:

Late Toxicities Following Radiotherapy Or Chemoradiation In Head And Neck Cancers Is Often An Underestimated Problem. Laryngeal Edema Is A Common Late Complication. But Severe Laryngeal Edema In A Post Radiotherapy Head And Neck Cancer Patient (with No Recurrence Or Residual Disease) Necessitating Tracheostomy As A Life Saving Procedure Is A Rare Phenomenon. We Are Presenting One Such Rare Case Of Post Radiotherapy Tracheostomy, A Rare Complication.

Methods : A 52 Year Male Presented With The Complaint Of Pain During Swallowing Food For About Eight Months. Examination Revealed A Small Ulcer 2.5 X 1.5 Cm Present At The Right Side Base Of Tongue, Not Crossing Midline With A 2 X 2 Cm, Firm To Hard, Mobile, Right Side Upper Deep Cervical Single Lymph Node.

The Biopsy From The Ulcer Revealed Moderately Differentiated Squamous Cell Carcinoma. He Was Labelled As A Case Of Carcinoma Base Of Tongue (right Side), Ct2n1m0, Ajcc-stage Iii.

After Complete Work Up, He Was Delivered Chemo-radiotherapy 70gy/35#/7weeks With Concurrent Cisplatin 35mg/m2 On Weekly Basis.

Results : On Follow Up, After Six Months He Developed Hoarseness Of Voice. Flexible Optical Laryngoscopy Revealed Mild Laryngeal Edema. After A Year, He Presented With Stridor. The Fol Revealed Severe Edema Of The Epiglottis, Aryepiglottic Folds And Arytenoids With No Evidence Of Any Residual Disease For Which He Underwent Tracheostomy. Post Tracheostomy Cect Neck Was Normal. There Was Self Closure Of Tracheostomy After 16 Months And Patient Had No Complaints. Chronic Laryngeal Edema Is A Common Entity In Patients Of Head And Neck Cancer Who Have Undergone Radiotherapy. Late Laryngeal Edema Can Be Difficult To Distinguish From Residual Tumour Or Recurrence. It Is Difficult To Ascertain From The Available Literature How Often Tracheostomy Or Total Laryngectomy Is Performed Due To Severe Laryngeal Edema Following Radiotherapy Or Chemoradiation.

Conclusion : Patients who develop significant laryngeal edema following definitive RT in carcinoma oropharynx should be carefully monitored for airway problems as well as tumour recurrences. The newer radiotherapy techniques like Intensity Modulated and Image-Guided Radiotherapy should be feasible to limit the dose to larynx and thus prevent chronic laryngeal edema leading to tracheostomy. But only long term results will answer whether it is useful or not.

ABSTRACT

Title: Retrospective review of Granulosa Cell Tumor of ovary- experience of 5-year

Authors: Neeraj Kumar, Anil Kumar Dhull, Rajeev Atri, Rakesh Dhankhar, Vivek Kaushal

Institute: Pt. B. D. Sharma PGIMS, Rohtak

Background & Introduction:

Granulosa cell tumor is rare type of ovarian cancer that accounts for approximately 2% of all ovarian tumors. This type of tumor is known as a sex cord stromal tumor and usually occurs in adults. Granulosa cell tumors of ovary cause higher than normal levels of estrogen in females.

Methods:

We retrospectively reviewed the database of our department from 2013-2017 to determine the outcome response and follow up of granulosa cell tumor of ovary.

Results:

For the year 2013-2017, total 334-patients of ovarian tumor were identified, out of these, 8 patients were of granulosa cell tumor of ovary. The median age at presentation was 47.5 years (Range: 11-70 year), 4th decade of life was the commonest presentation. No patients had history of alcohol and smoking intake. Most common presentation was pain abdomen (80%) and abdominal distension (20%). All patients belonged to rural area. One patient had poor general condition at presentation however other 7-patients had karnofsky performance status score>70. Histopathology of all patients revealed granulosa cell tumor. At initial presentation, 2-patients had FIGO stage 1A, 4-patients had FIGO stage II and 2-patient had FIGO IV stage. On IHC, tissue samples of 6-patients were inhibin positive, while 1 patient was calretinin positive. All patients underwent total abdominal hysterectomy with bilateral salpingoophrectomy. Intent of treatment was radical in 75% while palliative in remaining 25%. 4-patients received 4 cycles of BEP Regimen, 2-patients received BVP regimen (only 1 course each), 1 patient received 4 cycles of CAP regimen and 1 patient received 6-cycles of paclitaxel & carboplatin. Average survival was 763-days. 2 patients lost to follow-up within 10-days of start of treatment, after receiving 1 cycle of BVP regimen each. After completion of 5-year of regular follow up, complete response was seen in 3-patients. 5-patients had poor general condition on last follow up.

Conclusion:

In this retrospective analysis, 5-year survival was seen in 38% patients only. Due to high chance of recurrence even years after apparent clinical cure of the primary tumor, lifelong follow-up with clinical examination and tumor markers like inhibin B is recommended. The identification of prognostic and predictive factors for tumor recurrence is of paramount importance.

ABSTRACT

Title: Software CobaCalcYY for calculation of treatment time for radiotherapy on telecobalt.

Authors: Yogesh Kumar, Yashpal Verma, N. Balasubramanian, Ashok Chauhan,Vivek Kaushal.

