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Intimacy: A Neglected Aspect In Cancer Patients' Counselling

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The importance of counseling cannot be over emphasized in oncology. Theodore Roosevelt had very rightly said "Nobody cares how much you know, until they know how much you care". Most of us do counsel our patients prior, during and after their treatment. We do explain them about the stage of cancer, available treatment options, duration, cost, prognosis, benefits of treatment, early and late side effects. We also counsel them about the diet, does and don'ts during the treatment.

Is this enough? NO! There is evidence that despite living in the "shadows of cancer" the expression of sexuality and need to connect in an intimate way continues to be an important part of people's lives.1

There are various social, cultural and educational barriers pertaining to intimacy in cancer patients' lives at the level of society. Apart from this health care providers, spouse and patient barriers also pose a challenge.2

The concerns that a spouse of cancer patient has regarding their sexual and intimate relationships are:

What will he/she think if I bring up this topic?
What if I contract cancer from him/her
I don't feel the same about him/her anymore
Things have changed between us now
My spouse is too weak now for any physical relationship
Poor personal hygiene of cancer patient is at times a deterrent

Barriers which a cancer patient faces are-

Physical -Self image, weight gain, hair loss, sexually unattractive after sacrificing any organ totally/ partly, facial disfigurement after head and neck surgery etc.

Physiological -Males experience erectile dysfunction, loss of libido, premature ejaculation, loss of fertility. Female experience vaginal dryness post radiation therapy leading to dyspareunia, shortened vaginal length postoperatively, inability to achieve orgasm, loss of libido, early menopause post chemotherapy and hormonal therapy, loss of fertility.

Emotional- anxiety, guilt, sadness, depression, hopelessness and frustration.

The chief concerns of an oncologist are optimum cancer treatment, regular follow up and quality of life. More than often, even in most detailed patient counseling sessions, sexual and intimate relationship are not discussed. The barriers of this are lack of one or more of the following- thoughtfulness, initiative, confidence, knowledge, experience, privacy and possibly time.3

Intimate relationship counseling is a must and should be a part of our pre, during and post treatment counseling. Sexuality is an integral part of the uniqueness and personality of every individual. Failure on our part to acknowledge this in cancer management implies failure to acknowledge personhood.

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Evolving Paradigm in Drug Resistant Epilepsy Radiosurgery - Techniques, Indications and Outcomes

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Drug Resistant Epilepsy:

Epilepsy is one of the most common chronic neurologic disorders. International League Against Epilepsy (ILAE) defined drug-resistant epilepsy, estimated between 20-40%,as the failure of adequate trials of two tolerated, appropriately chosen and administered antiseizure medications (whether as monotherapy or in combination) to achieve seizure freedom. Such patients are at increased risk for serious morbidity and mortality, including cognitive disorders, poor academic performance, unemployment, depression, physical trauma, and sudden death in epilepsy.

The goals of treatment for individuals with drug-resistant epilepsy are to render the patient seizure free, avoid treatment-related adverse effects, and allow the individual to become a participating and productive member of society.

Focal cortical resection is a consideration in patients with drug-resistant focal epilepsy if the seizures emanate from a region that can be removed with minimal risk of disabling neurologic or cognitive dysfunction. Success of any Epilepsy surgery depends on the
Robust localisation of epileptogenic focus which includes functional or metabolic imaging and intracranial EEG monitoring.
Underlying surgical pathology
Seizure types

Concerns regarding surgical morbidity especially on the cognitive function, visual field deficits limiting to superior quadrant, psychiatric problems have generated enthusiasm for more minimally invasive interventions like Stereotactic Radiosurgery (SRS) , Laser Interstitial thermal therapy (LIIT), Radiofrequency thermocoagulation & Focussed ultrasound.

Radiosurgery is least invasive of all the available options. The demonstrated advantages of radiosurgery are the comfort of the procedure, the absence of general anesthesia, the absence of surgical complications and mortality, the very short hospital stay, and the immediate return to the previous level of functioning and employment.

What is Stereotactic Radiosurgery:

Radiosurgery involves delivery of High energy X rays or gamma rays in a small sharply limited target in a single session with stereotactic accuracy for a lesional or non-lesional effect.

Basic Principles of Radiosurgery Machines:

The mechanical accuracy of the radiation delivery system and steepness of the dose gradient are the key factors of a radiosurgery system.
The average mechanical accuracies of the modern radiosurgery machines are less than a millimetre.
Besides accuracy the thickness and resolution of the stereotactic images are equally important in evaluating the accuracy of the whole radiosurgery procedure.
Target conformity and the radiation dose gradient properties of each machine is very difficult to compare the outputs because the treatment plan depends on the target shape, target size, the planning personnel, the time spent on planning, and the techniques used. Gamma Knife users usually prescribe the irradiation dose on isodose lines of about 50% of the maximum dose, whereas users of the other machines use isodose lines of between 70 and 90%.
Frameless radiosurgery is a thoroughly non-invasive treatment offering submillimetric accuracy. Furthermore, the absence of a stereotactic frame opens up a wide space for additional beam trajectories, thus enhancing the beam access to skull base or deep brain lesions. An additional degree of radioprotection is provided by the ability to hypofractionate the treatments if needed.

Features	Gamma Knife	Cyber knife	X-Knife / Linac Knife
Fixation	Fixed Frame Based	Frameless – Double reinforced stereotactic mask	
Radiation Source	Co-60	Linac mounted on robotic manipulator	Linear Accelerators
Focussing Methods	Multiple Sources	Multiple pencil beams	Gantry rotation
Planning System	TPS based	Advanced Monte-carlo algorithms	Pencil beam
Maximum Dose Rate	2.5 - 3.5gy/ mt.	1000 mu/mt.	1200-2000 mu/mt.
Collimator	4mm,8mm,16mm	Cone: 5-60mm & Iris MicroMLC	Cones 5-20mm
Target Tracking	Not available	Realtime X-Ray & Optical tracking	Offline X – Ray Tracking
Avg. Mechanical Accuracy	~ 0.3mm	~ 0.3mm	~ 0.3mm
Overall System accuracy	~ 1mm	~ 1mm	~ 1mm

Gamma Knife Radiosurgery System

Cyber Knife Farmless Radiosurgery System

Mechanism of Action in Epilepsy: Differential Effect concept producing neuromodulation:

Clinical Level : Deep seated AVM's with DRE post SRS show immediate seizure cessation before the nidus obliteration. Radiosurgery induces a functional effect such as rendering the cortex surrounding the AVM no longer epileptic without destroying the underlying function

At Cellular level: In rat experiments,Injury of the catecholaminergic system with concomitant sparing of the GABAergic systems &Neuronal cells appear to have undergone a phenotypic shift with respect to calbindin and glutamate decarboxylase-67 expression. The lack of target necrosis as shown by follow-up MRs points toward a neuromodulatory effect induced either by gliosis, down-regulation of firing neurons and reduced vascular supply.

