AROI NEWSLETTER

June 2019 Vol.15, Issue 2

From the office of AROI

GBM Meeting:-

- 1st Annual AROI General Body meeting to be held on 30th November 2019 in main hall of conference area, at 5 PM (Or 15 minutes after finishing best paper session).
- 2nd Annual GBM to be held 15 minutes after completion of 1st AGBM.
- Agenda will be circulated later. If anybody want some issue to be included. Please send to Undersign.

Dr. Rajesh Vashistha
President AROI

Dr. G.V. Giri
Secretary General AROI

Dr. Manoj Gupta
President Elect AROI

IN THIS ISSUE

Applications Invited For following programs

Best of ASTRO - 2020 & 2021
AROI-ESTRO teaching courses for 2020 & 2021
1. AROI-ESTRO Advance Technology course
2. AROI ESTRO GYN Teaching Courses

AROI SUN ICRO teaching program for PG teaching courses - 3 courses
PRODVANCE AROI-ICRO teaching for Post PG teaching course (4 Zones)
AROI-ICRO INTAS Radiobiology course (4 zones)
Applications should be forwarded through the HOST INSTITUTE, endorsed by the HEAD of the INSTITUTE and the state /chapter /zonal.

Dr. G V Giri
Secretary General AROI

FICRO awards

Respected Members of ICRO,

Greetings from AROI and ICRO.

The Indian College of Radiation Oncology invites applications from distinguished Members of the Association of Radiation Oncologists of India with the below mentioned eligibility criteria and conditions, as has been laid down by the Constitution and Byelaws of AROI and ICRO, for the award of Fellowship of Indian College of Radiation Oncology.

The Eligibility Criteria for the FICRO award are:

1. Founder Members of the ICRO
OR
2. Membership of the ICRO for at least 5 years and possessing more than 15 years of experience after post-graduation.

A. Founder members are automatically eligible for award of the Fellowship, subject to submission of Application and the payment of the Admission Fees for the Fellowship.
B. For other than Founder Members, Application needs to be submitted and after Election as a Fellow, a communication will be sent to the Elected Fellows for depositing the Admission Fees for the Fellowship, by the due date as per the communication.
C. Fellowships will be awarded after the receipt of the Admission Fees.

Format of the Application Form and Instructions can be downloaded from the AROI Website. A soft copy of the application is to reach Dr. V Srinivasan, Secretary ICRO through e-mail so as to reach him not later than 12 midnight of 31st July, 2019. A hard copy of the application along with all supporting documents is to reach the Secretary ICRO at the earliest but not later than the 10th August, 2019. Late applications will be considered for the Election of Fellows for the subsequent year.

Admission Fees for ICRO Fellows:
Rs 6500/-(Rupees Six thousand and Five hundred only) through DD/ Bank Transfer to "AROI-ICRO",
Bank details:
Bank Address: Post Bag No-30, Post Office Industrial (25327468)
Millerganj (Ludhiana)
Account No: 30619770736,
IFSC: SBIN0000731
Type of Account: Saving

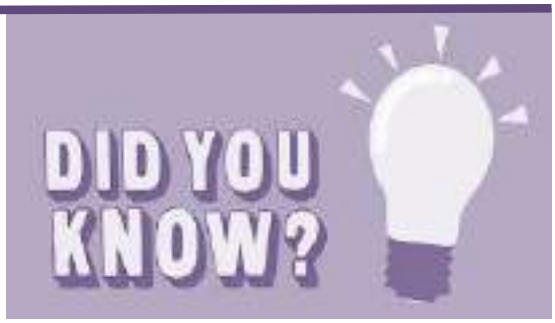
Best Regards.

Dr. V Srinivasan
Secretary ICRO

Dr. Satyajit Pradhan
Chairman ICRO

Cancer facts - Did you know - North East India -

The North East India comprises of 8 states including Assam, Meghalaya, Manipur, Mizoram, Tripura, Arunachal Pradesh, Nagaland & Sikkim.
Incidence rate of cancer is highest in North east India compared to rest of India.
Cancer of oesophagus, lung, Stomach, Hypopharynx are common in males while breast, Cervix, Oesophagus & gall bladder cancer lead the list in females.
Age Adjusted Rate (AAR) per lakh population in North East is from 170-270 while it is below 150 in Rest of India for males.
For females AAR is 130-250 for North East states while it is below 130 for other Indian States.
The possibility of developing cancer is very high ranging from 1 in 5 person to 1 in 16.



5 year Survival rates of head & Neck, Breast & cervix cancer is lower in North East India compared to Rest of India.
The possibility of developing cancer is very high ranging from 1 in 5 person to 1 in 16.
More than 50% cancers in males and more than 25% cancers in female are associated with Tobacco.

Source - NCDIR

KNOW YOUR ORATORS

Prof. K T Dinshaw Memorial Oration

During 41st Annual conference of Association of Radiation Oncologists of India (AROICON – 2019)
Ahmedabad, Gujrat, India - 29th November to 1st December 2019

Eduardo Zubizarreta – zubi

Current position
Zubi is Head of the Applied Radiation Biology and Radiotherapy Section (ARBR) at the International Atomic Energy Agency (IAEA).

Training
Zubi specialised in radiation oncology in Bueanos Aires, Argentina, after obtaining his MD degree from the University of Buenos Aires in 1980. He moved to Uruguay in 1989, where he obtained the degree of Doctor in Medicine from the University of the Republic in 1990. In 1995 he was fellow at the Mallinckrodt Institute of Radiology, Washington University in St Louis, USA.

Main interests and Global collaborations / HE
After a career of 26 years as a radiation oncologist in Argentina and Uruguay zubi joined the IAEA in 2006. He has been responsible for 100 technical cooperation projects worldwide and for many technical publications, and has conducted several research projects. He collaborated with the GTFRCC and is actively engaged in several global health projects.

Short statement
As the gap in access to radiotherapy is so big in poor regions we need to be creative but at the same time realistic to choose interventions that can obtain the biggest impact with minimum effort. Global health initiatives like GIRO have a great opportunity to propose initiatives that can improve access to radiotherapy.

Dr. Rangi Prasad Singh Memorial Lecture

During 41st Annual conference of Association of Radiation Oncologists of India (AROICON – 2019)
Ahmedabad, Gujrat, India - 29th November to 1st December 2019

Professor (Dr) K Ramadas

Professor K Ramadas is the Head of Radiation Oncology, Regional Cancer Centre, Thiruvananthapuram. He has served Regional Cancer Centre, Trivandrum as Medical Superintendent and later as Additional Director for 9 years till October,2018.
He is the recipient of several awards including the Best Doctor award of the year 2006 in Cancer Control by the Government of Kerala, Visiting Scientist Award of the WHO – IARC for senior researchers in the year 2007, Nazli Gad –el-Mawla Award 2011 by the International Network for Cancer Treatment and Research for his outstanding contributions to cancer treatment and research and the Spirits of Humanity Award for Oncology Research from Americares India in April 2012. He is a member of several professional bodies. He has been awarded PhD by University of Kerala for his work on Oral Cancer in 2013. He has over 90 publications in his credit and has contributed 18 chapters in various text books.

KNOW YOUR ORATORS

Dr. B D Gupta Oration

During 41st Annual conference of Association of Radiation Oncologists of India (AROICON – 2019)
Ahmedabad, Gujrat, India - 29th November to 1st December 2019

Prof (Dr). Vijay Anand Reddy
Director
Head, Dept. of Oncology
Apollo Cancer Institute
Hyderabad

PRESIDENT
Association of Radiation Oncologists of India (AROI)

Fellowships :
1. "INTERNATIONAL UNION AGAINST CANCER FELLOWSHIP" 1992
at Meyerstein Institute of Oncology, The Middle Sex Hospital, London.
2. "LEEDS FELLOWSHIP" VISITING RESEARCH FELLOWSHIP 1993
at University of Leeds, Cookridge Hospital, Leeds, U.K.
3. "NARGIS DUTT MEMORIAL FOUNDATION FELLOWSHIP" 1995
at The New York Hospital, Queens & The Memorial Sloan Kattering Hosp, New York, USA.
4. "HEAD & NECK AND GYNAEC ONCOLOGY FELLOWSHIP" 1998
at Peter Mac Callum Cancer Institute, Melbourne, Australia.
5. "OCULAR ONCOLOGY FELLOWSHIP" 2003
at The Children's Hospital of Philadelphia, Philadelphia, USA.
6. "STERIOTACTIC RADIOSURGERY FELLOWSHIP" 2010
at Klinikum Frankfurt (Oder) GmbH, Frankfurt, Germany.

Scientific Awards :
1. "INTERNATIONAL CANCER RESEARCH TECHNOLOGY TRANSFER AWARD"
Awarded in 1992 by UICC, Geneva, Switzerland.
2. "NARGIS DUTT MEMORIAL FOUNDATION AWARD" 1995
Awarded by Nargis Dutt Memorial Foundation, Flushing, New York, USA.
3. "BEST SCIENTIFIC PAPER AWARD" 1996
at XVIII National Conference of Assoc. Oncologists of India" at Aurangabad, INDIA.
4. "YOUNG SCIENTIST AWARD" 1996
Awarded by Indo-American Cancer Congress, New York, 1996.
5. "INTERNATIONAL CANCER RESEARCH TECHNOLOGY TRANSFER AWARD"
Awarded in 1998 by UICC, Geneva, Switzerland.
6. YOUNG INVESTIGATORS AWARD ' 2001
Awarded at New Delhi by Eli Lilly & Company, USA.
7. "BEST POSTER" AWARD 2008
Awarded by American Academy of Ophthalmology at Atlanta, GA, USA
8. "Best Scientific Poster Award 2009" for Histopathology of Retinoblastoma after primary Chemotherapy - Awarded by ARICON – 2009, Hyderabad, INDIA
9. "Best Scientific Paper Award 2009" for Ruthenium 106 Plaque Brachytherapy: Indications and Outcome in Ocular Tumors – Awarded by AROICON – 2009, Hyderabad, INDIA
10. "Best Scientific Paper Award 2014" for A Prospective Observational Feasibility Study of Hypofractionated Radiotherapy for Clinically localized Carcinoma Prostate – Awarded by AROICON – 2014, Imphal, INDIA
11. "Best Scientific Paper Award 2015" for Prospective study of Neurocognitive function, performance status, quality of life and local control in patients with 1-3 newly diagnosed brain metastases treated with stereotactic radio surgery alone – Awarded by AROICON – 2015, Lucknow, INDIA
12. "Ocular Oncology Achievement Award 2017", Awarded by American Ophthalmology Society, CA, USA

Scientific Publications & Presentations :
- Published (91) & Presented several Scientific papers (292) in National & International Journals & Scientific Meetings.
- Guest Speaker in more than 600 Scientific Meetings.