Institute: Department of Radiation Oncology, Pt. B. D. Sharma PGIMS Rohtak (INDIA)

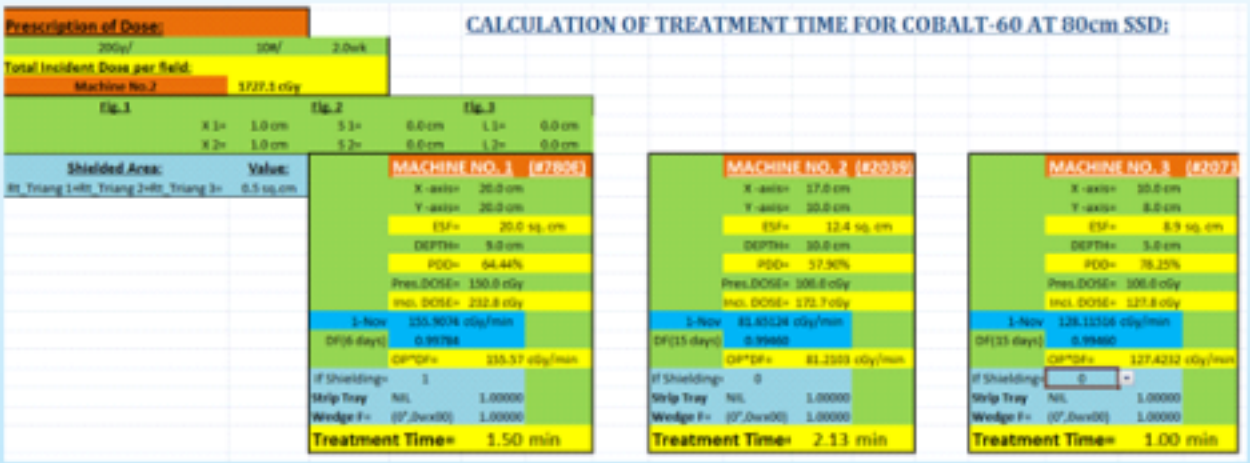
Background & Introduction:

While treating the patients with radiotherapy, physicist has to tackle enormous physics data and tedious calculations, keenly.

Methods :

This software intends to make it easy and efficient; in simple table form, by entering input of intended external beam radiotherapy (EBRT) parameters; to get the required result, omitting the time consuming process every time for patients to be treated by radiotherapy. It uses inbuilt formulae, some being modified and designed to suit as per our requirement.

While designing this software (CobaCalcYY), table segments have been color coded for ease of interpretation and operation. Red color is assigned for the fixed values/ parameters like prescription and the allotted radiation facility on which the treatment is to be carried out. Green color is for input data and yellow for the derived value, all in step by step manner. Blue color is for output of the radiation facility and sky-blue for beam modifying parameters like shielding etc. These combinations are not to remember but to differentiate the things and sooth to our eyes.



ABSTRACT

Example: In the process of treatment time calculation, we first come across to find the equivalent square area (ESF) for the given parameters. As we enter the values of X and Y variables and enter to ESF, it gives the ESF value immediately and simultaneously it shows the output of that particular radiation facility in the corresponding table (marked here with an arrow). Next step is to enter the value of depth at which the dose is prescribed. As we enter the numerical value of the depth and enter to percentage depth dose (PDD), it is immediately reflected.

Third step is to enter the value of the prescribed dose and the number of days for which the decay factor is to be used. It will show the treatment time directly, if there is no shielding and we choose zero (0). But if shielding is used, we choose one (1) for it and assign the parameters accordingly. (In this format, we chose twelve combinations of three figures viz. triangle, square and rectangle along with the nil value. It will make the essential changes in PDD value for that particular parameter.

Dropdown list of shielding tray of both types, that is, plain tray as well as perforated tray, along with the factor used for them is incorporated. Wedge factor dropdown list is also incorporated in the table along with the factors used for various field sizes, which are used clinically.

Results: The software CobaCalcYY is easy to operate and promises efficient assistance in physicist's calculation work in busy radiotherapy set ups.

Conclusions:

ABSTRACT

Title: A Rare Synchronous Cancers: Carcinoma Breast With Renal Carcinoma

Authors: **Dr. Savita Rani,** Dr. Pardeep Garg, Dr. Raja Ps Banipal, Dr. Gaurav Jaswal, Dr. Oshin Suri.

Institute: Guru Gobind Singh Medical College Hospital Faridkot.

Background & Introduction:

Synchronous Cancers Are Defined As Cancer Diagnosed With Other Cancer Simultaneously Or Within 6 Months. Common Synchronous Malignancies Of Breast Are Colon, Vulva, Lung, Liver, Uterus.

Methods:

A 55 Year Old, Postmenopausal Diabetic Non Hypertensive Female, Presented With 3x2 Cm Left Breast Lump Without Palpable Axillary Or Supraclavicular Lymph Node. Ct Chest And Abdomen Was Done To Rule Out Metastasis Which Detected Right Renal Mass As An Incidental Finding. Patient Underwent Left Modified Radical Mastectomy Followed By Right Radical Nephrectomy. Post Operatively Patient Underwent Chemotherapy (4 Cycles Ac Followed By 4 Cycles Taxanes) Followed By Radiotherapy To Ipsilateral Left Chest Wall And Supraclavicular Field.

Results:

Patient Was Asymptomatic Post-operatively For 18 Months Until She Had Complaint Of Difficulty In Breathing. Follow Up Pet Ct Scan Detected Lung Metastasis And Axillary And Mediastinal Lymph Nodal Metastasis. Patient Is On Chemotherapy Treatment For The Same. She Is On Regular Follow Up And Is Asymptomatic At Present.

Conclusions :

Risk Of Second Synchronous Malignancy At Diagnosis In The Breast Cancer Is Approximately 2-3%. Synchronous Cancer Cases Are Approximately Up To 8% And Cancer To Cancer Metastasis Are Very Rare With Less Than 50 Cases Reported In Literature. Screening Of Primary Cancer Should Be Done To Rule Out Other Secondary Malignancies. Any Suspected Secondary Lesion Needs To Be Biopsied To Rule Out Metastasis Or Synchronous Malignancy.