Target Epileptogenic Substrate localisation Tools:

The goal of presurgical evaluation for epilepsy surgery is to lateralize and localize the seizure focus accurately; this includes phase I and phase II evaluation:

Phase I evaluation includes the use of non-invasive modalities to determine where the seizure starts; this includes techniques such as video-EEG, MEG, 3 tesla MRI (T1,T2 & FLAIR), Functional Neuroimaging using - interictal PET, ictal SPECT/ SISCOM, and neuropsychological assessment.

Phase II evaluation includes the use of surgically placed electrodes directly over the brain parenchyma to determine where exactly the seizure is originating. This phase involves the use of invasive techniques such as placement of subdural grids/strips and/or depth electrode placement for electrocorticography (ECoG) and stereo-electroencephalography (SEEG).

Evaluating efficacy of Interventions: Engel Epilepsy Surgery Outcome Scale, which has become the de facto standard when reporting results in the medical literature

Class 1 Free of disabling siezures
- A Siezure free
- B Non-Disabling prodromal symptoms only
- C Siezure free for last 2 yrs
- D Convulsions with AED discontinuation only

Class II Rare disabling siezures
- A Initially seizure free, rare siezures now
- B Rare disabling siezures
- C Rare siezures for the last 2 yrs
- D Nocturnal siezures for last 2 yrs

Class III Worthwhile improvement
- A Worthwhile Siezure reduction
- B Prolonged seizure free periods, not <2yrs

Class IV No worthwhile improvement
- A Significant seizure reduction
- B No appreciable change
- C Worse siezures

Indications for Epilepsy Radiosurgery:

Radiosurgery in Mesial temporal lobe epilepsy — Patients typically experience focal dyscognitive seizures, (complex partial seizures) with or without aura or tonic-clonic seizures. The most common pathologic substrate associated with temporal lobe epilepsy is hippocampal sclerosis (mesial temporal sclerosis), which is characterized by selected focal neuronal loss and gliosis in the hippocampus, predominantly affecting CA1, CA3, and the dentate granule cell layer. Hippocampal sclerosis is the most commonly encountered histopathologic diagnosis at the time of epilepsy surgery in adults.

Patient Selection: SRS is not for all MTLE. Indications include

Young Patients with High level of functioning // Socially adapted // Working

Concerned by the risks of MS & the stop of work // No atrophy // Dominant side

Few neuropsychological deficit before Surgery // WADA Failure

Target location for Amygdalohippocampectomy: Anterior part of parahippocampal region; entorhinal area adjacent to the collateralsulcus, and the rhinal sulcus; the head of the hippocampus; the anterior part of the hippocampal body; and the amygdalofugal part of the amygdaloid complex

Doses:Marginal dose – 24gy. maximum dose allowed to nearby brainstem was 10 Gy and to optic nerves 8 Gy.

Efficacy: Radiosurgery in properly selected patients provide favourable efficacy (nearly 65-70% Engel class 1 response) comparable to surgical series and superior neuropsychological outcomes (Verbal & spatial memory) and quality of life metrics compared to microsurgery as Left temporal lobe resections can result in decrements in verbal memory, while spatial memory and learning may be affected by right-sided surgery.

Side-Effects: Acute - Headache, nausea, vomiting. Long term – Radionecrosis, for higher doses

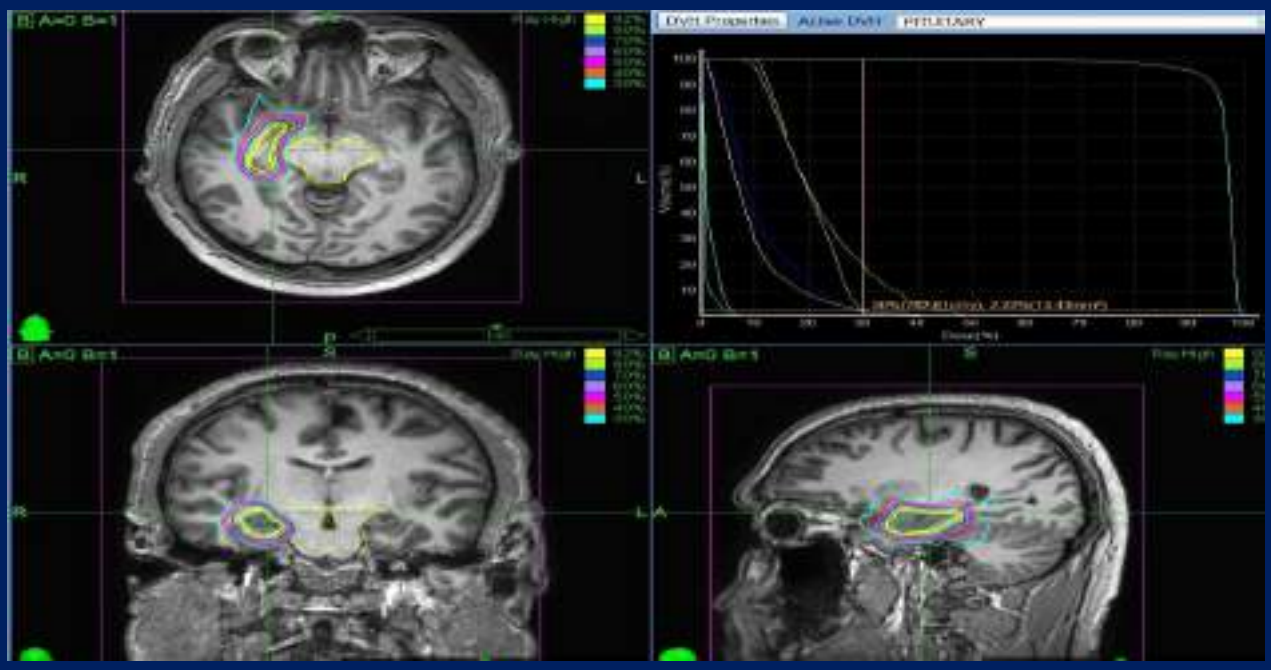
Response Timeline:

Delayed onset of MRI changes and the excellent initial resolution is a good predictor of the seizure cessation.

Average latency before reducing or stopping seizures is at least 6-9 months.

Nearly all patients experience transient exacerbations in auras before seizures decrease or remit. The most dramatic drop in seizure rate occurs between 12 and 18 months, coinciding with the development and resolution of maximal changes on magnetic resonance images.

Long term MR lesioning not mandatory for seizure cessation.