Social Responsibilities:
1. Founder & Chairman, CURE Foundation (www.curefoundationindia.com)
Free & Subsidized Cancer treatment for Poor Cancer patients
2. Joined SPARSH HOSPICE as one of the Board of Directors
A Center for terminally ill Cancer patients. Website: www.sparshhospice.org
3. Anti Tobacco Crusader
Responsible for ban of Gutka and other Tobacco related products in A.P. State
4. CANCER Awareness Programs all through the years
To create Cancer Awareness across the State & Country
5. Cancer Screening Campaigns all through the years
Cancer Screening camps in several Villages and Towns
6. Authored a Book- I AM A SURVIVOR – 108 Stories of Triumph over Cancer.

Member of Major National & International Oncology Bodies
1. Full Member of American Society of Clinical Oncology (ASCO)
2. Full Member of American Society for Radiation Oncology (ASTRO)
3. Permanent Member of European Society of Medical Oncology (ESMO)
4. Permanent Member of "Union for International Cancer Control", UICC, Geneva
5. Member of Association of Radiation Oncologists of India (AROI)
6. Member of Indian College of Radiation Oncology (ICRO)
7. Member of Indian Society of Oncology (ISO)
8. Member of Civil Assistant Surgeon's Association, Andhra Pradesh
9. Member of Indian Medical Association (IMA)
10. Member of Indian Co-operative Oncology Network (ICON)
11. Member of Indian Brachytherapy Society (IBS)

Radiobiological basis of fractionated radiotherapy in head and neck cancer and clinical results

Dr. Tanweer Shahid
Senior Consultant
Head of Academics and Research
Radiation Oncology
Apollo Gleneagles Hospital - Kolkata

Introduction

Radiation therapy (RT) plays a pivotal role in multi-disciplinary treatment management of head and neck squamous cell carcinoma (HNSCC). In curative intent radiotherapy of HNSCC, difference in clinical outcome is accountable to treatment-related variables including total dose, overall-treatment time and addition of chemotherapy besides tumor-related prognostic factors. Conventional multi-fractionated Radiotherapy is largely the result of early radiobiological experiments conducted in 1920-1930's. Conventional fractionation is a convention, founded on logistic, rather than radiobiological principles. Standard Conventional fractionation is typically defined as the delivery of a dose of 1.8-2 Gy, once daily, five fractions per week.

Over the last two decades, altered fractionation has been shown the significant improvement in treatment out-come in locally advanced head and neck squamous cell carcinoma (HNSCC). But, patient tolerance of acute toxicities is the major limiting factor and that may prevent the wide-spread use of altered fractionation regimens. Individualization of fractionation schedules is another problem which must be properly addressed, and radio-biologically based of the dose-fractionation regimen for the individual patient needs to be explained appropriately.

BASIS OF FRACTIONATION

The efficacy of fractionation is based on 5 R's of Radiobiology. Those are –

1. Repair of the sub-lethal damage,
2. Re-assortment of cells,
3. Repopulation,
4. Re-oxygenation,
5. Radio-sensitivity.

In simple terms, the fractionated radiotherapy means dividing a dose into a number of fractions that spares normal tissues because of repair of sub-lethal damage between dose fractions and repopulation of cells if the overall time is sufficiently long. At the same time, it increases damage to the tumor because of re-oxygenation and re-assortment of cells into radio-sensitive phases of the cycle between dose fractions.

The advantages of prolongation of treatment are to spare early reactions and to allow adequate re-oxygenation in tumors. Excessive prolongation, however, allows surviving tumor cells to proliferate during treatment.

All normal tissues are not same. There is a clear distinction between the early responding tissues e.g. skin, mucosa and intestinal epithelium and the late responding tissues e.g. spinal cord. That is totally depends on the α/β ratio which defines as the dose at with linear and quadratic component of cell killing equal.

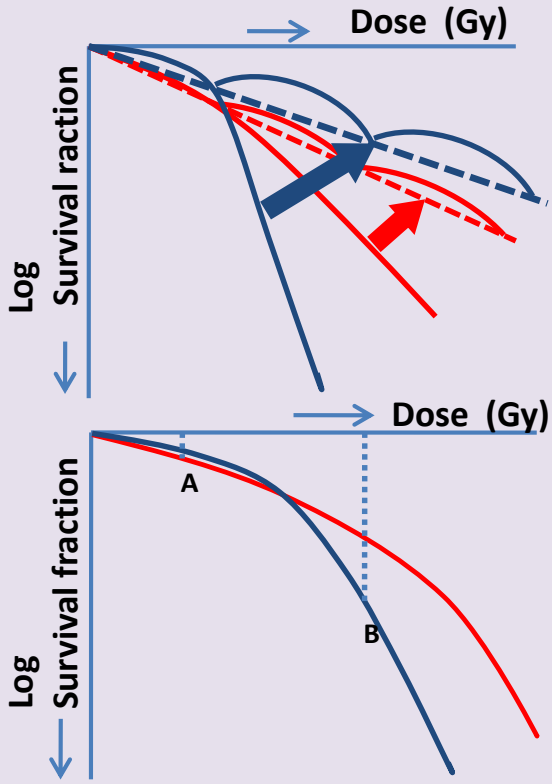
For early effects, α/β is large and they have high turnover rate. As a consequence, α dominates at low doses, so that the dose-response curve has a marked initial slope and does not bend until higher doses. The linear and quadratic components of cell killing are equal by about 10 Gy. For late effects, α/β is small and they have slow turnover rate. So that, the β component has an influence at low dose. The dose-response curve bends at lower doses to appear more curvy. The linear and quadratic components of cell killing are equal by about 2 Gy.

There are a few important parameters of radiotherapy which monitors the normal tissue tolerance e.g.

1. Total Dose,
2. Dose per fraction/ Fraction size,
3. Overall treatment time,
4. Interval between fractions,

Radiobiological basis of fractionated radiotherapy in head and neck cancer and clinical results

The difference in shape of the dose-response relationship for early and late responding tissues leads into the conclusion that fraction size is the dominant factor in determining late effects and the overall treatment time has a little effect on late responding tissues.
By contrast, fraction size and overall treatment time both determine the response of acutely responding tissues. Below graph shows how fractionation spares late responding tissues.



DOSE-RESPONSE RELATIONSHIP

Even, treatment with any cytotoxic agent, including radiation, can trigger surviving cells in a tumor to divide faster than before. This is known as accelerated repopulation. Repopulation in this human cancer accelerates at about 28 days after the initiation of radiotherapy in a fractionated regimen and daily loss of about 0.6 Gy radiation dose. Depending upon these radio-biological basis, various altered fractionation schedules are attempted.

ALTERED FRACTIONATION SCHEDULES

1. Hyper-fractionation.
2. Accelerated fractionation.
3. Accelerated hyper-fractionation.
4. Altered fractionation in postoperative setting.
5. Altered fractionation vs Conc CTRT.
6. Altered Fractionation + CT
7. Hypo-fractionation

A brief overview of different types of altered fractionation schedules is discussed one by one.

1. Hyperfractionation

"Pure" hyper-fractionation might be defined as keeping the same total dose as in a conventional regimen in the same overall time but delivering it in twice as many fractions by the expedient of treating twice per day. This would not be satisfactory. Thus, "impure" hyper-fractionation involves an increase in the total dose and sometimes a longer overall time as well as many more fractions delivered twice per day.
RATIONALE: To reduce morbidity in the late-reacting normal tissues like spinal cord and subcutaneous tissue and to achieve therapeutic gain.
EVIDENCE: Initial encouraging data of Hyperfractionation published from France in 1992, a phase III randomized control trial (EORTC 22791, Horiot et al) designed to compare HF with Conventional fractionation. They concluded 5 yrs LRC improved 59% in HF arm and that was statistically significant. Most beneficial groups are T3N0 or more locally advanced stage patients. The Radiation Therapy Oncology Group (RTOG 90-03), a large phase III clinical trial, was designed to compare HF with two variants of AF and showed improvement in 2-year LCR of 8.4% with 81.6 Gy (HF arm). Both AF with a concomitant boost and HF were associated with improved LRC and DFS as compared with CF, but associated with increased acute toxicity and no significant difference in grade 3 or worse late effects after treatment.

Meta-Analysis of Radiotherapy in Carcinomas of Head and neck (MARCH) collaborative group analysed 15 randomized trials conducted between 1969 and 1998 with 6515 patients comparing CF with HF or AF.

Radiobiological basis of fractionated radiotherapy in head and neck cancer and clinical results

With a median follow-up of six years, 3.4% absolute benefit at 5-years (p=0.003) was observed with altered fractionation RT. Further analysis showed significantly higher benefit with HF arm (8% at 5 years) than AF that was statistically significant. Altered fractionation schedule also showed 6.4% benefit at 5 years for LRC in comparison to CF (p<0.0001). Subgroup analysis exhibited a strong correlation of decreasing effect of altered fractionation with increasing age and with poor performance status.

In spite of evidence revealing higher survival benefit with HF regimen (8% and 6.5% at 5 years in MARCH and MACH-NC meta-analysis respectively), HF scheduling has not been widely adopted owing to patient inconvenience, logistics, cost and higher acute toxicities.

2. Accelerated fractionation

"Pure" accelerated treatment might be defined as the same total dose delivered in half the overall time by the expedient of giving two or more fractions each day.

RATIONALE: To decrease the regeneration of tumor cell & increase the probability of tumor control by reduction of total treatment time.

MODIFICATIONS OF AF:

In order to accelerate the radiation, various modifications like continuous delivery of treatment during weekends, i.e., seven fractions per week, delivering six fractions per week, or as the second fraction after 6 hour interval and delivery of concomitant boost in last two weeks of treatment might be done.

Type A: Accelerated fractionation in combination with hyper-fractionation

SALIENT FEATURES: Reduced total dose, reduction of OTT by 3-4 weeks, more than 10 fractions per week and <1.8 Gy per fraction.