ABSTRACT

Title: Predictors in laryngeal cancer assessment: a preliminary analysis to predict survival outcome.

Authors: **Dr. Karan Sood,** Dr. Bivek Saroya, Dr. K Dimri, Dr. AK Pandey.

Institute: Government Medical College & Hospital Chandigarh

Background & Introduction: Cancer of the larynx represents about 2% of total cancer burden and accounts for 0.3% of all cancer deaths. It is the second most common head and neck mucosal cancer. The prognosis of laryngeal cancer depends on the stage at presentation and the site of involvement. Five-year overall survival in patients with stage I or stage II disease is typically 70 to 90 percent. The prognosis for patients who present with more advanced (stage III or IV) disease is poorer. The new AJCC guidelines focus on a system that should address and respond to new information that influences patient outcome. The TNM system has strongly predicted prognosis over the years and is adopted worldwide. Befitting the above, we want to highlight the role of important clinical indicators time to diagnosis(TTD), time to treatment(TTT), age, smoking history, and comorbidity index as prognostic indicator in patients with laryngeal cancer that could give us an insight into projected survival.

Methods: A retrospective cohort study using data of 238 cancer patients in Chandigarh, we determined median TTD and median TTT in patients with biopsy-proven squamous cell laryngeal cancer. Two sets of patients were analyzed: who underwent surgery and those underwent laryngeal preservation. Patients were stratified either with comorbidities or without comorbidities and Charlson comorbidity index was calculated to get estimated survival rates. Statistical tests were done using the latest spss.

Results: Out of 238 patients, 37 were female and 201 were males. Maximum patients were in the age group of 40 to 70 years. 125 patients received concomitant Chemotherapy with Radiation, 59 patients received radiation alone. Laryngeal preservation was done in 225 patients that accounted for 94.5% of all cases. 6.3% patients presented with stage 1, 18.1% with stage 2, 36.6% with stage 3 and 39.1% with stage 4. Out of the total sample, 51.3% were smokers. 57.6 % patients had a high Charlson comorbidity score(>= 4) which estimated the 10 year survival to be 53%. The median TTD was 13 days and the median TTT was 25.50 days.

Conclusions: There was a linear correlation between the TTD and TTT but no significant relation could be made with CI and estimated survival. This leads us to believe that the significance of TTT could be proved with actual survival analysis and comparing its projection to the estimated survival calculated by CI to use it as a supplement for prognostication. We also strive towards a prospective study for developing an objective score which could be used at the time of diagnosis that presents the patient with a probability as to how much delay in treatment will decrease his percentage chances of survival.

ABSTRACT

Title: Biodosimetric Evaluation Of Head And Neck Cancer Patients Undergoing Radiotherapy Or Concurrent Chemoradiotherapy By Dicentric Chromosomal Aberration Assay.

Authors: Dr. Kumar Prabhat, Dr. Arun Kumar Rathi, Dr. Kishore Singh, Dr. Seema Kapoor, Dr. Savita Arora, Dr. Sunil Kumar Polipali, Mr. Ankur Jindal

Institute: Maulana Azad Medical College And Associated Lok Nayak Hospital

Background: Although Research Has Been Done And Results Published Time To Time On Biodosimetry, There Is Still Paucity Of Indian Data Regarding Cytogenetic Changes Induced By Radiation In Head And Neck Cancer Patients Receiving Radiotherapy Or Concurrent Chemoradiotherapy.

Purpose: To Evaluate In Vivo Dose–response Relation Of Dicentric Chromosome Aberration Formation In Peripheral Blood Lymphocyte Of Head And Neck Cancer Patients Undergoing Radiotherapy Or Concurrent Chemoradiotherapy.

Methodology: A Total 40 Patients Of Head And Neck Cancer (20 Patients In Each Group -ctrt Versus Rt Alone) Were Enrolled In This Study With Prior Informed Consent. Inclusion Criteria Were

• Squamous Cell Carcinoma Or Adenocarcinoma Of Head And Neck. • Age Group-18 To 60 Years. • Ecog≤2. • Complete Blood Counts, Kidney Function Test, Liver Function Test And 2d-echo (within Normal Limit).

Radiotherapy Planning Was Done As Per Standard Protocol By Two Parallel Opposed Fields. Radiotherapy Was Delivered By Telecobalt Co-60 (theratron 780e). Daily Dose Of 200 Cgy For 5 Days A Week Was Given. Total Dose Varied Between 50 Gy To 70 Gy. Patients Planned For Concurrent Chemoradiotherapy Were Also Given Weekly Chemotherapy With Cisplatin 40mg/m2 On Every Week Before Radiotherapy. After Required Culture And Incubation Of Heparinized Blood Samples, The Lymphocytes Were Isolated And Stained To Identify Chromosomal Aberrations Such As Dicentric Per One Hundred Metaphases For Each Individual. The Yield Of Dicentric Chromosome Was Measured In Blood Samples Taken Before Starting Treatment (day 0), During The Course Of Radiotherapy (6, 11 And 16th Fraction), Each Time One Hour After Radiotherapy.

RESULT: In our study, comparison of the two groups at individual point of time was done and we found that there was a significant difference in terms of mean dicentric chromosome yield/cm2 at day 6 ($p = 0.001$), day 11 ($p < 0.001$), and day 16 of RT ($p < 0.001$). The mean dicentric chromosome yield/cm2 in the chemoradiotherapy group was greater than that of the radiotherapy alone group by 16.33%, 28.57%, and 18.68 % on day 6, 11, and 16 of RT, respectively.