Selective CK Amygdalohippocampectomy in MTLE

Intrahypothalamic hamartoma CK Radiosurgery

Radiosurgery in Hypotholamic Hamartomas:

HH are developmental epileptogenic malformations that grow inside the hypothalamus (sessile or intrahypothalamic) or mostly within the third ventricle (pedunculated or parahypothalamic)&variably associated with central precocious puberty and gelastic (laughing or crying) seizures.
Classified as sessile or pedunculated lesions, depending on the width of their attachment to the tuber cinereum and the pattern of growth which can be, respectively, contained inside the hypothalamic parenchyma or mainly expanding toward the ventricular or interpeduncular space. Sessile hamartomas can be further divided into Type I (midline), II (lateral), III (intraventricular),and IV (giant). The size of Types I, II, and III lesions is # 20 mm, whereas Type IV is . 20 mm.
Associatedsiezures could begelastic seizures, generalized tonic or tonic-clonic seizures, drop attacks, and partial seizures.and appears to be crucially affected by the HH location and its relation to hypothalamic structures.
Large pedunculated HHs, mostly located outside the hypothalamus, are rarely associated with catastrophic epilepsy. Large lesions with pituitary stalk compression result in precocious puberty.
Small unilateral intrahypothalamic lesions (Valdueza Types I and II) can be associated with severe seizures that lead to behavioral and cognitive deterioration. Severe, medically refractory seizures are common with HH that are broadly attached to the mammillary bodies, with thalamocortical spreading of the epileptic activity through the mammillothalamic tract. GABAergic inhibitory neurons exhibitingan intrinsic “pacemaker-like” behavior.

The degree of seizure control is linked to the extent of the surgical intervention. Incomplete resection, disconnection, or ablation of the HH can be associated with incomplete seizure control, whereas freedom from seizures may be induced by a more aggressive approach.
Surgical approaches include microsurgical resection, endoscopic resection or disconnection, radiofrequency lesioning, and interstitial brachytherapy. Resective surgery is an excellent option for large pedunculated HH; the lesser the hypothalamic attachment, the lower is the chance to develop metabolic complication.
direct surgical approaches to these lesions pose significant risks due to neuro-metabolic injury. SRS is emerging modality which provides excellent seizure outcomes and no long lasting complications.
Patient Selection: Small intrahypothalamic or medium sized intraventricular / interpeduncular lesions with medically refractory catastrophic epilepsy with progressive neurobehavioral deterioration or malignant epileptic features, such as frequent generalized seizures and drop attacks, are present. large HH tend to be much less successfully treated by SRS and conventional surgery is indicated as first line treatment in these patients.
Target:Increased T2 signal without contrast enhancement lesion.
Dose: Marginal dose – 18gy/1 fr. or 30gy/5fr.
Efficacy: In most patients Engel Class I or II outcomes are seen after radiosurgery. Early treatment associated with favourable outcomes.
Side-ffects:Nil. No serious permanent complications, such as metabolic disorders, hemiparesis, cranial nerve deficits, or short-term memory deficits, have been reported after radiosurgery for HH
Response Timeline: Temporary worsening of seizures can be seen as early as 2 months correlating radiologically with pseudoprogressionafter the procedure, followed by progressive resolution; this outcome is associated with the delivery of highDoses (>16gy).

RS for epilepsy associated with cavernous malformations:

Stereotactic radiosurgery (SRS) Role Controversial:

Because of the absence of neuroimaging criteria to gauge their successful obliteration.

Latency period for decreased risk of haemorrhage appears to occur at 2 years after SRS; → Difficult to discern whether this reflects true therapeutic benefit versus the natural history of decreased haemorrhage rates after initial "clustering" of haemorrhage events.

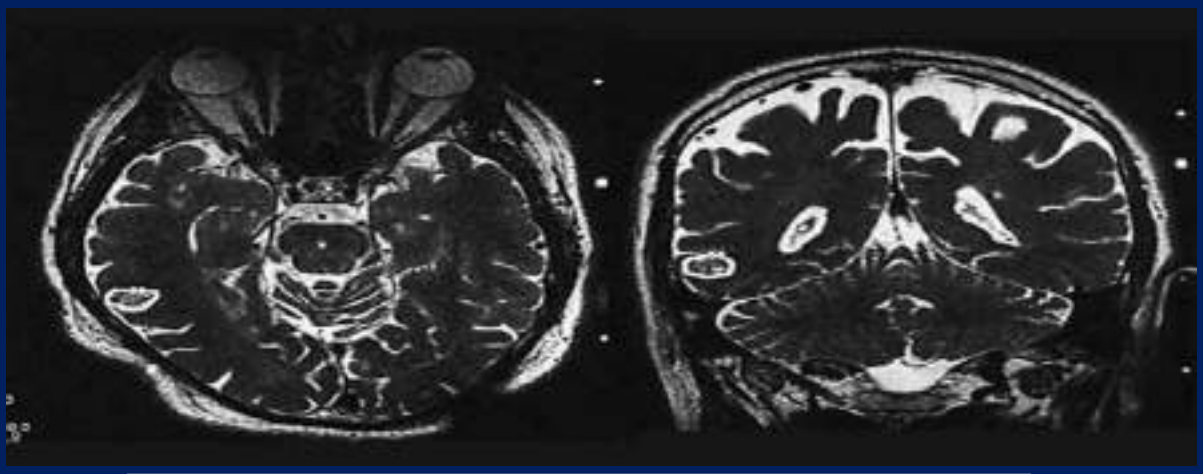
Because arteriopathy is not an aetiology of CCM → no explanation on biological basis.

Increased incidence of radiation-induced complication → by poor radiological localization and the dose planning software available at that time.

Patient Selection: Cavernoma presenting with seizures arising from eloquent cortex surrounding the lesion, correlated electro-clinically

Dose: Margin dose 14gy.

Efficacy: Engel class 1 response in 55% , Class-2 response in 25%. Mesiotemporal region CM: poor outcome while central and lateral temporal region CM have a excellent outcomes.