EVIDENCE: In 1996, UK conducted a unique 3:2 randomization study called continuous hyper-fractionated accelerated radiotherapy (CHART) regimen consisted low dose per fractionation to a total dose of 50 to 54 Gy in 36 fractions over 12 consecutive days, with 3 fr delivered daily with an inter-fraction interval of 6 hours. The results showed similar local control with brisk acute reactions but peaked after completion of treatment, but fewer late effects than conventional regimens except several myelopathies were recorded probably due to short inter-fraction interval of 6 hours. It was advantageous in particular subgroups of patients in younger patients (p=0.041) and advanced laryngeal tumors (p=0.002) with high compliance.

Type B: Accelerated fractionation with split-course

SALIENT FEATURES: Similar total dose, reduced OTT by 2 weeks, more than 5 fractions per week and <1.8 Gy per fraction.

EVIDENCE: EORTC 22851 Protocol by Horiot et al conducted phase III randomized controlled trial comparing AF with 2 weeks OTT reduction versus CF. They delivered a cumulative dose of 72 Gy in 45 fr in 4.5 to 5 weeks for the two treatment courses. At 5 years, 13% LRC absolute gain was possible in AF arm representing a 24% reduction of local failure rate. However, this regime failed for clinical use as the study arm suffered from greater normal tissue toxicity than CF arm.

The split-course AF is radio-biologically inferior as tumor repopulation occurs in the interval between treatment courses. Hence, It is no more practiced in head and neck cancers except in some palliative settings.

Type C: Accelerated fractionation using concomitant boost

SALIENT FEATURES: Similar total dose, reduced OTT by 2 weeks, 5 fractions per week, followed by 10 fractions per week in the last 2 weeks of treatment and <1.8 Gy per fraction.

EVIDENCE: RTOG 90-03 used this type of accelerated treatment where boost fraction was delivered in the last 2 weeks of conventional treatment as a late, accelerating component given as a second fraction with 6-8 hours from the main treatment to allow some repair to occur. This approach has shown an improved overall survival and increased rate of local control along with increased acute toxicities. However, evidence suggests that late side effects appear to occur with similar frequency to CF.

Type D: Accelerated fractionation with dose escalation

SALIENT FEATURES: Similar total dose, reduced OTT by 2 weeks, more than 5 fractions per week and <1.8 Gy per fraction.

Radiobiological basis of fractionated radiotherapy in head and neck cancer and clinical results

EVIDENCE: In 1996, Skladowski et al carried out a randomized control trial on 100 patients treated between 1993 and 1996 of stage T2-4N0-1M0 that was published in Green Journal. Seven-day-continuous accelerated irradiation (CAIR) (n=51) was compared to CF (5 days per week) (n=49). Both arms constituted majority of laryngeal cases (39% and 44%, respectively). All patients received 2 Gy or 1.8 Gy/day at regular 24-hour intervals to total dose in the range of 66±72 Gy. In CAIR arm, a small field limited to the primary tumor and involved node only were irradiated on Saturdays and Sundays. It demonstrated a 3 year LRC of 82% in CAIR versus 37% in the control arm and higher acute toxicities requiring supportive care in 92% (n=45) of patients versus 48% (n=24) in the control arm and also concluded that therapeutic gain of 45% in 3-year tumor control in favor of CAIR is likely the effect of shortening of OTT by 14 days. However, there was no significant difference in late normal tissue reaction which was 8% versus 4%.

A randomized controlled comparison studies, DAHANCA 6 & 7 conducted by Overgaard et al evaluated five versus six fractions per week in 1476 HNSCC patients treated between 1992-1999. DAHANCA 6 included T2-4 glottic tumors and DAHANCA 7 included supra-glottic larynx, pharynx (including naso-pharynx) and oral cavity tumors. All were randomly assigned to receive five (n=726) or six (n=750) fractions per week to the same total dose (66–68 Gy in 33–34 Fr). All patients also received the Nimorazole (hypoxic radio-sensitizer). Results revealed 5 year LRC rates of 70% and 60% for 6 F and 5 F per week groups, respectively (p=0.0005). The benefit in tumor-control resulted in a significantly better disease-specific survival in six fraction group (73% vs. 63%, p=0.01), but not overall survival. Although, confluent acute mucositis was observed more frequently in altered fractionation.

Another randomized, multi-centric study International Atomic Energy Agency-coordinated trial (IAEA-ACC Study) carried out by Overgaard et al has compared five versus six fractions per week. There was a significant improvement in 5 years LRC from 30% to 42% in AF arm and also increase in acute mucositis of 5.3% versus 10.8% in accelerated arm. Sub-group analysis showed the greatest benefit in patients with tumors of the larynx and less benefit in more advanced tumors (all sites) with a large nodal disease.

Among the accelerated fractionation schedules, acceleration of radiation by one week without dose reduction by delivering six-fractions per week instead of five-fractions is found to have a beneficial impact on LRC along with a modest reduction of overall treatment time without an increase in late toxic effects.

3. Accelerated Hyperfractionation

Accelerated Hyperfractionation means reduction of overall treatment time from more than 2 weeks, reduced total dose, and more than 5 fractions per week.

RATIONALE: Combined approach of both acceleration and hyper-fractionation has been tried to modify both total dose delivered and OTT. HF with low dose per fraction helps to minimize late effects and by accelerating OTT, helps to minimize tumor proliferation.

EVIDENCE: The EORTC 22791 protocol for oro-pharyngeal cases compared HF (1.15 Gy twice daily or 80.5 Gy over 7 weeks) with CF (2 Gy once daily or 70 Gy over 7 weeks). It showed an absolute improvement in 5-year LCR of 19% with 80.5 Gy (40% versus 59%; p=0.02) and no increase in late complications. A recent long-term follow up analysis has demonstrated a small survival advantage for HF.

Similarly, a GORTEC study (GORTEC 94-02) which delivered 63 Gy in just over 3 weeks (22 days) also showed improved LCR of 24% at 6 years but at the expense of severe acute mucositis (p=0.001).

This combined approach is still not a standard of care due to its association with higher acute normal tissue toxicities and the existence of a real benefit has been challenged.

4. Altered fractionation versus concurrent CTRT

RATIONALE: The addition of chemotherapy to radiation helps to sensitize tumors by inhibiting the repair of sub-lethal radiation damage and preferentially killing hypoxic cells. Concurrent chemo-radiotherapy (CTRT) has shown to improve loco-regional control and has become the standard of care for locally advanced HNSCC.

EVIDENCE: In the updated MARCH meta-analysis published in 2017, it was observed that concurrent chemoradiation is superior than altered fractionation

Radiobiological basis of fractionated radiotherapy in head and neck cancer and clinical results

Though logistically challenging, altered fractionation had a more pronounced advantage in improving local control rates as compared to nodal control. HF may give similar results to that of concurrent CTRT and may be tried in locally advanced diseases if feasible. AF may provide better overall survival and local control than CF, but the results are inferior to CTRT. Thus AF may be tried on who may not be suitable for chemotherapy.

Also, a recent Indian meta-analysis from TMH by Gupta et al. has concluded HF schedule alone was comparable to CTRT in terms of the hazard ratio (HR=1.13) for death. But AF with or without dose reduction was found to be inferior to CTRT.

5. Altered fractionation + CT

RATIONALE: The combined usage of accelerated fractionation radiation with concurrent cisplatin chemotherapy has shown improvement in loco-regional disease control and consistent gain in survival. However, these benefits are at the expense of slightly higher muco-cutaneous toxicities.

EVIDENCE: A large phase III randomized study, RTOG-0129 (31), randomly allocated 723 patients of stage III-IV (T2N2-3M0, T3-4AnyNM0) oral cavity, oro-pharynx, hypo-pharynx, or larynx to either conventional CTRT of 70 Gy in 35 F over 7 weeks or concomitant boost chemo-radiation of 72 Gy in 42 F over 6 weeks. the trial reported no differences in overall survival, progression free survival, loco regional failure and distant metastasis rate as well no significant differences in the grade 3-5 acute or late toxicities between the groups.

Similarly, another phase III randomized trials from GORTEC group (GORTEC 99-02) published in 2007, where Stage III and IV HNSCC patients were treated with either concurrent conventional chemoradiation or accelerated fractionation EBRT with concurrent chemotherapy or Very accelerated fractionated Radiotherapy. They interpreted that Chemotherapy has a substantial treatment effect given concomitantly with radiotherapy and accelerated of radiotherapy cannot compensate for the absence of chemotherapy. They noted the most favorable outcomes for conventional chemo-radiotherapy, suggesting that acceleration of radiotherapy is probably not beneficial in concomitant chemo-radiotherapy schedules

6. Altered fractionation in adjuvant setting

EVIDENCE: A meta-analysis, published in 2018, included 6 trials where a total of 988 patients were included in locally advanced HNSCC and they were treated either conventional fractionation or altered fractionation schedule in adjuvant setting. They concluded that there was no difference in loco-regional control (LRC) or overall survival (OS). Acute toxicity was more frequent in altered fractionated radiotherapy arm. In sub-group analysis, Accelerated postoperative radiotherapy might be a suitable option.

7. Hypofractionation

Hypo-fractionation regimen in head and neck cancer has well-recognized clinical and radiobiological shortcomings. Among various trials that have evaluated the role of hypo-fractionated regime some have found a good response rate and good symptom relief in palliative settings. It is suited for developing countries with less resources and high burden of patients.

EVIDENCE: Mild hypo-fractionation schedule appears promising in early laryngeal tumors. Karasawa et al. also evaluated the role of hypo-fractionation T1 and T2 laryngeal or hypo-pharyngeal cancers (n=80) treated with definitive RT with a fraction size of 2.25 Gy. The treatment was safe and well-tolerated. None had grade II late toxicity. With a median follow-up of 47 months, 5-year LCR's for the entire group, larynx T1, larynx T2 and hypopharynx T1 were 85.8%, 97.6%, 70.1% and 85.7%, respectively.

Recently, Korean group's phase III study (KROG 0201) randomized T1–2 glottic tumors into the CF arm, 82 patients (66 Gy in 33 F for T1 and 70 Gy in 35 F for T2) and hypo-fractionation arm, 74 patients (63 Gy in 28 F for T1 and 67.5 Gy in 30 F for T2). With a median follow-up of 67 months, 5-year local progression-free survival was 77.8% and 88.5% (p=0.213) for CF arm and hypo-fractionation arm, respectively. No increased toxicity was observed in hypo-fractionation arm. Thus mild hypo-fractionation was found to be non-inferior to CF with a similar toxicity profile and potential advantages in terms of local control.