CONCLUSION: There is a strong effect on the yield of dicentric chromosome/cm2 after adding chemotherapy. The study found that dicentric chromosome yield/cm2 in the CTRT group was greater than that of the RT alone group. The dicentric chromosomal aberration assay is an established biomarker for chromosomal damage used for cytogenetic biodosimetry and the benefit of adding chemotherapy can be radiobiologically proven by dicentric chromosomal analysis.

ABSTRACT

Title : Correlation of neutrophil lymphocyte ratio and platelet lymphocyte ratio with radiation induced mucositis in patients undergoing head and neck cancer irradiation

Authors: Gaurav Goel, Jeyaraj PA, Sachdeva J and Negi P.

Institute: Christian Medical College and Hospital, Ludhiana.

Background:

Radical chemoradiotherapy is considered as standard treatment for unresectable, locally advanced head and neck cancer. Oral mucositis, an unavoidable consequence of chemoradiation therapy that interferes with overall outcome of cancer directed therapy. Since neutrophil lymphocyte ratio (NLR) and platelet lymphocyte ratio (PLR) are considered as a hallmark of host inflammation we conducted this study to deduce any relationship between NLR and PLR with the severity of oral mucositis and stage of disease at presentation.

Materials & Methods:

This pilot study was conducted in the Department of Radiation Oncology on patients with histopathological diagnosis of head and neck cancer receiving radical radiation or chemoradiation therapy. All patients underwent a weekly review for grading of radiation induced mucositis and complete blood count to calculate NLR and PLR.

Result:

Out of the total 30 patients, the most common primary sites are oral cavity (74%) and larynx (13%). The other sites being oropharynx and nasopharynx constituting about 10% and 3%, respectively. The age-wise distribution varied from 29 – 79 years. Approximately half (50%) of the patients presented with stage IV disease followed by 30% of the patients in stage III, 17% in stage II and 3% in stage I. Among all patients, 63% of the patients presented with normal NLR values (<3), 27% of the patients presented with slightly raised NLR values (3 - 6) and 10% presented with values in the range of 6 - 9. About 86% of the patients presented with normal PLR values (<200) and 13% with PLR values slightly raised (200 - 400). Higher values of NLR and PLR were found to be associated with higher grades of radiation induced oral mucositis during radiation treatment.

Conclusion:

Our study concludes that stage of disease at presentation has no definite relationship with baseline NLR and PLR values. However, an increase in the NLR and PLR values during the course of radiation treatment has been found to be associated with severity of radiation induced oral mucositis in patients with head and neck malignancy.

Key Words:

Neutrophil lymphocyte ratio (NLR), Platelet lymphocyte ratio (PLR), Oral mucositis, Chemoradiation, Head and neck cancer.

ABSTRACT

Title: Patterns of failure in patients with breast cancer receiving post operativeradiation therapy.

Authors: **Bhanu Vashistha,** Marcus S, Jeyaraj PA, Negi P, Gaikwad V

Institute: CMC&H, Ludhiana

Background & Introduction:

Post-operative radiotherapy forms an important component of treatment for breast cancer that substantially reduce the risk of loco-regional recurrence, both when given after mastectomy and after breast conserving surgery. Patients diagnosed with breast cancer, however, are at risk of metastasis for extended time periods. This study was conducted to determine the patterns of failure in these patients and to correlate with the timing and technique of radiation employed.

Methods:

Clinical data of patients treated with post-operative radiation therapy from December 2010 – October 2013 was collected from the medical records department. All demographic, clinico-pathological and treatment details were documented and patterns of failure were noted. The data was evaluated using Pearson chi-square test.

Results:

A total of 148 patients were enrolled in this study. Majority of the patients were in the age group 51-60 years (34.5%). Sixty-six (44.7%) patients presented with stage III disease, while 35.1% had stage II disease followed by stage IV in 13.5% and 6% patients had stage I disease. Radiation treatment was delivered by conventional technique in 49.3% patients, while 45.3% and 5.4% were treated by 3-DCRT and IMRT, respectively. Among these patients, 16.7% developed local recurrence, 69.4% had distant metastasis and 13.9% had both local and distant failure.

Conclusions:

We conclude that locally advanced breast cancer is associated with higher distant failure rate. There is no correlation between in failure rates between conventional and conformal radiation therapy.

ABSTRACT

Title: Pattern of failure in Head and Neck Squamous cell cancer treated with radiotherapy – Initial experience from AIIMS Rishikesh.

Authors: Debanjan Sikdar, A S Krishnan, L Pandey, R Ahuja, T S Athira, N Sharma, S Raut, M sharma, R Mahajan, S Gupta, D M Joseph, R Pasricha, Prof M Gupta.

Institute: AIIMS, Rishikesh

Background & Introduction: Radiotherapy plays an integral part in the radical treatment of non-metastatic Head and Neck cancer (HNC) treatment. For early stage head & neck cancers, it is used as single modality or as post-op adjuvant treatment in operable locally advance cases. Concurrent Chemo-Radiation is the treatment of choice for inoperable locally advance HNC. Modern radiotherapy is delivered using highly advance techniques like Intensity modulated radiotherapy (IMRT) & Volumetric Arc Therapy (VMAT). Although we can spare lot of normal tissues and decrease morbidity using these techniques, they are highly sensitive to intra & inter fraction errors leading to geographical miss and ultimately treatment failure. Analysis of patterns of failure provides an opportunity to improve our treatment techniques and minimise failures. We here present our data regarding patterns of failure of HNC treated by IMRT & VMAT and exploration of possible reasons for treatment failures

Methods: This is a retrospective evaluation of patients of non-metastatic Head and Neck carcinoma treated with post-op adjuvant radiotherapy or concurrent chemo-radiotherapy using IMRT & VMAT techniques at department of Radiation oncology, AIIMS Rishikesh between June 2018 and Dec 2018. Case files were checked to record disease status at last follow up visit