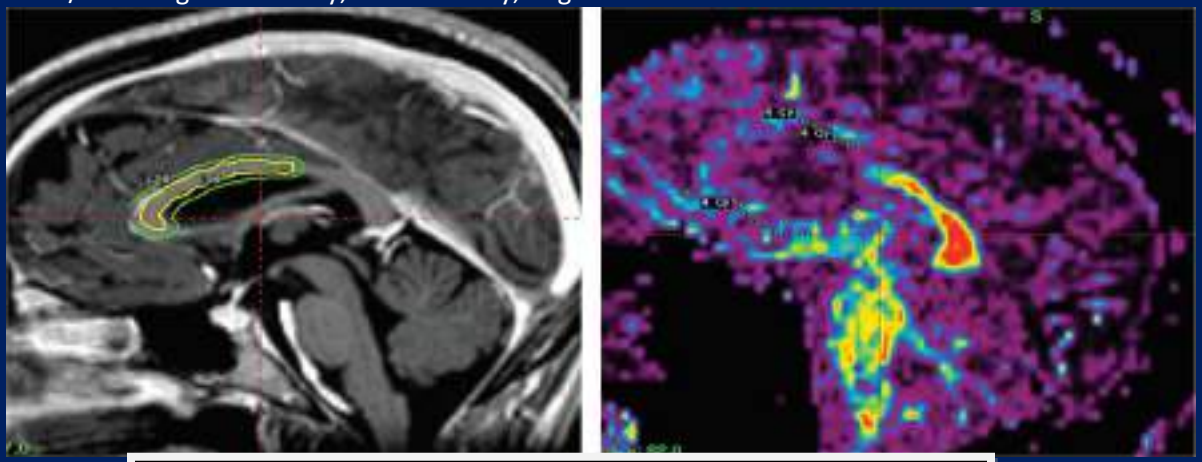
Right Posterior Temporal Cavernoma - CK

RS corpus callosotomy for refractory bilateral epilepsy:

Patient Selection: remains a palliative procedure and does not achieve a cure.

Primary Procedure: Patients with medically intractable epilepsy with multifocal origins of epileptic activity especially the atonic siezures, who are not candidates or willing for focal resection.

Adjuvant Procedure: In patients with failed or insufficiently effective earlier treatment with – earlier partial / first stage callostomy, lesionectomy, Vagal nerve stimulation or DBS.



Radiosurgical Anterior corpus callosotomy

Target: Anterior callosotomy - genu, rostrum, and the anterior half of the body of the corpus callosum. on injury to surrounding structures.

If the patient seldom achieves satisfactory improvement in the seizure outcome, and second or third stepwise colostomy might be needed extending the lesioning posteriorly.
Dose:65gy at 50%

Efficacy: RS CC is disconnection procedure, which prevents epileptic discharges from propagating between 2 cerebral hemispheres.

Patients with normal MRI findings and lateralized electroencephalography showed the best seizure control compared with patients with abnormal MRI findings and nonlateralized electroencephalography.
Reduces the frequency and severity of drop attacks (DAs), atonic seizures of several generalized epilepsies, including Lennox-Gastaut syndrome (LGS), generalized tonic-clonic seizures (GTCS), and tonic seizures.
Similar to microsurgical callosotomy, Drop Attacks closely followed by GTCS respond best to radiosurgicalcallosotomy. Absence, myoclonic, and CPS practically remain unaffected by radiosurgicalcallosotomy.
Side-effects: Symptomatic edema (25% cases) → headache and nausea (without vomiting), and transient neurologic deficit.

In the presence of choices when none is the gold standard, Radiosurgery needs to prove a better risk/ benefit profile than its competitors. The reasons for this limitation are multifactorial pathophysiology, prevailing pessimism, and a skeptical attitude toward functional radiosurgery, especially for ablative radiosurgery. Further evaluation in randomized controlled trials and prospective registries is needed to define a better level of evidence.

Suggested Further readings:

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Oral Cancers in India – Screening or Awareness?

Prof Punita Lal
Radiotherapy, SGPGI

Oral cancer is the third commonest cancer in our country and even more common in the state of Uttar Pradesh. For instance, at SGPGIMS, Lucknow, we treat nearly 200 mouth cancers each year. It is invariably caused by tobacco, areca nut (supari), smoking of bidi and cigarettes, alcohol consumption, and poor oro-dental status. The people consuming the above carcinogenic products are at high risk of developing oral cancer. Most of these patients belong to lower socioeconomic class, where the education and awareness level is low. Due to lack of awareness, they often present late and therefore may be beyond cure. Late presentations decrease the chance of cure and increase the probability of death due to cancer. We can save the lives of these patients by diagnosing them early. This is possible by either running screening programs or through awareness programs for the public. In a screening program, trained health care workers examine the oral cavity of the normal population of a defined geographic area, at regular intervals. Screening entails testing of a large population to detect (early) cancers in some people. Early detection on the other hand, is an educational strategy adopted with the aim of making the public aware, so that they understand the illness and its consequences, and report to the doctor at the earliest. The selected groups (often high-risk groups such as tobacco user males or vulnerable groups such as school going children of impressionable age) are explained about the disease, through public lectures, demonstrations, street plays etc. As a consequence, most of these persons carry the message back home, and tend to disseminate the knowledge in the neighbourhood and in the society. Once the people become aware, they tend to report to the hospital early during the course of illness and get treated in a timely fashion. So, what strategy should be adopted for these cancers in a country like India – screening or early detection?

The state of Kerala conducted one such large screening trial for nearly 1.0 lakh normal population of 35 years of age and beyond. Any suspicion of cancer or precancerous lesion was referred for clinical examination by a doctor, biopsy, and treatment, as and when required. They reported that to save one life (i.e., prevent 1 death from mouth cancer) the health care workers had to screen 2000 mouths (numbers needed to treat - NNT). Where health care resources are high, these screening policies may be recommended. While in a country like India, with 1.4 billion population and limited resources, it was realised that screening of only high-risk groups (heavy tobacco users etc) may prove to be cost-effective. On the other hand, early detection by enhancing awareness within the communityhas proven to be a far more cost-effective proposition and possibly the key to cure these cancers.

Additionally, we know that oral cancers are preventable – if the carcinogen i.e. tobacco usage is stopped; and therefore,an absolute game changing strategy for our country might be when the government is able to levy higher taxation on tobacco related products and adopt stringent laws towards the use of tobacco especially in public places.

39th ICRO SUN PG TEACHING PROGRAM ON HIGHLY CONFORMAL RT TECHNIQUES

-Dr. V Srinivasn

Highly Conformal Radiotherapy describes treatment that delivers a high-dose volume that is shaped to conform to the target volume while minimizing the dose to critical normal tissues in the adjacent area. Because conformal radiotherapy attempts to conform the dose to the target, careful and accurate delineation of the target is critical. Conformal radiotherapy requires imaging that allows careful delineation of the tumor as well as of critical structures. Computed Tomography, Magnetic Resonance Imaging, and Functional Nuclear imaging all are useful in defining these volumes.

Three-dimensional conformal radiotherapy (3DCRT) and intensity- modulated radiotherapy (IMRT) or volumetric -modulated arc therapy (VMAT) are the most common treatment techniques used for most of the solid tumours. Apart from this the Stereotactic Techniques like SRS/SRT/SBRT are available for precise radiation and Proton Beam therapy has added feather to the crown.