Radiobiological basis of fractionated radiotherapy in head and neck cancer and clinical results

8. CONCLUSION

Chief objectives of altered fractionation schedules are to increase local-regional control and/or reduce the risk of late toxicity. Altered fractionation schedules offer improved results compared to CF radiation therapy with no significant increased risk of late complications. Reducing acute skin/mucosal toxicities and workload associated logistic problems are the challenges commonly encountered with altered fractionation.

Hyper-fractionated radiotherapy does provide comparable results to that of standard concurrent CTRT whereas any form of accelerated fractionation alone (with or without total dose reduction) might result in sub-standard outcomes. However, it can be safely combined with chemotherapy with conformal radiation procedures to improve outcome. By understanding the radiobiological basis for altered fractionation, these schedules can be applied to diverse clinical situations of HNSCC and achieve better results than CF. Finally, altered-fractionation schedules in combination with chemotherapy can further refine the personalized therapeutic options for the management of patients with head and neck cancer.

Congratulations

Dr. Kausik Bhattacharya
Apollo , Hyderabad
Secretary – Telangana Chapter

Dr. Nagarjuna Reddy
Indo American Cancer Hospital, Hyderabad
President – Telangana Chapter

For Newly Elected Secretary & President
AROI – Telangana Chapter

A century after, diagnosis and treatment of cancer prostate by seeds

Dr. Susovan Banerjee
Medanta Medicity
Gurgaon, Haryana

Rony Bose woke up in the morning with an irritating buzzing noise……Checkup.. checkup…wake up…wake up……Checkup.

Stop- said Rony…voice stopped for 10 mins.

Again it started and the cycle repeated for 3 times with the warning by electronic voice of the housemaster computer getting shriller every time……finally the sliding bed with the mattresses flipped to disappear into the wall putting Rony to floor.

You fool, you can't do this to me it hurts, I am the master.

Yes Master but it was just in the contract that you signed when I was appointed, that to use force if you don't listen to your set programs.

Ohhh…, shouted Rony getting up from floor, tell me what do you want me to do.

Robomaster- Your Health checkup is pending for last 3 month, do it today.

Taking the air taxi he went to the health lab where his appointment was fixed at 8.50 am.

Ready for the tests… Asked the digital voice in front of the chair.

Yeh.

Well- dip your hands

Ronny dipped his hands in the bowl filled with a gel that gave just that space to dip his hands up to wrist.

Ok- Physical para meters checked, now open your mouth and put the probe inside. Ronny inserted the lightening probe changing color inside the mouth, the different bands of lights rays checked all enzymes vitamins blood parameters and anomalies.

Back home he received a phone call, the health central database feels it to inform you that U have been diagnosed with cancer prostate based on the available tumor marker levels, antigens ,antibodies and circulating tumor cells.

Rony became nervous , he remembered his wife and the large wall sized screen started changing colors and finally become clear showing Emidol looking through the screen, oh darling yes I have already seen it, said Emi in a compassionate voice, don't worry we will get over it.

The life size mannequin on the corner of the drawing room till now listless turned (her) head to Rony and came and sit down before him, Yes I have come don't worry.

Oh Emi…Rony whispered, I am so lucky, U activated yourself for me.

Its ok Emi said, I will start the journey to earth, but till then I can't leave U alone.

Rony looked into the eyes of the mannequin, its same as that of real Emi.

About 50 years back they had a war, the robots had to move to a different planet after a war with humans. Eme though married to Rony had to move as laws could not be bent but they are together through self-simulators.

It was a nice time, they had some light moments, studied a lot on prostate cancer, they need to go to the hospital tomorrow morning.

Its 10 am, they entered the consultancy chamber, the robodoc was looking into the records,

He started -Well we knew it U only delayed it.

Rony- Nodded his head yes, …anyways do you think its genetics?

Well genetics along with your lifestyle, in fact e-stimulation that you practiced with your robotic wife was a little more than the human couples, and prostate cancer is an androgen dependent tumor. But Its ok, cool, with factors that are associated with you, U have a 99.5 % chance of 10 years control.

Oh great, so what treatment do you advise me?

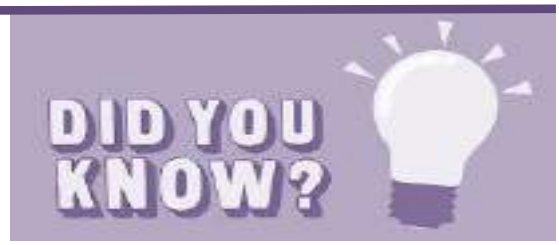
It's your choice, results are same, for surgery we will need to put 6 small needles from your perineum, the stirrer will coagulate and replace the tumors with viscous gels, and will be sucked out.

ARTICLES

A century after, diagnosis and treatment of cancer prostate by seeds – *Dr. Susovan Banerjee*

And what about radiotherapy?
I propose the seeds may suit you better than heavy ions, a probe will pass through your urethra, it will scan the prostate and through a parallel channel seeds will migrate through the urethra to get distributed in the prostate.
Oh No- that must be painful, radioactive seeds in prostate.
Hey Roy, it's easy, the seeds will move through the tracks through self-propelled motors reach the programmed point, deliver the dose.
But they will stay there, they can move also during treatment delivery.
No, they will get fixed relative to each other respect to index seed, and will come out through urine by self-propelled motors again in few days. Except the lead seed that will continue to stay lifelong and will send us signals when the enzyme milieu inside the gland changes, or the markers of PSA increases prompting us to see if it's a recurrence. We call it follow up.
Which isotope is that?
Well prostatenium, high energy, very less half-life.
U can take the third option, something called hormone therapy, like either U take the microsphere embedded hormones by neutron shots, or putting pico-chips in your hormone producing gland, they will control the hormone production.
U can start today, we have all the baseline parameters and scan values, the plan is ready.
Well Emi voiced, what if I take him to treatment to roboworld, he will also have a change.
U can, but remember during transfer with anti-telomerase vaccine his age and body will not change for 3 months but the cancer cells will, in fact they can spread to other parts like bones.
Rony said- lets finish it off now.
Ok counter 6, suite 3. Please proceed.
Rony proceeded inside the glass suite, he could see Emy's apprehensive look. He authorized the seeds robo ,authenticated the machine, The automated shelf opened, The soft robotic sound said, please choose your probe, it should be between 18 to 20 for U, 18 has least diameter.
Rony took the 18 size probe, guided the tip to urethral meatus, a cold feeling some gaseous extension and tingling for few seconds. He became a little drowsy, and opened the eyes to the sound "so it's a total of 36 seeds U need, please press yes to authenticate and move to next step".
Rony pressed yes on the laser screen, he could see the seeds started moving to the gland in a 3 D view, he wanted to sleep and pressed "calm" bottom. He got up to a beep after 60 minutes.
Please press exit. Rony followed, came out, out through maze where Emy was standing with his coat with a smile, that was good, U r so brave smiled Emy.
Well congratulations said his doctor, just a caution stay home on the 6th day as the seeds will come out of your body on that day and please collect the urine and courier it to us……

Cancer facts - Did you know - Economic Burden of Cancer – India -



The average total expenditure is estimated to be Rs 29,066 and Rs. 84,320 for the public and the private sectors, respectively at 2014 Purchasing Power Parity.
More than 40 percent household resort to financial distress means as the main source of financing cancer treatment in public hospitals. A higher proportion of households (50 percent) endure such financial hardships while seeking cancer treatment in private hospitals

36.3 and 33.7 % of households with cancer patients are spending more than 10 percent of their annual per capita household expenditure on public and private healthcare facilities, respectively

Source – National Sample Survey 2014

CONFERENCES

PRODVANCE (WEST ZONE)
13th & 14th April, 2019 - Pune

Update from : Dr. Gautam Sharan (Joint Secretary – ICRO)

The western chapter of PRODVANCE 2019 was held at Pune on 13th & 14th April, 2019 at Vaikunth Mehta National Institute of Cooperative Management (VAMNICOM), Pune. It was a career orientation initiative for the young Radiation Oncologists organized by Indian College of Radiation Oncology (ICRO), a wing of Association of Radiation Oncologists of India (AROI) in association with Inlaks and Budhrani Hospital. The event was a huge success with about 40 Radiation Oncologists from not just Maharashtra but from all over the country in attendance. This was made possible by the dedicated team of ICRO led by Prof S Pradhan (Chairman) and Dr V Srinivasan (Secretary) alongwith Inlaks and Budhrani Hospital, represented by Dr Gautam Sharan (Organizing Secretary) and Dr Vaishali V Shinde (Course Coordinator) under the auspices of Dr C H Gidvani (Director Academics), Dr Rhea Punjabi (Medical Superintendent) and Mr Sunder Vaswani (GM).

The topic for the PRODVANCE meet was Overview of Head and Neck Oncology and it was spread over 17 sessions ranging from Imaging in Head & Neck region to brachytherapy in head & neck cancers to landmark trials in head & neck cancer radiotherapy turning into an academic feast. It comprehensively covered all the important topics that would benefit any young Radiation Oncologist in their practice. The faculty was a good ensemble of eminent local and national experts in the field of head and neck oncology. There was a gala dinner accompanied by a live music band hosted by Inlaks and Budhrani Hospital at a popular local hotspot for all the delegates and faculty at the end of first day's session. The conference ended with the Valedictory function and a healthy discussion between the faculty and delegates regarding the increasing scope and need for such academic events.

Lastly it was testimony to the endeavours of all the office bearers of ICRO and AROI to realise the need and potential of such events and providing all their support for successfully conducting them.

9th AROI ICRO CLINICAL RADIOBIOLOGY COURSE (SOUTH ZONE)
25th of May, 2019 - Chennai

Update from : Dr. V Srinivasan (Secretary ICRO)

The 9th AROI ICRO CLINICAL RADIOBIOLOGY COURSE (SOUTH ZONE) sponsored by INTAS was successfully conducted at MIOT INTERNATIONAL Hospitals, Chennai on the 25th of May 2019 by Dr.V.Srinivasan,Secretary, ICRO.

CONFERENCES

9th AROI ICRO CLINICAL RADIOBIOLOGY COURSE (SOUTH ZONE)

.Prof.Manoj Gupta single handedly conducted the entire course modules without any signs of tiredness from Morning till Evening.There were nearly 106 registrations done and well participated by young Radiation Oncology post graduates across South India.