Results: Files of 82 patients meeting the requirements were secured from the records section. 21 patients received post op adjuvant IMRT while 61 cases received concurrent chemo-IMRT. mean age of patients was 56 yrs. Most common histopathology among inoperable HNC was Squamous Cell Carcinoma of the Oropharynx (51%) while most common post-operative site was oral cavity (20%). 65(79.2%) of patients are disease free after median follow-up of 5 months.17 (20.7%) of the evaluated patients have residual or recurrent disease, 16 (19.5%) patients have loco-regional and residual or recurrent disease and 1 patient have distant failure, among them 15 patients are locally advanced head and neck cancer 2 patient is post op. 3 (3.6%) patients of all have distant metastasis (all in lungs) among them 2 patients are post concurrent chemo radiation and 1 is post adjuvant chemo radiation. 5 patients had a disease free period before recurrence was diagnosed.

Conclusions: Recurrence after radical treatment of Head and Neck Squamous cell carcinoma is not infrequent. Globally, failure rate post radical treatment of Head and Neck cancer is between 18-26% after a median follow up of 3 to 5 years. In our study total failure rate is 20.7% post median follow up of 5 months. Two thirds of all the recurrent or residual disease of these patients never had complete response to treatment suggesting resistance to the treatment offered. Longer follow up is needed for more meaningful data about local control, pattern of failure of radiotherapy in both radical and adjuvant setting.

ABSTRACT

Title: Relation Of Neutrophil-to-lymphocyte Ratio To Survival And Toxicity In Head And Neck Cancer Patients Treated With Radiation With Or Without Chemotherapy

Authors: **Abhishek Soni,** Anil Khurana, Yashpal Verma, Omparkash, Monica Verma, Paramjeet Kaur, Ashok Kumar Chauhan

Institute: PT BDS PGIMS, ROHTAK

Background & Introduction:

A high neutrophil-to-lymphocyte ratio (NLR) is a marker of systemic inflammation is associated with worse outcomes in several solid tumors. Radiation and/or chemotherapy is the standard treatment of head and neck cancer There are no validated prognostic markers to predict the response to RT and/or chemotherapy. Neutrophil-to-lymphocyte ratio (NLR) is the ratio of absolute neutrophil count to the absolute lymphocyte count, and is a marker of systemic inflammation. Its association with survival outcomes is established in literature. But, the association of NLR with response to treatment outcomes has not been established.

Methods: Histopathologically proven HNSCC patients treated from 2013 to 2016 were included in the study. RT was given as 66 Gy in 33 fractions on Cobalt-60 machine. Concomitant CT was administered with Cisplatin 40mg/m2 weekly. EXCLUSION CRITERIA included prior radiation to head and neck, non-SCC histology, distant mets. Hematologic parameters were analyzed before and after (C)RT. Response evaluation was done using RECIST 1.1 and WHO criteria. Toxicity was analyzed using WHO toxicity criteria. Correlation analyses were carried out using linear regression and NLR was analyzed as a dichotomous variable. NLR cutoff was chosen as high (>5) or low (≤5) based on previous literature.

Results: Total 119 patients were included in study. The median NLR level before treatment were 3.75 (range, 0.51 to 11.25), and were not dependent on the local extent of the disease. The median NLR level after treatment were 2.75 (range, 0.25 to 14.17), respectively. At a median follow up of 37 months, 28 (23.5%) patients died. Higher NLR was associated with lower OS (adjusted HR per 1 unit higher log NLR = 1.76 (1.17–2.57), p = 0.005), whereas no association could be shown with LRFS (HR = 1.37 (0.78-2.35), p = 0.3), DRFS (HR = 1.41 (0.76–3.27), p = 0.4), or acute toxicity grade ≥ 2. There was no correlation between NLR and the grade of toxicity In patients with high NLR, recurrences occurred earlier, but the correlation was not statistically significant.

Conclusions: NLR ratio is an independent prognostic predictor for mortality, but not disease-specific survival outcomes or toxicity in HNSCC patients treated with primary or adjuvant (C)RT. NLR ratio is a readily available biomarker that could improve pre-treatment prognostication in HNSCC patients and may be used for risk-stratification.

ABSTRACT

Title: Dosimetric comparison of IMRT versus 3D-CRT for post mastectomy chest wall irradiation.

Authors: Dr. Oshin Suri, Dr. Raja P.S. Banipal, Dr. Pardeep Garg, Dr. Manraj Singh Kang, Dr. Romikant Grover, Mrs. Garima Gaur, Mrs. Sheetal

Institute: Guru Gobind Singh Medical College Hospital, Faridkot.

Background & Introduction:

Breast cancer is the most common malignancy and cause of cancer related death in women after lung cancer worldwide. Two Dimensional Radiation Therapy (2D-RT), Three Dimensional Conformal Radiation Therapy (3D-CRT) and Intensity Modulated Radiation Therapy (IMRT) after breast conservation surgery and modified radical mastectomy have been found to improve local control and survival in carcinoma breast. Owing to high conformal dose distribution, IMRT and 3D-CRT have better results of radiotherapy. The aim of this study is to evaluate the dose distribution and compare the dose volume histograms of 3D-CRT of the chest wall with IMRT in post mastectomy breast cancer patients.

Methods :

For Fifty randomised subsequent post mastectomy breast cancer patients, IMRT and 3D-CRT plans were generated for the radiotherapy of the chest wall with 25 patients in each arm. The prescribed dose was 50 Gy in 25 fractions. Dose-volume histograms were evaluated for the PTV and organs at risk. V5, mean dose of ipsilateral lung, V20, mean dose of contralateral lung, and V10, V30, mean dose of heart were extracted from dose volume histograms, evaluated and compared.