Hence we decided to do the 39th ICRO SUN PG Teaching Program Webinar on Highly Conformal RT Techniques for our young postgraduates. This Webinar covered the Evolution and Physics associated with Conformal Radiation and also about the Radiobiology of Stereotactic radiotherapy on Day one. It also completes the Introduction to Newer Machines and Hadron therapy. The Second day of the Webinar started with the Plan Evaluation of various Conformal Techniques and the Clinical applications of Motion Management,SBRT in Oligometastasis of Liver / Lung and Spine. Apart from this the role of Cyber Knife in AVM was dealt with for the first time. The Third day of the Webinar started with nuances in Cranio Spinal RT followed by evolution of Brachytherapy and the importance of Highly Conformal RT in Benign Tumours. The Webinar ended with the lectures on Survivorship after using these high end techniques and also with an Introduction to the synergism of Immunotherapy and Conformal Radiation which is going to be the future of our Specialty.

The 39th ICRO SUN PG Teaching Program was designed in such a way that students get to know everything from the basics to the latest advancements in the Highly Conformal RT Techniques. They could also have live interactions with the faculties and got their queries answered then and there.

We chose the 16th to 18th of February 2022, for the program, three consecutive days and five lectures everyday and planned from 5.30 pm to 8.00 pm. While there were many Webinars being done every other day in India, We had an astonishing 140+ paid registrations including students from FARO Countries.

All the speakers did an excellent job and the participants were very happy and were interactive. The final day we organised the ICRO Quiz and selected the top three and they will be honoured in our next Annual National Conference of AROI 2022 apart from being sponsored completely to attend the Conference

40th ICRO
PG Teaching Program

30th April & 1st May 2022

Organised by

AIIMS, Rishikesh
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Indian College of Radiation Oncology (ICRO)

Academic Wing of

Association of Radiation Oncologists of India (AROI)

40th ICRO PG Teaching Program

30th April & 1st May 2022

On

Lung Cancer

Organised by,

AIIMS, Rishikesh
Uttarakhand-249203

Venue

Academic Block,
AIIMS, Rishikesh

Course Goal

The academic wing of association of Radiation Oncology, Indian College of Radiation Oncology has been regularly involved in developing teaching programs with the aim of standardising education across different teaching institutes. The program is designed to give the trainees / post-graduate residents didactic lectures on the Lung Cancer to give them basic as well as comprehensive knowledge over a period of one and a half days.

The 40th ICRO AROI Teaching program on Lung Cancer is being conducted by the Department of Radiation Oncology at AIIMS, Rishikesh. AIIMS, Rishikesh was established by Government of India under the Ministry of Health and Family Welfare, New Delhi under Pradhan Mantri Swasthya Suraksha Yojana (PMSSY) with the objective of correcting regional imbalances in the availability of affordable and reliable tertiary healthcare services and also to augment facilities for quality medical education creating a critical mass of doctors and conduct research in the country relevant to the area.

The Department of Radiation Oncology has been functional since 2016 and is equipped with LINAC and Brachytherapy delivery units. The department has seen exponential growth over a short span of time under the visionary leadership of the Director Prof Ravi Kant and HOD Radiation Oncology, Prof. Dr Manoj Gupta. The dedicated team of Radiation Oncologists, Medical Physicists and Technologists has helped delivering state of the art treatment including SRS/VMAT/IMRT/IGRT.

Course Brief

Lung cancer is divided into two broad histologic classes, which grow and spread differently: small-cell lung carcinomas (SCLCs) and non-small cell lung carcinomas (NSCLCs). Treatment options for lung cancer include surgery, radiation therapy, chemotherapy and targeted therapy. Therapeutic-modalities recommendations depend on several factors, including the type and stage of cancer.

This course will focus on imparting knowledge on various treatment modalities available for lung cancers. The course faculties are experts in Radiation Oncology, Medical Oncology and Surgical Oncology and thoracic Oncology etc. from India. The participants will have the opportunity to interact with experts to clear their doubts and gain knowledge.

Eligibility & Selection Criteria

- 2nd and 3rd year MD / DNB (Radiation Oncology) Post Graduate students to be nominated by the Head of the Departments / Institutes
- AROI Membership is mandatory to apply for the Course.
- Maximum two students from one Institute.
- Last date for submission of application 15th April, 2022.
- Candidates who have attended the earlier ICRO program will NOT be given preference.
- Selection will be done by ICRO teaching course committee. Merely applying for the teaching course does not guarantee selection.
- Candidates will have to pay Registration fee of Rs. 1,500/- through online payment in the below mentioned account details.

  Bank: State Bank of India
  Account Name: AROI - ICRO
  Account No: 39535445525
  Address: Millerganj, Ludhiana
  IFSC Code: SBIN0000731

- After the payment is made, send the scanned copy of the registration form and payment receipt to secretaryicro@gmail.com, drvashistha@gmail.com & arvindsuri@sunpharma.com.
- If not selected, registration fee will be refunded.
- Stay on twin sharing basis and local hospitality, from 29th April 2022 6:00 PM to 1st May 2022 10:00 AM will be provided by ICRO.
- No family members are allowed to stay at venue or attend ICRO program.
- For any correspondence please contact Secretary, ICRO at Secretaryicro@gmail.com or icro.git.2019@gmail.com
  The decision of ICRO body will be final and binding

APPLICATION FORM

I would like to participate in the 40th ICRO PG teaching Program

Name (in CAPITAL letters only) : .....

.....

.....

Gender : Male ☐ Female ☐

AROI Membership No.: .....

Name of Institution .....

.....

City..... Pin code.....

State .....

PG Course: MD ☐ DNB ☐

Date of Enrolment to PG Course

Date..... Month..... Year.....

Mobile No: .....

Email ID (write in CAPITAL letters only) .....

.....

.....

Signature .....

I recommend the candidature of above candidate for participation in 40th ICRO PG Teaching Course.

Name of HOD .....

Mobile No: .....

Email ID: .....

Date Signature of HOD Seal of Institute

Minutes of The EC Meeting

Held on 05/03/2022

1. The meeting was started with the permission of the president AROI Dr Vasishta

2. Dr Giri, secretary AROI expressed his condolences to the members who had passed away and the committee observed a minute of silence in their memory.

3. Academic calendar for this year was discussed: The secretary informed the EC, inspite of covid the attendance for online teaching courses has increased.
   Tentatively the ICRO teaching program topics were decided:

   Rishikesh : NSCLC.,
   Bangalore : Brachytherapy, &
   Indore : Head and Neck cancer.

   Topic for Prodvance: Hepato-Pancreato-Biliary tumors.
   Radiobiology Teaching course: As decided by Dr Manoj Gupta
   AROI ESTRO course: Coordinator: Dr Tanveer Shahid, Kolkata
   Gynec ESTRO course: Dr Chandan Dev Gupta

   It was decided that Dr Pradhan & Dr Srinivasan will discuss with the host institutes and finalize the dates of the academic program. Attached is the program dates as proposed by the office of the ICRO.