We had 46 new members inducted in to AROI on that day and the Course was very much appreciated by all the participants.

PRODVANCE (EAST ZONE)
8th & 9th June , 2019 – Shillong

Update from : Dr. Vikas Jagtap (Secretary - North East AROI)

The East Zone PRODVANCE AROI - ICRO post MD teaching Course was held at North Eastern Indira Gandhi Regional Institute of Health & Medical Sciences, Shillong – Meghalaya on 8th - 9th June 2019. This was first time such course was being conducted in North East India. NEIGRIHMS Director Prof (Dr). D M Thappa, Dean Prof (Dr). A C Phukan and AROI - ICRO office bearer Dr. Rajesh Vashistha, Dr. GV Giri, Dr. S Pradhan & Dr. V Srinivasan inaugurated the program. The course focussed mainly on Head & Neck cancer which is commonest in North East India & was attended by more than 50 participants including faculty. Radiation Oncologists, PG Students & Physicists from North Eastern states and other parts of India attended and interacted with the excellent academic program set by the expert from AROI & ICRO. The participants appreciated the efoorts of AROI –ICRO in organising such activities in this part of India which was highly beneficial for them in terms of knowledge and recent development in Head & Neck malignancies with respect to Radiation. The delegates also demanded and put forward their request to conduct more such academic activities and events in North east India through the guidance of AROI & ICRO.

CONFERENCES

ANNUAL CONFERENCE BIHAR – AROI CHAPTER
15th – 16th June, 2019 – Patna

Update from : Dr. Shekhar Kumar Keshri

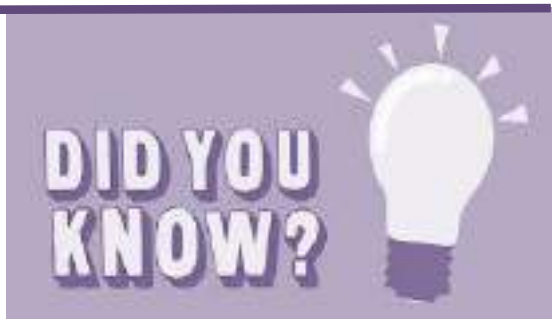
The annual conference of AROICON Bihar chapter 2019 was held in Hotel Patliputra Continental, Patna on 15th & 16th June. The theme of the conference was "Innovations and Technology : Transformation into Cancer Care." Many stalwarts in the field of Oncology of different streams from different Parts of the country have participated in this event. The Conference was organized by Dr. Shekhar Kumar Keshri, a Senior Consultant & Chief Radiation Oncologist at Paras hospital,Patna.

Padma Bhushan Dr. S.H. Advani as a chief guest along with National AROI President Dr. Rajesh Vashistha, Dr. P. N. Pandit (Organizing Chairman), Dr. N. R. Biswas (Director, IGIMS), Dr. J. K. Singh (President AROI, Bihar) , Dr. Talat Halim (Zonal Director, Paras hospital, Patna) inaugurated this conference. Dr. Pankaj Chaturvedi, Dr. J.P. Agrawal,Dr. Kumar Prabhash, Dr. Reena Engineer, Dr. Navin Mummudi from TMH, Mumbai and many other renowned oncologist have delivered the wonderful talk in relation to their specialisations. Postgraduates have also taken active participation in this event by putting their research work as a poster and oral abstracts. Cash prizes along with momentos and certificates were distributed among them.

The famous dignitaries of various disciplines from not only Patna and but also from different city of Bihar state had also attended the program actively. Print and Electronic Media have covered whole program at large scale which hopefully will be very helpful to spread the awareness about prevention and treatment of cancers among the people of Bihar. We wish to have National AROI meeting in Ahemdabad a grand success. Long live AROI !

Cancer facts - Did you know
- Global Adult Tobacco Survey (GATS -2)-

- # 42.4% men, 14.2% of women & 28.6% all adult currently either smoke tobacco and/or use smokeless tobacco
- # 23% adults were exposed to second hand smoke at public places.
- # More than 90% adults believe that tobacco causes serious illness
- # Average expenditure on last purchase for Cigarette, Bidi & Smokeless tobacco is Rs 30, Rs 12.5 & Rs 12.8 respectively.
- # Highest tobacco consumption in North East states – with high incidence of Tobacco Related Cancers in this region



- # 64% of cigarette smoker and 54% of bidi smoker tought of quitting because of warning label on the packets.
- ➢ Around 50% users thought of quitting tobacco (Smoke / Smokless)

CONFERENCES

31st AROI-ICRO PG TEACHING COURSE
27th – 28th April , 2019 – Faridkot

Update from : Dr. Raja Paramjeet Singh

31st AROI- ICRO PG teaching programme was successfully held at Guru Gobind Singh Medical College Hospital Faridkot Punjab on 27-28 April 2019 on GI Malignancies. The course Chairman was Dr Raja Paramjeet Singh Banipal, while the Course was co-ordinated by Dr Pardeep Garg and Dr Sapna Marcus Bhatty. Guru Gobind Singh Medical College Hospital with more than 630 beds was established in 1973 by Govt. of Punjab. It was transferred under BFUHS in 2006 as its constituent college. It is one of the pioneering tertiary care centres in North India with state of the art infrastructure for cancer treatment.

The ICRO workshop, under the dynamic leadership and able guidance from AROI President Dr. R. Vashistha, ICRO Secretary Dr. V. Srinivasan, covered all aspects of git malignancies from anatomy to treatment part. The faculty comprised of Dr. Rakesh Kapoor, Dr. Pamela, Dr. Jaineet, Dr. Sajal Kakkar, Dr. Manjinder Sidhu, Dr. Preety Jain, Dr. Kanika and many more from all over India. It was attended by more than 50 PG students across India from various Institutions. There was lot of interaction between faculty and PG students.

Dr S P Singh, Controller of Examinations, BFUHS, Faridkot, was the Chief Guest for the function. Dr M K Mahajan, Director Advanced Cancer Institute, Bathinda was honored for his selfless service for the up gradation and promotion of Radiation Oncology. Quiz was conducted for all the participants. Dr Treshita dey from PGIMER, Chandigarh stood first, Dr K Balaji from AIIMS, New Delhi and Dr Harshita M Jain from MS Ramaiah, Bangalore stood combined second in quiz and were awarded with Registration, Travel and accommodation during the upcoming AROI conference. All delegates were regaled with sumptuous food and Punjabi hospitality.

FELLOWSHIPS

ESTRO Mobility Grant 2019

Dr Sanjukta Padhi
Associate Professor
AH Regional Cancer Centre, Cuttack

Host institute -
Weston Park hospital, Sheffield Teaching Hospitals NHS Foundation Trust. Sheffield, United Kingdom
Date of visit - 3-16 march 2019
Title of the project -
To study the principles of steriotactic ablative body radiotherapy in primary and oligometastatic lung cancer.

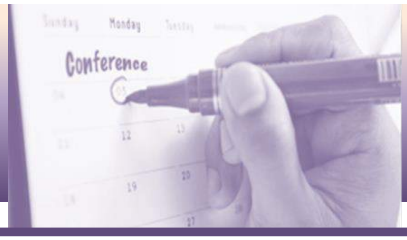
Aim of the visit -
To study the principles and techaniques of stereotactic ablative body radiotherapy(SABR) in primary lung tumors and to study and evaluate the role of SABR in pulmonary metastases. At Weston Park Hospital SABR is delivered to primary lung cancers as well as for oligometastatic disease under Commissioning Through Evaluation Programme.CORE,SARON ,HALT trials are open in this center.

Details of the scientific visit -
Non-small lung cancer is the leading cause of cancer-related deaths, with nearly more than 1 million deaths annually. Around 2-30% of patients present in Stage-I have excellent tumour control rates with Steritactic Ablative Body Radiotherapy (SABR). SABR is a high precision radiotherapy utilized for the control of extra cranial sites like thorax and abdomen. My institute being one of the largest centres, in Eastern part of India, caters to a lot of patients of primary as well as metastatic lung cancer. In Weston Park Hospital, Sheffield SABR treatment is delivered for primary lung cancers as well as oligo-metastatic disease under the Commissioning Through Evaluation (CTE) with CORE,SHARON and HALT trials open to it.

I was welcomed by my mentor Dr Tathagata Das, lead Thoracic Oncology, consultant Clinical Oncologist, Sheffield Teaching Hospital NHS Foundation Trust .He introduced me to the fellow oncologists, physicists and planners .I first underwent the guidelines of SABR UK consortium, he made me understand the basic principles and techniques of SABR starting from the selection of patients to SABR MDT.4d CT, planning, evaluation of plan ,post planning MDT approval ,and final treatment and timely follow up. A well designed time table made my training much organized and I could feel the work flow and responsibility of a dedicated SABR team from physicians to radiographers. Weston Park Hospital has 8 LINACs, out of which, two are dedicated to SABR. The treatment delivery, by the dedicated radiographers in the presence of the physicists, makes the SABR a highly precise one with a lot of pre-scan and mid-scan. I could attend two SABR MDT on Friday mornings at 8.30 am , which enriched my understanding and clarified most of my doubts and was happy to see few follow up patients in clinics.
My sincere thanks, to the radiographers, who made me understand the 4dct, Mr James Moore for the planning part, Dr Allice Dwiendwy for pelvic node SABR, Dr Liza Siddall for taking time to make me understand the basics of SABR from a physics perspective and lastly to all the staff and patients, who were very supportive and friendly. I also express my heartfelt gratitude to Dr Tathagata Das for his effort to make my training successful.

Results of studies undertaken -
I have presented the whole work flow of SABR during my institute's monthly seminar and conveyed to my colleagues, the importance of this technique, so that we can provide the best, possible treatment to our patients and discharge our duty with utmost justice

UPCOMING ....