Results:

PTV parameters were comparable between the two groups. IMRT in comparison to 3D-CRT significantly reduced the V20, mean dose of ipsilateral lung and heart. However, the V5 of contralateral lung was low for the 3D-CRT arm.

Conclusion:

For the irradiation of the chest wall in post-mastectomy breast cancer patients, IMRT offers the potential to significantly reduce the mean dose and high dose volumes of ipsilateral lung and heart compared to 3D-CRT, but 3D-CRT is superior in terms of low dose volume.

ABSTRACT

Title: Extranodal Primary Ovarian Non Hodgkins Lymphoma with CNS Dissemination-A Rare Case Report

Authors: **Dr. Prudhvi Inampudi,** Dr Gaurav Jaswal

Institute: Maharishi Markandeshwar Institute Of Medical Sciences and Research

Background & Introduction:

Involvement of the ovary by Non Hodgkins Lymphoma is usually a late manifestation of disseminated disease.Primary Ovarian NHL is rare accounting for around 0.5 % of all NHL and 1.5 % of all ovarian neoplasms. CNS dissemination is an uncommon but lethal event in non-Hodgkin lymphomas.We are discussing here a case of Extranodal Primary Ovarian Lymphoma with CNS dissemination managed with surgery,chemotherapy and whole brain radiotherapy.

Methods: A 40 year old female presented with lump and pain abdomen since 3 months and no other systemic complaints.CECT abdomen showed bilateral pelvic heterogenous lobulated solid masses and lymph nodes in pre and para aortic region. CA-125 level was 99.1.Chest Xray was normal.She was initially diagnosed as Ca Ovary. She underwent staging laparotomy with total abdominal hysterectomy and bilateral salpingo-oophorectomy.Lymph node dissection was not done.Histopathology report showed High Grade B cell NHL suggestive of Diffuse Large B Cell Lymphoma.On IHC, CD 20 was positive and CD 3 was negative. Further investigations for staging were done.Bone marrow aspiration and biopsy showed no involvement.CECT neck and thorax showed no lymph nodes. CA-125 was 19.6 postoperatively.Pt was given 6 cycles of CHOP chemotherapy.She presented 2 weeks after last cycle with pain and blurring of vision in right eye and headache.Fundus examination showed Right optic nerve infiltration; CEMRI brain showed lesion in Lt medial temporal lobe; CSF cytology was negative.She was diagnosed with brain metastases and treated with Whole brain Radiotherapy with 30Gy/10#.Pt kept on close followup.

Discussion: Because of rarity of this type of cancer, there is no general consensus about the therapeutic management.Rates of CNS dissemination vary widely between extranodal lymphomas, with no cutoff to differentiate risk groups. An increased risk of CNS involvement has been reported in some extranodal lymphomas.CNS prophylaxis cannot be used in all lymphoma patients because of the associated increased risk of severe neurotoxicity and other relevant side-effects. Thus, the identification of extranodal lymphomas at increased risk of CNS dissemination is an important, unmet clinical need.

Conclusions: Primary ovarian lymphoma have low risk of CNS dissemination. Therefore, may not be ideal candidates for CNS prophylaxis as per present knowledge.The affinity of lymphomas for disseimination in the CNS cannot be explained by present clinical and biological knowledge. Future studies aimed to identify reliable markers predicting CNS tropism will greatly contribute to a more accurate definition of the best candidates for CNS-directed strategies.

ABSTRACT

Title: Etiological And Clinical Prognostic Factors In Oropharynx Carcinoma Treated With Chemoradiation.

Authors: **Dr. Sonali Karnwal,** Dr Raja Paramjeet Singh , Dr Pardeep Garg, Dr Manraj Singh, Dr Romi Kant.

Institute: GURU GOBIND SINGH MEDICAL COLLEGE HOSPITAL , FARIDKOT.

Background & Introduction:

Oropharyngeal carcinoma squamous cell carcinoma is the most common malignancy of head and neck cancers. Recent trends have shown a dramatic rise in the incidence of Oropharyngeal squamous cell carcinoma in India. According to GLOBOCAN data 2018, in INDIA the incidence is 17,903 with 5 yrs. prevalence of 43,015. Increased risk of substance abuse i.e. smoking, alcohol, smokeless tobacco leads to increase incidence of oropharyngeal carcinoma. There is escalating evidence of causal association with increased risk of oropharyngeal cancer. Many patients with oropharyngeal carcinoma shows epidemiological rise in the incidence of human papilloma virus mainly HPV 16. This study represents the latest evidence regarding oropharyngeal carcinoma conducted at GURU GOBIND MEDICAL COLLEGE HOSPITAL, FARIDKOT.

Methods:

50 biopsy proven patients with squamous cell carcinoma oropharynx were considered for this study with non-probability sampling method. All patients underwent pre-treatment evaluation by complete history taking, general physical examination, local examination, radiological investigations. All patients received total dose of 66 Gy/ 33#/ 6.5 wks with concomitant injection cisplatin 35mg/m2. Monthly follow up was done clinically for 6 months from the date of completion of treatment.

Results:

It was found that the major risk factors are tobacco (smoking and smokeless products such as betel quid) , alcohol, human papilloma virus infection. A family history of head and neck cancer in first degree relative is associated with 1.7 fold increased risk of developing the disease. It was found that patients who had history of smoking had high chance of developing oropharyngeal carcinoma. The most common lymph node station involved is level II. All these factors are statistically significant.

Conclusions:

Combined bidi smoking and alcohol consumption exhibits a synergistic effect, with a relative risk for oropharyngeal carcinoma (squamous cell carcinoma), among heavy users of both products. More predominant in males as compared to females. Several patients, disease, and treatment related variables independently affects the survival outcomes after radical radiotherapy for oropharyngeal carcinoma.