4. Discussion regarding the letter written by Member of the AROI West Bengal chapter regarding the issue of arbitrary increase of PG seats in medical colleges in WB along with other PG seats. The EC committee decided that the WB chapter can write a letter to the government objecting the move. It was also decided that Dr Giri along with Dr Ashok Kumar will collate data regarding the PG seats in country and number of centers available. A letter addressing the issue of arbitrary and unwarranted increase in the seats to be written to Chairman NMC, Minister and secretary Health, GOI asking for redistribution of seats rather than increase the seats.

5. Audit of AROI conferences held in Ahmadabad and Thiruvananthapuram are pending was brought to the notice of EC, Dr Pooja was asked to meet Dr Shashank to get the details as soon as possible also Dr Francis informed he also will be sharing the Audit shortly.

6. Endorsement of NSCLC consensus guideline by AROI authored by 8 authors in which 2 are AROI members Dr J P Agarwal and Dr Anusheel Munshi in collaboration with a Pharma company was discussed. It was decided that further information was needed regarding the title of the paper, where it will be published and the role of the Pharma company. Dr Vashishta told he will get more information and will send it to EC for decision.

7. In regards to the discussion on having a AROI guidelines for contouring as requested by PG's it was decided that Dr Sarbani Laskar will take the initiative to write a concept paper on feasibility of doing this. Also it was discussed that existing guidelines by RTOG & ESTRO can be used, however final decision will be taken after going through Dr Sarbani's report

8. The issue of Radiation oncology as a feeder branch for DM Medical oncology has come back. Dr Giri had an interaction with Dr Ramesh the outgoing President of Board of Postgraduate studies NMC, and it was said by Dr. Ramesh, the approval as a feeder branch is given for only this year and the issue has been resent to the committee to discuss. It was clear that the Dr S C Sharma Chairperson of NMC is not in favor of radiation oncology as a feeder branch of DM Medical oncology.

   Dr Manish Pandey was asked to get a legal opinion regarding getting a stay and how to proceed including getting info by RTI act It was also decided to help any of the students if they go to court to challenge this decision.

   The issue is still pending with the 'NMC' committee and no final decision is taken and no information is available regarding this new development.

9. Orators for 2022 AROI Conference: as decided earlier

   Dr Dinshaw oration: President of ASTRO/ESTRO/FARO/international recognized RO

   Dr B D Gupta oration: Dr A P S Sandhu

   Dr Rangi Prasad oration: Dr Ashwath Narayana

10. Proposal by Kerala chapter for Prof M Krishnan Nair Oration was accepted in place of Dr Rangi Prasad Oration, subject to confirmation by Dr Francis of paying the seed amount for the same.

11. Dr Vashishta discussed regarding a Virtual conference platform, which is willing to provide online platform free of cost to have virtual meetings, however there was no sufficient information and hence was decided to get more information before making a decision.

ICRO CALENDAR FOR 2022

INTAS RADIOBIOLOGY COURSE-2022

1. Dr.Shekar Khesri,Patna (EAST)	MAY 8TH -SUNDAY
2. Dr.Shantanu Sharma,SMS,Jaipur (WEST)	SEPTEMBER 24
3. Dr.Manoj Gupta,AIIMS,Rishikesh (NORTH)	NOVEMBER 19
4.Dr.Dinesh Makuny,MVR,Calicut (SOUTH)	AUGUST 6

PRODVANCE 2022-HEPATO-BILIARY TUMOURS

1.Dr.V.Srinivasan,MIOT,Chennai (SOUTH)	APRIL 23/24
2.Dr.Kaustav Talaptra,Kokilaben,Mumbai (WEST)	OCTOBER 15/16
3.Dr.S.N.Senapati,AHRCC,Cuttack (EAST)	AUGUST 27/28
4.Dr.(Col.)Ashok Kumar,RR Centre,New Delhi (NORTH)	JULY 16/17

SUN ICRO TEACHING PROGRAMME-2022

1. Dr.Manoj Gupta, AIIMS, Rishikesh (LUNG CANCERS)	APRIL 30/MAY 1
2. Dr. G. V. Giri, Sankara Hospital, Bengaluru (BRACHYTHERAPY)	JUNE 4/5
3. Dr. Preety Jain, MGM Med College, Indore (HEAD & NECK)	SEPTEMBER 3/4

ICRO PRE-CONFERENCE WORKSHOP AROICON - DECEMBER 1

AROI ESTRO GYN Teaching Course

Proposed dates: 16th to 19th of June, 2022 or 30th June to 3rd of July, 2022.

AROI ESTRO Advanced Technology Course

Proposed dates: 10th to 13th of November, 2022 or 8th to 11th of December, 2022

THE 14TH FARO WEBINAR

TOTAL BODY IRRADIATION FOR BONE MARROW TRANSPLANTATION BY VMAT PLANNING – AN INITIAL BANGLADESH EXPERIENCE

TUESDAY, MARCH 22, 2022

ORGANIZED BY:

BSRO | IROS | IRORA

CONGRATULATIONS

ICRO QUIZ Winners

Dr. Nity Singh
Maulana Azad Medical College, DELHI
neeti389@gmail.com
AROI No 3679

Dr. Syeda Afshan
Omega Hospital, Hyderabad
drsyedaafshan@gmail.cm
AROI No 3664

Dr. Atokali Chophy
AIIMS, Rishikesh
chophy.atokali21@gmail.com
AROI No 4013

The three day Webinar ended in a happy note with all the lectures completed on time and lots of appreciations from the students saying that they are looking forward to such programmes.

Last but not the least our sincere thanks go to Mr.Arvind Suri, SUN oncology who was a strong pillar of support in doing this Webinar and to Webstream World Communications.

Dr.Satyajit Pradan	Dr.D.N.Sharma	Dr.V.Srinivasan
Chairman,ICRO	Vice-Chairman,ICRO	Secretary,ICRO

CONGRATULATIONS

NZ AROI Office Bearers

Dr Neeraj Jain
President NORTH Zone AROI

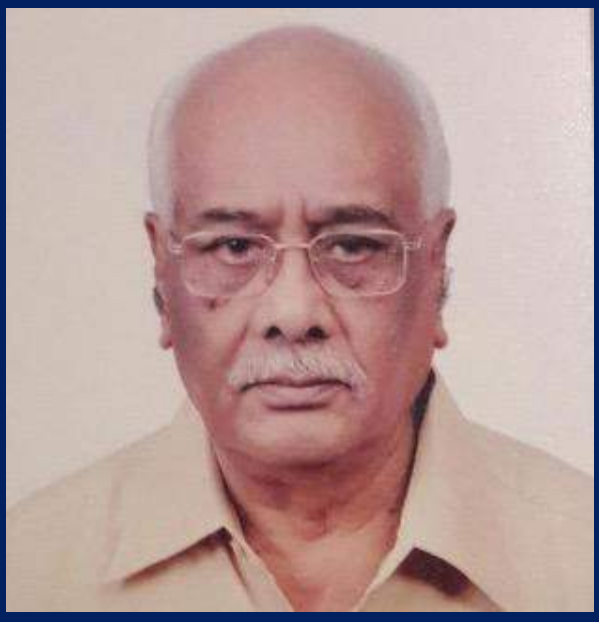
Dr Jasskaran Sethy
Sr Vice President North Zone AROI