AROI - ICRO PROGRAMMES- 2019

Dr. V.Srinivasan,Secretary-ICRO

Email: secretaryicro@gmail.com , Mobile:9841022366

Sl. No	Programme	Topic	Date	Place	Organizer	Contact No & E.mail
1	AROI-ICRO INTAS Radiobiology Course	Radiobiology	13th July, 2019	Amritsar	Dr. Neeraj Jain	09814299045 neer1967@yahoo.com
2	AROI-ICRO SUN PG Teaching Course	Breast Cancer	27th- 28th July, 2019	Kolkata	Dr. Chandan Dasgupta	09433581545 drchandandasgupta@yahoo.com
3	AROI-ICRO INTAS Radiobiology Course	Radiobiology	10th August, 2019	Cuttack	Dr. SN Senapati	09437031718 snsenapati2007@gmail.com
4	AROI-ICRO POST PG Teaching Program	Head & Neck Cancer	17th - 18th August, 2019	Vizag	Dr. Suman Das	08978418762 drsumandas@gmail.com
5	AROI-ICRO POST PG Teaching Program	Head & Neck Cancer	7th - 8th September, 2019	Chandigarh	Dr. Rakesh Kapoor	09872648344 drkapoor.r@gmail.com
6	AROI-ICRO INTAS Radiobiology Course	Radiobiology	5th October, 2019	Loni	Dr. Vandana Jain	08278629424 drmrsvandanajain@hotmail.com
7	AROI-ICRO SUN PG Teaching Course	Paediatric Malignancies	19th - 20th October, 2019	Lucknow	Dr. Madhup Rastogi	09418155955 drmadhup1@gmail.com
8	ICRO Pre-Conference Workshop	Precision Radiation Techniques	28th November, 2019	Ahmedabad	Dr. Pooja Nandwani Patel	09825739897 drpoojanandwani@gmail.com

Sun ICRO Course- For 2nd and 3rd year MD/DNB Radiation Oncology Students, **PRODVANCE**- For Young Radiation Oncologists- Post PG up to 10 years

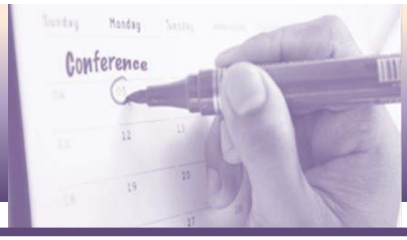
Breast Cancer Symposium

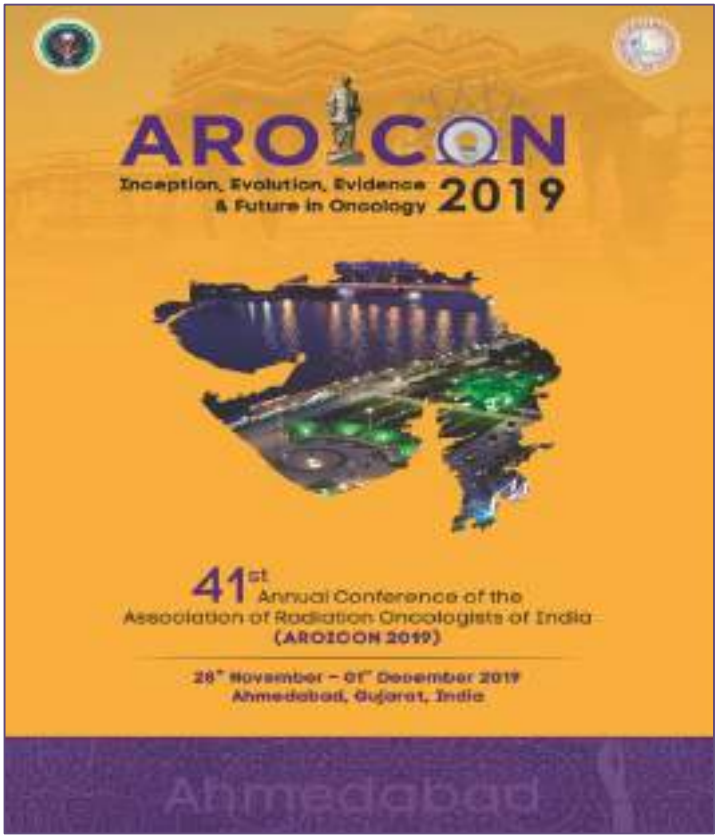
21st July

Patel Hospital
Jalandhar – Punjab

Contact: Dr.Shikha Chawla
Consultant Radiation Oncologist
Patel Hospital, Civil Lines
Jalandhar, Punjab
Ph.No.
Office +911813041000

UPCOMING ....

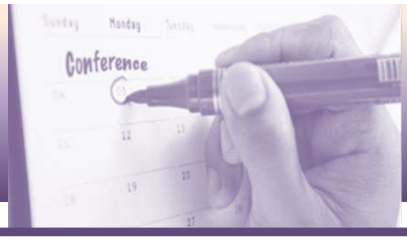

Conference


AROICON
Inception, Evolution, Evidence & Future in Oncology 2019
41st Annual Conference of the Association of Radiation Oncologists of India
(AROICON 2019)
28th November – 01st December 2019
Ahmedabad, Gujarat, India


Indian College of Radiation Oncology (ICRO)
Academic Wing of
Association of Radiation Oncologists of India (AROI)
32nd ICRO PG Teaching Program
27th & 28th July 2019
On
Breast Cancer
Organised by,
Dept. of Radiotherapy,
R G Medical College and Hospital,
Kshudiram Bose Sarani, Kolkata-700004
Venue
Lecture Theatre 2, Second Floor,
Platinum Jubilee Block,
R. G. Kar Medical College and Hospital,
Kolkata.


First Announcement
40th Annual Conference of Association of Medical Physicists of India (AMPI)
AMPICON 2019
Jointly Organized by AMPI
&
Netaji Subhash Chandra Bose Cancer Hospital, Kolkata, West Bengal
7th – 9th November 2019

UPCOMING ....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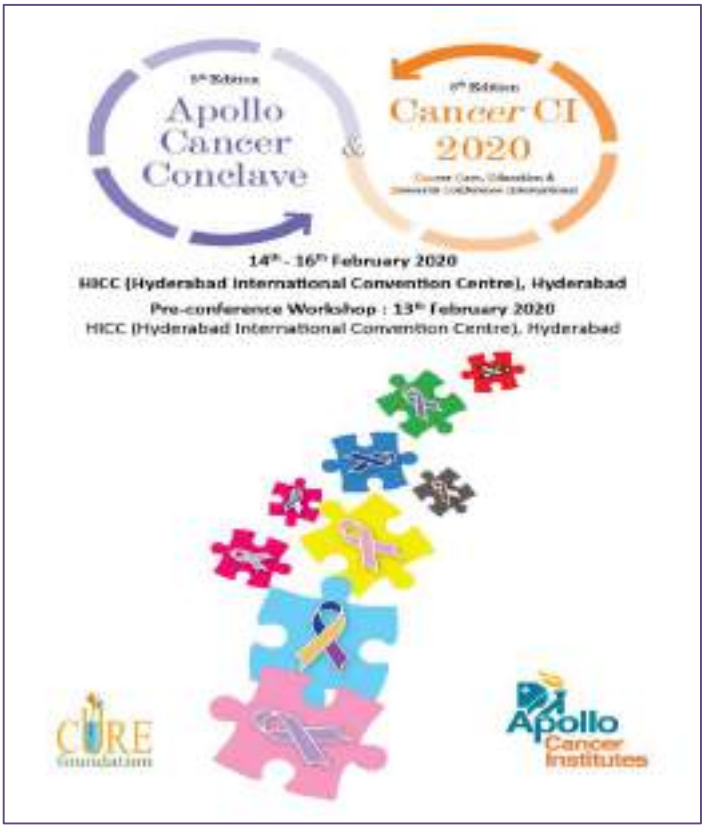
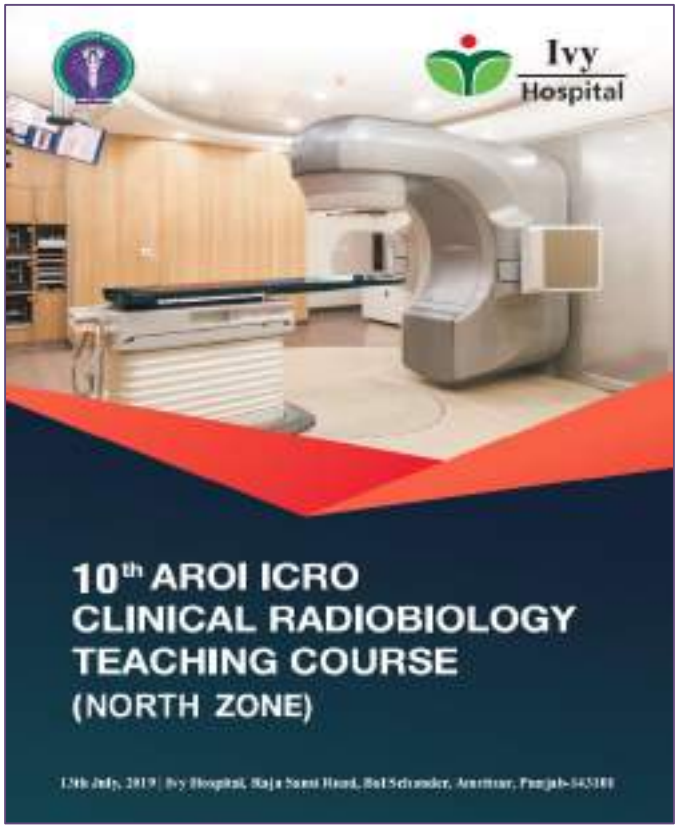
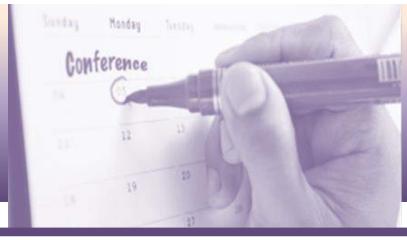

Apollo Cancer Conclave
&
Cancer CI 2020
14th - 16th February 2020
HICC (Hyderabad International Convention Centre), Hyderabad
Pre-conference Workshop : 13th February 2020
HICC (Hyderabad International Convention Centre), Hyderabad
CURE Foundation
Apollo Cancer Institutes


Ivy Hospital
10th AROI ICRO
CLINICAL RADIOBIOLOGY
TEACHING COURSE
(NORTH ZONE)


CRAB - E - CON PUNJ
The Fifth CRABECON
(A Date with Cancer)
7th & 8th September 2019, Jammu
Theme: Cancer Demystified


ESTRO
AROI -ESTRO
TEACHING COURSE
9th-12th NOVEMBER, 2019
ADVANCED TECHNOLOGIES IN
RADIATION ONCOLOGY
Organized By
Banaras Hindu University , Institute of Medical Science, Department of Radiotherapy and Radiation Medicine, Varanasi, U.P, India

UPCOMING ....