ABSTRACT

Title: Proton Therapy- Is it a Real Miracle in Modern Oncology

Authors: **Sunder Singh,** Anil Kumar Dhull, Rajeev Atri, Rakesh Dhankhar, Vivek Kaushal

Institute: PGIMS, Rohtak

Background &Introduction: Physical Rationale Protons have different dosimetric characteristics than photons used in conventional radiation therapy. After a short build-up region, conventional radiation shows an exponentially decreasing energy deposition with increasing depth in tissue. In contrast, protons show an increasing energy deposition with penetration distance leading to a maximum (the "Bragg peak") near the end of range of the proton beam. This physical characteristic of protons causes an advantage of proton treatment over conventional radiation because the region of maximum energy deposition can be positioned within the target for each beam direction. This creates a highly conformal high dose region, e.g., created by a spread-out Bragg peak (SOBP) with the possibility of covering the tumor volume with high accuracy. At the same time this technique delivers lower doses to healthy tissue than conventional photon or electron techniques.

Methods: Proton therapy has been applied for the treatment of various disease sites including paranasal sinus tumors, chordoma, chondrosarcoma, meningioma, prostate and lung tumors. Clinical gains with protons have long been realized in the treatment of uveal melanomas, sarcomas of the base of skull and sarcomas of the paravertebral region.Treatment plan comparisons show that protons offer potential gains for many sites.

Results: Studies have found that the use of protons could lead to a reduction of the integral dose by a factor of three compared to standard photon techniques and a factor of two compared to intensity modulated photon plans.Due to the reduction in integral dose with protons, the most important benefits can be expected for pediatric patients and central nervous system (CNS) including embryonal tumors.It is evident from photon/proton comparisons that even with the rapid development of intensity-modulated dose delivery with electrons and photons, protons are capable of much higher dose conformity, in particular for intensity modulated proton techniques (IMPT).With the increment of long-term survivors from malignant CNS tumors, the radiation-related toxicities have become a major concern and we need to improve the treatment strategies to reduce the late complications without compromising the treatment outcomes. One of such strategies is to reduce the radiation dose to craniospinal axis or radiation volume and to avoid or defer radiation therapy until after the age of three. CNS embryonal tumors constitute about 20% of all pediatric CNS tumors and medulloblastoma is the most common type of CNS embryonal tumors. Therefore, medulloblastoma is the most common pediatric malignant CNS tumor and it represents 15–20% of pediatric CNS tumors and 40% of posterior fossa tumors. The physical advantages of proton beam over photon beam can reduce radiation-induced toxicities and improve quality of life for patients who become long-term survivors of certain pediatric CNS tumors.

Conclusions: Proton beam therapy rather than photon beam therapy reduced the volume of supratentorial brain and temporal lobe that received low or intermediate doses of radiation, and differences in the overall dose distributions showed that a reduction in radiation dose or volumes would have long-term, clinical advantages Another benefit of proton beam therapy over photon beam therapy is a reduction of risk for secondary malignancy. In summary, IMPT treatments can be tailored to yield improved dose conformity and steeper dose gradients, further reduction of integral dose and less sensitivity to range uncertainties and other sources of uncertainty or a combination thereof

ABSTRACT

Title: Dosimetric analysis and comparison of Gastrointestinal tract toxicity in patients of carcinoma cervix treated with three-dimensional conformal radiotherapy and intensity modulated radiotherapy

Authors: Dr Abhilasha Sinha, Dr Raja Ps Banipal, Dr Pardeep Garg, Dr Sapna Marcus Bhatty, Dr Manraj Singh Kang, Dr Romikant Grover, Dr Rahul Shukla (sn. Med. Phy.), Gurpreet Kaur Randhawa (med. Phy.)

Institute: GURU GOBIND SINGH MEDICAL COLLEGE & HOSPITAL, FARIDKOT

Background & Introduction:

Carcinoma cervix accounts for 569,847 new cases and 311,365 deaths worldwide which accounts for 7.5% of total number of cancer deaths in women. Three-dimensional conformal radiotherapy (3DCRT) introduced in the late 1990s reduced the radiation dose to bladder, but no appreciable dose reduction was seen to the bowel bag and rectum. While Intensity modulated radiotherapy (IMRT) has proven benefits over 3DCRT in head and neck carcinomas; in cases of pelvic malignancies including carcinoma cervix, the reported findings of its utility and safety have been controversial. In 2000s, National comprehensive cancer network (NCCN) reported that IMRT treatment of gynaecological malignancies was not sufficiently well established for general recommendation. With the aim of resolving inconsistencies, the present study was conducted for Dosimetric analysis and comparison of Gastrointestinal tract toxicity in patients of carcinoma cervix treated with three-dimensional conformal radiotherapy and intensity modulated radiotherapy at Guru Gobind Singh Medical College & Hospital.

Methods:

60 biopsy proven cases of carcinoma cervix were randomized into ARM- A 3DCRT & ARM-B IMRT. Patients included were restricted to FIGO stage IIB – IIIB. All patients received 50 Gy/ 25 # EBRT with concomitant cisplatin 50mg weekly followed by 9.5 Gy/# *2 ICRT. The Dosimetric parameters for bowel bag & rectum were recorded before starting radiotherapy. The RTOG toxicity grading was used for subjective response assessment weekly during radiotherapy and thereafter monthly for 6 months.

Results:

In Dosimetric analysis there was reduction in average irradiated volumes for rectum and bowel bag in cases treated with IMRT as compared with 3DCRT. IMRT did not show significantly higher toxicities than 3DCRT arm. Statistics are awaited.