Dr Deepak Abrol
Jr Vice president North Zone AROI

Dr Pradeep Garg
Secretary General
North Zone AROI

Dr Maneesh Pandey
Editor North Zone Journal

Obituary : Dr Dilip Kumar



Deeply grieved at demise of Dr Dilip Kumar on 7th Feb 2022. Graduated from CMC, Vellore under Dr A D Singh, he was a stalwart of Radiotherapy in India. He was probably the first Radiation Oncologist to start private practice in a corporate hospital (Jaslok Hospital). Dr Dilip Kumar along with Dr B D Gupta & Dr Krishnan Nair started AROI & he was General Secretary. At Jaslok he used to treat patients with Teletherapy, Simulator and Pre-loaded Brachytherapy. He is survived by wife and a daughter. He was teacher to number of DNB students, and they are practicing in various part of India. May God give Madam & his daughter Deepa enough strength to overcome this great loss.

Dr Manish Chandra
President
Maharashtra Chapter AROI

Dr. J.P. Agrawal
Professor & Head
TMH Mumbai

Tentative Dates of Young Radiation Oncology Conference

On 11th & 12th February 2023.

Organizer

Dr. Madhup Rastogi
&
Dr. Ajeet Gandhi
From
Dr. Ram Manohar
Lohia Institute Of Medical Science, Lucknow

Best Of

ASTRO

To Be Decided

This educational programme is supported by an Unconditional grant from

INTAS PHARMACEUTICALS LTD.

Course Director:

Dr. Manoj Kumar Gupta

Dean

All India Institute of Medical Sciences

Rishikesh, Uttarakhand

Mob: 9418470607, 9816137344

Email:mkgupta62@yahoo.co.in

Organizing Secretary

Dr Shekhar Kumar Keshri

Sr Consultant Radiation Oncologist

Paras HMRI Hospital

Bailey Road,

Patna-800014

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ICRO

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Course Coordinator

Dr Shekhar Kumar Keshri
Sr. Consultant Radiation Oncologist
Paras HMRI Hospital, Patna
Mob: 9973043603
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Indian College of Radiation Oncology (ICRO)

Wing of

Association of Radiation Oncologists of India (AROI)

AROI ICRO Radiobiology2022
(Intas)
Teaching Course (East Zone)

On

Clinical Radiobiology for Radiation Oncologist

on

Sunday 08th May 2022
(Time – 8:30 AM to 4:45PM)

Venue :

Paras HMRI Hospital
Training Room(6th Floor)
Raja Bazar, Bailey Road,
Patna-800014

Application

I would like to participate in the "Clinical Radiobiology for Radiation Oncologists" on 08th May 2022.

Name: .....

Designation : Consultant/ Student

Qualification:.....

DMRT : ..... MD:..... DNB: .....

Year: .....

Arui Membership: .....

Mobile No. .....

E Mail. .....

Name & Address of Institute:

.....

.....

City:.....State:.....

Pincode .....

Signature:.....

Organizing Secretary

Dr Shekhar Kumar Keshri

Sr Consultant Radiation Oncologist

Paras HMRI Hospital, Patna

Mob: 9973043603

Email: shekharkeshri2010@gmail.com

Course AIM

1) To understand radio-biological Principles.
2) To know its clinical applications and implications

Course Eligibility

- 1st , 2nd & 3rd year MD/DNB/DMRT (Radiation Oncology) post graduate Sr. Residents & Consultant Radiation Oncologists.
- Travel & Accommodation to be borne by participants.
- The course is FREE without any Registration FEE.

Program Schedule

08:30 AM	Registration
9:00-9:30 AM	Inauguration
9:30-11:15AM	Module 1 & 2 Interaction with matter & Radiation Injury to Cells, Mechanism of action Cell Survival Curve, Exponential relationship, D10 & D0, Multi Model. L-Q Model)
11:15-11:30AM	High Tea
11:30-1:15PM	Module 3 (Clinical Applications of Q Models, Normal Tissue injury with emphasis to spinal cord BED and its clinical applications, Altered fraction and its radiobiological basis)
1:15-2:00PM	Lunch
2:00-3:15PM	Module 4 (Radiobiology of Hyprofraction, SRS & SBAT, factors affecting cell survival curve, HRS & IRR, Dose Rate Effect, Oxygen Effect, Radiobiology of fractionated RT. Intrinsic Sensitivity andS12)
3:15 -3:30 PM	High Tea
3:30 -4:45 PM	Module 5 (4Rs of Radiobiology, Role of 4 rs in SRS & SRT, TCP, NTCP Therapeutic ratio LET and RBE)
4:45 PM	Valedictory

MIOT International

ICRO PRODVANCE-2022-SOUTH ZONE

OVERVIEW OF HEPATO-PANCREATICO-BILIARY TUMORS

23rd & 24th April 2022
Retreat Auditorium, MIOT International, Chennai

Dear friend / colleague,

It is a great honour and privilege to invite you to **'Overview of Hepato-Pancreatico-Biliary Tumors'**, a course on radiotherapeutic management of Hepato-Pancreatico-Biliary Tumors, scheduled to take place on 23rd & 24th April 2022 at MIOT International, Chennai. Radiation Oncology has witnessed a markedly rapid progress in cancer care across the globe. Recent advancements in Radiation techniques have improved the outcomes with good tumor control with reduced complication rates. Stereotactic Body Radiotherapy has made it possible to deliver high doses without much major side effects.

This course will throw light on various aspects of Hepato-Pancreatico-Biliary Tumors from the basic anatomical level to the different types of radiotherapeutic solutions offered in the management. Trainees in Radiation Oncology and MD Radiation Oncologists will widely benefit from this course.

I eagerly look forward to your active participation in this course.