Conference


SAVE
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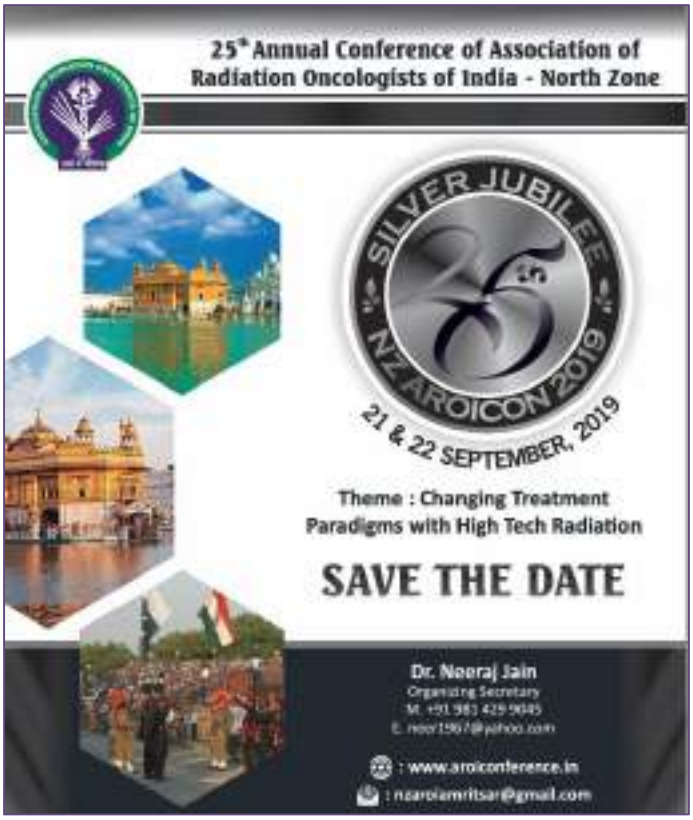
METASTASIS
30th Aug - 1st Sept 2019
MVR


25th Annual Conference of Association of
Radiation Oncologists of India - North Zone
SILVER JUBILEE
NZ AROICON 2019
21 & 22 SEPTEMBER, 2019
Theme : Changing Treatment
Paradigms with High Tech Radiation
SAVE THE DATE
Dr. Neeraj Jain
Organizing Secretary
: www.aroiconference.in


ICRO - PRODVANCE
TEACHING COURSE ON
HEAD AND NECK CANCERS
AT
PGIMER, CHANDIGARH
ON
7TH AND 8TH OF SEPTEMBER, 2019
A COMPREHENSIVE LEARNING OPPORTUNITY
FOR
YOUNG RADIATION ONCOLOGISTS
WITH LESS THAN 10 YEARS OF POST-SPECIALIZATION EXPERIENCE
50 SLOTS AVAILABLE
ON
FIRST-COME-FIRST-
SERVE BASIS
REGISTRATIONS
OPEN
HURRY UP...!!!!
For further details, contact produance2019@gmail.com


Bhagwan Mahaveer
High Precision
Radiotherapy
Summit (HPRTS)
BMICON-VI & RajAROICON-2019
14th-15th September, 2019
ENTERTAINMENT PARADISE

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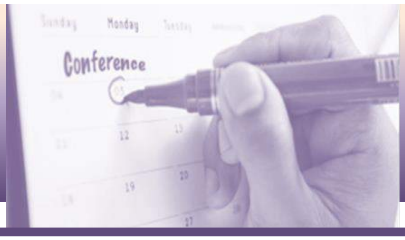


ASTRO
TARGETING CANCER CARE

2019 American Society for Radiation Oncology (ASTRO) Annual Meeting

Sep 15 - 18, 2019 | Chicago, Illinois

Organized by : American Society for Radiation Oncology (ASTRO)

Specialties : Radiation Oncology

Attend | Track | Register Now

medanta

MEDANTA RADIOSURGERY

ISRS

Masterclass on Steretotactic Radiosurgery (SRS/SBRT) of Brain and Spine Tumors

30th - 31st August, 2019 | The Leela Ambience Gurugram

A Two day Masterclass on Brain and Spine - Radiosurgery & SBRT with special emphasis on case selection, contouring, prescription, planning, plan evaluation and outcomes. This program, first in the series of SRS/SBRT Masterclass, aims to provide an insight of scope, procedure and intricacies of benign tumor, functional disorder and oligometastatic/recurrent disease.

Dr. Naresh Trehan (Chief Patron)

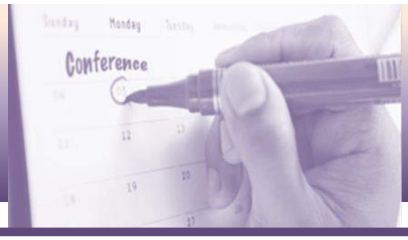
Dr. Tejinder Kataria (Organising Chairperson)

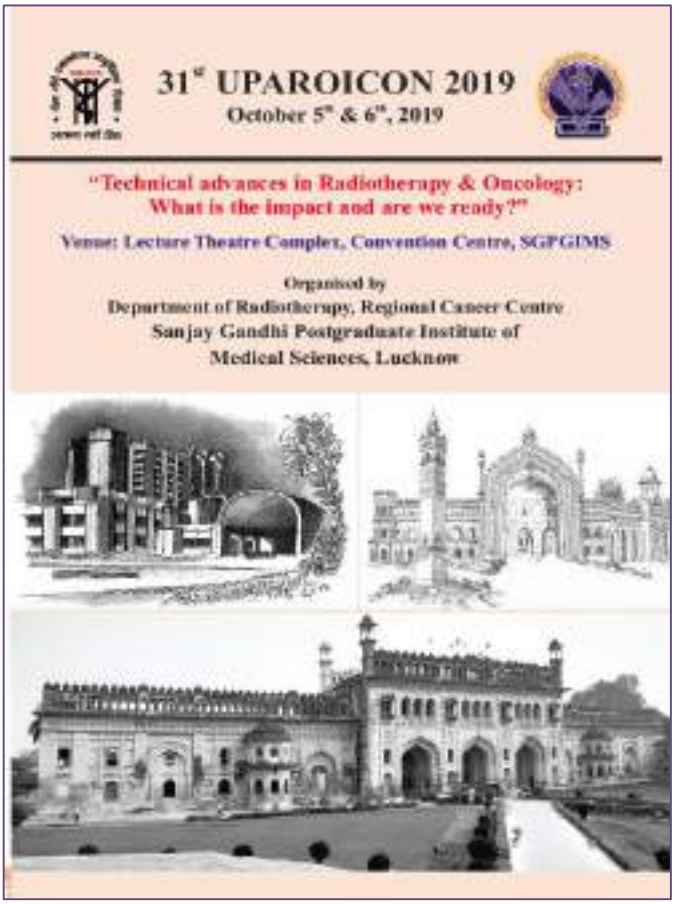
Dr. V. P. Singh (Co-Organising Chairperson)

Dr. Shyam Singh Bisht (Organising Secretary)

Dr. Deepak Gupta (Organising Secretary)

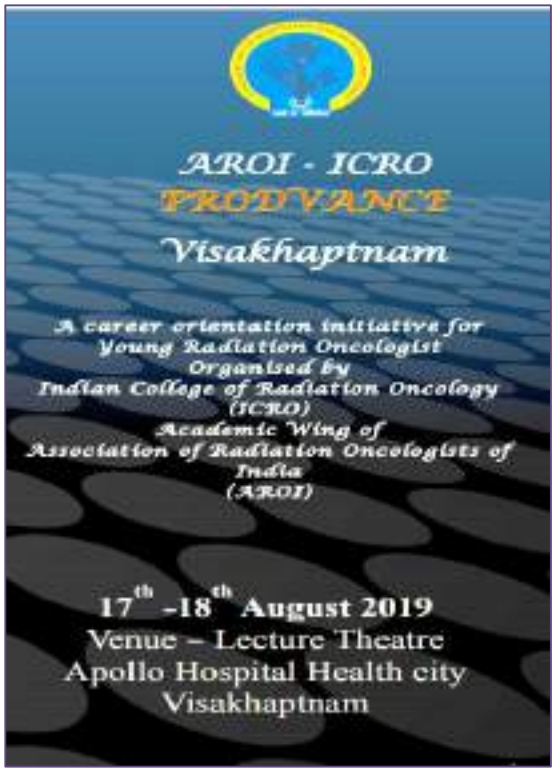
UPCOMING ....


Conference

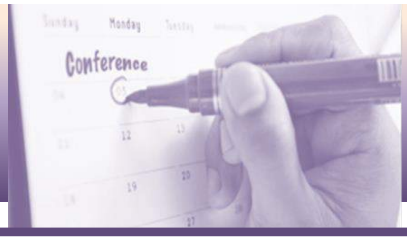

31st UPAROICON 2019
October 5th & 6th, 2019
"Technical advances in Radiotherapy & Oncology:
What is the impact and are we ready?"
Venue: Lecture Theatre Complex, Convention Centre, SGPGIMS
Organised by
Department of Radiotherapy, Regional Cancer Centre
Sanjay Gandhi Postgraduate Institute of
Medical Sciences, Lucknow


Sanjay Gandhi Postgraduate Institute
of Medical Sciences, Lucknow
Department of Radiotherapy, Regional Cancer Centre
Cordially invites you to CME
on
"ROLE OF TECHNOLOGIST TOWARDS
QUALITY ASSURED RADIOTHERAPY"
Under aegis of
Association of Radiation Therapy Technologists of India
August 18th 2019
Venue: Mini Auditorium, SGPGIMS


1st ANNOUNCEMENT
ONCOCON 2019
17th - 18th August 2019
Venue: Chanakya BNR Hotel, Ranchi, Jharkhand
Theme
Believer never DIE
EOG


AROI - ICRO
PRODVANCE
Visakhaptnam
A career orientation initiative for
Young Radiation Oncologist
Organised by
Indian College of Radiation Oncology
(ICRO)
Academic Wing of
Association of Radiation Oncologists of
India
(AROI)
17th -18th August 2019
Venue – Lecture Theatre
Apollo Hospital Health city
Visakhaptnam

UPCOMING ....