Conclusions:

Treatment of cervical cancer using IMRT showed high precise dose delivery to the target with low average volumes of irradiation of rectum & bowel bag than 3DCRT.

ABSTRACT

Title: Inflammatory Myofibroblastic Sarcoma of Breast

Authors: Vipul Bansal, Anil kumar Dhull*, Harmeet Singh, Vivek Kaushal*

Institute: Department of Radiation Oncology, Kainos Superspeciality Hospital, Rohtak . *PGIMS, Rohtak

Background & Introduction:

Inflammatory myofibroblastic sarcoma (IMS) of breast is extremely rare malignancy. It is commonly seen in young adults, and can occur at any site in the body, the lung being the most common site. Pertinent data on malignant course, recurrence, and metastasis for IMS of breast are scarce. We report a case of a primary breast IMS in a premenopausal female patient who was successfully treated and review the literature pertaining to this rare entity.

Methods:

40-year female patient had complaints of a lump on the upper outer quadrant of her left breast for 3 months. Bilateral mammogram s/o radio dense area in upper and outer quadrant of left breast BIRADS IV. PET CT revealed no lesion in body other than breast lesion. She underwent left modified radical mastectomy.

Results:

Post OP Histopathology s/o Inflammatory myofibroblastic sarcoma of left breast . LCA, ER, PR, Her2 neu, CK, ALK were negative. Vimentin was diffusely positive. SMA was positive in 25% of cells including giant cells. Grade 2, margins free, LVI/PNI negative, pT2N0M0. She received 6 cycles of adjuvant chemotherapy with VAC regimen, 3 weekly with Inj vincristine 1.4mg/m2 (max 2mg) IV, Inj doxorubicin 75mg/m2 IV (the first 5 cycles) followed by dactinomycin 1.25mg/m2 IV (6th cycle), Inj cyclophosphamide 1,200mg/m2 IV with CBC, SGOT/SGPT, S. creatinine and S. urea monitoring.

Conclusions:

Despite a recurrence rate up to 40%, she is disease free for last 18 months. Various cytotoxic regimens and agents have been used in past however, none of the chemotherapeutic regimens had been evaluated in a case series. Reported cases on IMS of the breast are very scarce. They have the potential for a high rate of recurrence after surgery and are associated with a bad prognosis. Adjuvant chemotherapy may be the new and best therapeutic strategy following surgery for IMS of breast

ABSTRACT

Title: ABO blood type and cancer : preliminary findings of an observational study

Authors: **Anil Khurana,** Shailley Arora Sehgal, Paramjeet Kaur, Om Prakash, Abhishek Soni, Ashok Chauhan

Institute: PT B D Sharma PGIMS,Rohtak(Haryana)

Background & Introduction:

After discovery of ABO blood group by Karl Landsteiner in 1901 it has been correlated with numerous diseases with varying results around the world. The proposed mechanism for causation of cancer is alterations in surface glycoconjugates which lead to modifications in intercellular adhesion, membrane signaling, and immunosurveillance. Various phenomic study have shown association between ovarian, cervical, pancreatic, gastric cancers and leukemia etc with a particular blood group but no definitive conclusion have been made till date.

Material and methods:

In this observational study 200 cases of confirmed histopathology of cancer of any site were analyzed for blood group. Blood group was tested as part of routine work up. The ABO blood type was determined using a standard agglutination test for the presence of ABO antigens in subject's whole blood. The test result of the ABO blood type was recorded and noted with other demographic parameters e.g. age, gender, rural/urban, smoker/non smoker and smoking index. Patients' confirmed histopathological diagnosis of cancer was noted separately and correlation was calculated.

Results:

The data on the ABO blood type frequency revealed that blood group B positive was most frequent i.e. 28% slightly less than O positive i.e. 26% amongst 200 cancer patients. Least frequent blood group was AB negative with only 2 patients and correlation study suggested only head and neck cancers were significantly correlated with B positive blood group.

Conclusion :

Maximum number of patients was of B positive blood group and significantly correlated with head and neck cancers. However a large prospective study is warranted before a particular blood group is designated as risk factor.

ABSTRACT

Title: STUDY THE EFFICACY OF GAMMA & DELTA TOCOTRIENOL IN ORAL SUBMUCOUS FIBROSIS (OSMF): AN ORAL PREMALIGNANT CONDITION

Authors: **Dr. Arun K Aggarwal** (Aadhar Hospital, Hisar),

Dr. Harmeet Singh (Kainos Hosptal, Rohtak)

Institute: Aadhar Hospital, Hisar

Introduction & Objective :

An oral premalignant condition that is oral sub mucous fibrosis (OSMF) which is categorized by inflammation and progressive fibrosis with malignant rate due to sub mucosal tissues resulting in marked rigidity and trismus. The present study objective was to evaluate the efficacy of an isoprenoid compounds in the form of gamma and delta tocotrienol by comparative with conventional treatment in OSMF.

Material and Method :

This study was carried out in the group of confirmed OSMF patients which were further divided into two sub-groups; each group had 15 patients elected from Aadhar Hospital, Hisar, India.

The Group I patients were given conventional treatment.

Group II patients were given (gamma and delta tocotrienol 400mg soft gel capsules, b.i.d orally) with conventional treatment for a period of three to six months.

Results :

The obtained results were confirmed histo-pathologically and showed that combination of gamma and delta tocotrienol capsules significantly improved the patient's conditions in terms of burning sensation, pigmentation, extent of mouth opening and its effectiveness in the OSMF treatment as compared to conventional treatment alone

Conclusion :

The present study overall results concluded that gamma and delta tocotrienol with conventional treatment is a safe and reliable method which played a significant role in the treatment of OSMF.

Further, a larger randomized study is needed to evaluate and establish the role of gamma and delta tocotrienol combination in the treatment of OSMF.

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