GOKARAMA

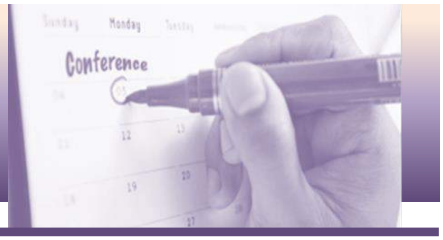
"Practice changing studies in Radiation Oncology"

Aug 10th - 11th 2019

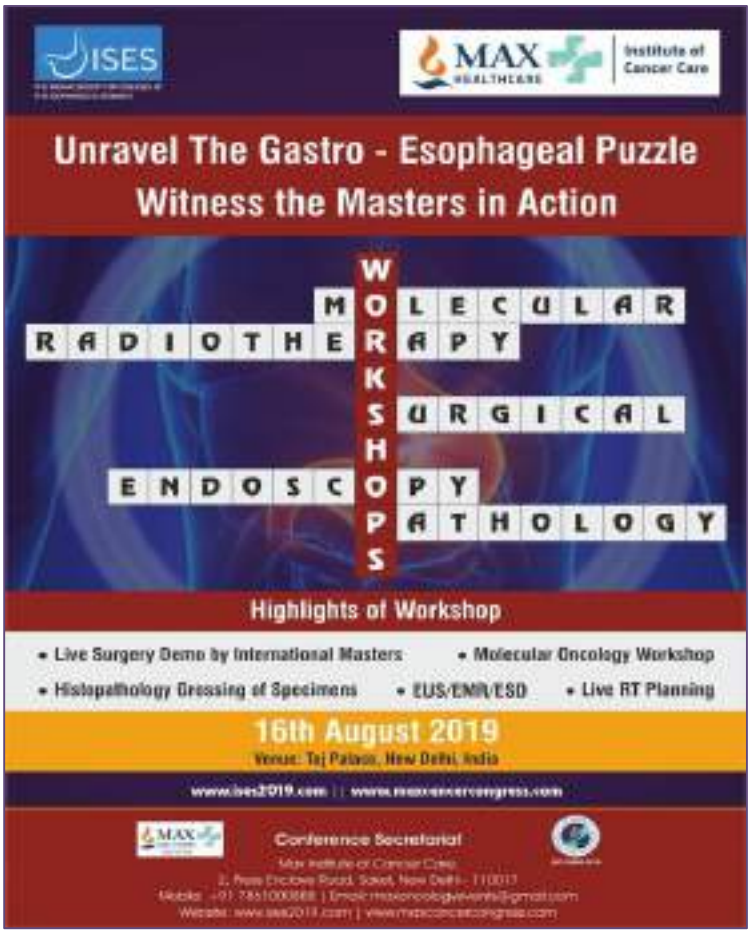
Hubli

Joint Meeting of Karnataka, Goa and Maharastra chapters of AROI

UPCOMING ....


Conference


INDIAN BRACHYTHERAPY SOCIETY
Regd. No: TNSR Act(1975), S.No. 99/2006
DEPARTMENT OF RADIATION ONCOLOGY
FATHER MULLER MEDICAL COLLEGE, MANGALORE
AND
INDIAN BRACHYTHERAPY SOCIETY
ANNOUNCES
9th Annual Conference of Indian Brachytherapy Society
IBSCON-2019
30 TH AUGUST-1ST SEPT 2019
"PRECISION BRACHYTHERAPY - The Art And Science"
Venue- DM Hall, Father Muller Medical College,Mangalore
EMAIL- fathermulleroncology@gmail.com
Contact - 0824-2238392 , 9845882007
8892118848 , 9482015661 , 9535984934 , 9980596282


ISES
MAX HEALTHCARE
Institute of Cancer Care
Unravel The Gastro - Esophageal Puzzle
Witness the Masters in Action
MOLECULAR RADIOTHERAPY
WORKSHOPS
SURGICAL ENDOSCOPY
PATHOLOGY
Highlights of Workshop
• Live Surgery Demo by International Masters
• Molecular Oncology Workshop
• Histopathology Dressing of Specimens
• EUS/ENR/ESD
• Live RT Planning
16th August 2019
Venue: Taj Palace, New Delhi, India
Conference Secretariat


Sri Aurobindo Institute of Medical Sciences
ROENTGEN - SAIMS RADIATION ONCOLOGY CENTRE
TEACHING COURSE
Medical Physics & Radiobiology
August 16-17, 2019
SAIMS HOSPITAL
Contact: 0731-423-1728/1807, 9893115337, 8982142093 email: priyushabagdare@gmail.com


SAVE THE DATE !!
10th Kerala VROF
MANTRA
Managing Toxicities in Radiotherapy
Date - 14th July 2019
Venue - Regional cancer centre, Trivandrum
CONTACT US :

AROI
Fellowships/Grants/Awards

Applications Invited for: Fellowships/ Grants

S.No.	Name of Fellowship	Nos	For	Age Group	Fellowship Grant (in Rs)	Basis	Member of AROI For #/yrs	Min Papers	Regularly Attending AROI conferences	Already availed fellowship in the past
1. Overseas										
1.1	AROI- Kirloskar	1	Radiation Oncologist	>50	1.5 Lakhs	MD/DNB	10	5	Yes	Then weightage to be given To those who have not Availed any Fellowship (or Any other Candidate is not available)
1.2	AROI- Kirloskar AROI Fellowship	2	Radiation Oncologist	41-50	1.5 Lakhs	MD/DNB	10	5	Yes	
1.3	AROI Fellowship	3	Radiation Oncologist	35-40	1 Lakh	MD/DNB	5	3	Yes	
1.4	AROI	3	Radiation Oncologist	30-35	1,00,000	MD/DNB		3	Yes	
2. Within India										
2.1	AROI	1	Medical Physicist	<40	20,000	DRP/MSc(MP)	2	BASED ON THE RESUME AND INTERVIEW AT THE CONFERENCE & PREFERENCE GIVEN TO PAPER PRESENTERS	Yes	
2.2	AROI	1	Radiation Oncologist	< 35	20,000	MD/DNB	3			
2.3	AROI	1	RT Technologist	<45	10,000	AERB Certified	Yes			No
2.4	Neil Joseph Fellowship	6	Radiation Oncologist		15,000	Student MD/DNB	Yes	RESUME AND INTERVIEW		

Applications Invited for: Best Paper

3.1	Best Proffered Paper for Senior Members	1	Radiation Oncologist	40-50		Post MD/ DNB >10 Yr	10-15 years	
3.2	Best Proffered Paper for Senior Members	1 1	Radiation Oncologist	35-40		Post MD/DNB 5-10 yr	5-10 years	
3.3	Dr. G.C. Pant Young Doctor Award	1	Radiation Oncologist Post MD/DNB	<40	20000 for fellowship	Post MD/ DNB 3 yrs	3 years	
3.4	Dr. M S Gujral Gold Medal	1	Doing MD/DNB		10000+ Medal		Yes	
3.5	Dr. M C Pant Gold Medal	1			7500+ Medal		Yes	
3.6	Gold Medal Medical Physics	1	Physicist/Radiation oncologist with physicist	<30	7500	DRP/MSc in Med. Physics	Yes	

Procedure for Application:

1. Applicants have to send a copy of date of birth certificate.
2. Applicants to send a copy of the publications mentioned under each Fellowship.
3. Self certified proclamation that they are working full time in radiotherapy.
4. Fellowship amount will be given to candidates from money received from sponsors after tax deduction and 15% contribution to AROI fund (for 1.1&1.2 A).
5. All the applications for fellowship/ best paper awards be sent along with the letter from head of department/ institute to the office of Secretary General AROI by 5 PM, 30 July 2019.
6. No Objection certificate from their head of Department if selected to go for fellowship. Fellowship must be completed before August 2019.
7. PG Students shall send their certificates through Head of the Department.
8. For the best paper award, applications should be sent along the full paper. (Soft copy by email & hard copy by post).
9. Abstract along with the letter from the head of dept. for publication in JCRT should be sent along with the paper (if JCRT accept)
10. For fellowship more than 35 years age category should be member of ICRO.
11. Applicants to send softcopy also through email.
12. **Mailing address and details on next page.**

Activity & Fun ....

Applications to be sent to (For AROI Fellowships & Grants)

Mailing address
For AROI fellowships & Grants

Dr. G.V. Giri,
Secretary General, AROI
Sri Shankara Cancer Hospital
1st cross, Shankra Mutt premises, Shankarapuram
Basavangudi, Bangalore
Karnataka 560004

Email: secretaryaroi@gmail.com
Vashistha.aroi@gmail.com

AROI Premier League
April – May 2019 - Kolkata

Update from : Dr. Jyotirup Goswami (Secretary – West Bengal AROI)

The AROI-West Bengal Chapter launched an exciting new initiative, by organising an 8-a side ,8 overs-a side cricket tournament among member institutions, The AROI Premier League played parallely with the IPL, through April-May 2019. The league aims to bring together all member institutes, across both Govt and corporate sectors in an atmosphere of friendly (but intense rivalry), as also to instil a close bond among all three communities engaged in Radiation Oncology , the clinicians, physicists and technologists. Furthermore, with the opportunity to engage in meaningful after-hours team activity, the tournament created tremendous excitement and camaraderie within the institutions.

The tournament had 8 teams, divided into 2 groups of 4 each, with the winners and runners up facing off in the Semi Finals, followed by the grand Final, which was an absorbing & breathless affair with the two teams, RG Kar Medical College Hospital and Apollo Gleneagles Cancer Hospital, tied at the end of the allotted overs. After that, Dr Debapriya Mondal (with the ball) and Dr Hambir Choudhary (with the bat), held their nerve to guide RG Kar Medical College Hospital to victory via Super Overs.

Anticipation is already rising for next year's tournament with the rolling trophy up for grabs for whichever team can combine skill, coordination and consistency.

Activity .....

AROI Premier League April – May 2019 – Kolkata - Through Lens

Obituary

Dr. Babu Lal Baid

LM – 178

Sr Professor

Acharya Tulsi Regional Cancer Treatment Research Institute, Bikaner

This issue is brought to you by

Dr. Vikas Jagtap

Associate Professor & HOD

drvikasj@yahoo.co.in , +91 - 88222-31236

NEIGRIHMS – Shillong

On behalf of Association of Radiation Oncologists of India (AROI)