With warm regards,

Dr. Prithvi Mohandas
Managing Director, MIOT International

Date: 23rd & 24th April 2022
Venue: Retreat Auditorium, MIOT International, Chennai

PROGRAMME SCHEDULE

Day 1 - 23rd April 2022, Saturday

Time	Topics	Speakers
8.00 - 9.00 am	**Registration**	
9.00 - 9.40 am	Anatomy of HPB system: A Radiation Oncologist's perspective	Dr. Prahlad Yathiraj Radiation Oncologist, Chennai
9.40 - 10.10 am	Imaging in HPB tumors: A guide to RT Planning	Dr. R.Madhan Radiologist, Chennai
10.10 - 10.40 am	Pathological classification of Hepatopancreaticobiliary tumors	Dr.Mukul Vij Pathologist, Chennai
10.40 - 11.00 am	**Inauguration**	
11.00 - 1.15 am	**Tea break**	
11.15 - 11.45 am	Epidemiology and Etiopathogenesis of HPB tumors: Insight into the Indian context	Dr. Pooja Nandwani Patel Radiation Oncologist Ahmedabad
11.45 - 12.15 pm	Classification of HCC: Looking beyond the TNM staging	Dr. V.S. Hema Mala Hepatologist, Chennai
12.15 - 12.45 pm	Principles of Surgery in Hepatic tumors: Defining the operable, borderline and inoperable	Dr.Vimalraj Velayudham HPB Surgeon, Chennai
12.45 - 1.30 pm	Emerging role of Precision Radiation-SBRT in Liver tumors	Dr. Upasna Saxena Radiation Oncologist, Mumbai
1.30 - 2.15 pm	**Lunch**	
2.15 - 2.45 pm	Contouring guidelines for CTV in Hepatic tumors: An image guided approach	Dr. Sathiya Krishnamoorthy Radiation Oncologist, Chennai
2.45 - 3.30 pm	Motion management in Hepatic tumors	Dr. Kausik Bhattacharya Radiation Oncologist, Hyderabad

Time	Topics	Speakers
3.30 - 4.00 pm	Role of TACE and TARE and other advancements in Liver tumors	Dr. Karthikeyan Dhamodaran Interventional Radiologist, Chennai
4.00 - 4.15 pm	**Tea break**	
4.15 - 5.00 pm	Role of Chemotherapy in Hepatic tumors: An insight into advances in targeted therapy	Dr. Anita Ramesh Medical Oncologist, Chennai

Day 2 - 24th April 2022, Sunday

Time	Topics	Speakers
9.00 - 9.30 am	Evidence-based management of Pancreatic tumors	Dr. K.S. Kirushna Kumar Radiation Oncologist, Madurai
9.30 - 10.00 am	Role of SBRT in CA Pancreas	Dr. Thomas Samuel Ram Radiation Oncologist, Vellore
10.00 - 10.40 am	Gall bladder malignancies: Stage wise approach	Dr. Ilango Sethu HPB Surgeon, Chennai
10.40 - 11.00 am	**Tea break**	
11.00 - 11.30 am	Emerging role of Protons in Liver Tumors	Dr. Ashwathy Susan Mathew Radiation Oncologist, Chennai
11.30 - 12.00 pm	SBRT in Cholangiocarcinoma - Where do we stand?	Dr. J. Mathangi Radiation Oncologist, Bengaluru
12.00 - 12.30 pm	Post SBRT imaging and toxicities to watch for in radiating Liver	Dr. Shankar Vangipuram Radiation Oncologist, Chennai
12.30 - 12.45 pm	**Closing Remarks**	
12.45 - 1.00 pm	**Valedictory Function**	
1.00 - 2.00 pm	**Lunch**	

NATIONAL OFFICE BEARERS

Chair, AROI
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Vice-chairman, ICRO
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Secretary
Dr. V. Srinivasan
Head - Radiation Oncology
MIOT International, Chennai
Mob: 98410 22366
secretaryicro@gmail.com

Who can Attend:

Trainees in Radiation Oncology and MD Radiation Oncologists with less than 10 years of experience are encouraged to register for this course.

Membership:

AROI membership mandatory.
For membership please visit www.aroi.org or contact Dr. V. Srinivasan,
Mob: +91 98410 22366

REGISTRATION DETAILS

Registration Fees - Rs. 2,000/

For registration and enquiry:
Dr. V. Srinivasan +91 98410 22366
Email: radiation.onco@miotinternational.com

To register, scan the QR Code or visit: www.miotinternational.com/icro-prodvance-2022

Organized by:
Department of Radiation Oncology, MIOT International, Chennai

MIOT International

MIOT Hospitals, 4/112, Mount Poonamallee Road,
Manapakkam, Chennai - 600 089. Tel: +91 44 4200 2288
Email: chief@miotinternational.com www.miotinternational.com

AOI
AMERICAN ONCOLOGY INSTITUTE
PRECISION CANCER CARE

NZ-AROICON 2022 JAMMU

Theme: Personalized to Precision Oncology - Data Driven Approach

16 - 17 April

HYBRID CONFERENCE

JK Medical Council has granted 07 Credit Hours

BLOCK YOUR DATES...

CONTACT US...

nzaroicon2022@gmail.com
www.nzaroicon2022.com

Hybrid Conference Managed By:
MIGHTY DUO

Dear Colleague,

We feel immense pleasure in inviting you to the **NZ - AROICON 2022 (26th Annual Conference of the North Zone of "Association of Radiation Oncologists of India")** to be held in Hybrid mode at Jammu on **16th & 17th April 2022**.

Healthcare is moving towards a highly individual model of precision medicine, which aims to deliver "the right treatment for the right patient at the right time" - particularly for cancer treatment. For clinicians, academics, and pharma and biotech researchers and regulators, the biggest challenge in meeting precision medicine goals and optimally leveraging targeted therapy pertains to data—establishing the ability to collect and share data for patient care, research and drug development. Keeping this thing in mind this time we have decided to cover the problems of data driven approach in achieving precise treatment. The theme of this conference is **"Personalized to Precision Oncology - Data Driven Approach"**.

With this we are looking forward to having your active participation in this conference.

Regards,

Organizing Chairman
Dr. Ashutosh Gupta
GMC, Jammu
+91 9419190696

Organizing Secretary
Dr. Vikas Roshan
AOI, Jammu
+91 9582499060

Hybrid Conference is Managed by
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AMERICAN ONCOLOGY INSTITUTE
PRECISION CANCER CARE

NZ-AROICON 2022 JAMMU

Theme: Personalized to Precision Oncology - Data Driven Approach

16 - 17 April

HYBRID CONFERENCE

Pre-Conference Workshop

Head and Neck Cancers- Contouring standardization and Plan Evaluation

Date: *15th April 2022*
Time: *04 pm onwards*
Duration - *02 hours*

Workshop Highlights:

1. Workshop for post graduate students, Senior residents & Faculty
2. Eminent International Speaker
3. Keynote lectures

**Conference Registration is mandatory to attend this workshop*

Faculty Mentor

Dr. Sushil Beriwal
Mentor- Radiation Oncology
American Oncology Institute

nzaroicon2022@gmail.com

www.nzaroicon2022.com

Scientific Program (Day 1 - 16 April 2022)

08.45 - 09:00 PM	**Ganesh Vandana,** **Wecome & Context Setting by Organizing Secretary**
09.00 - 11.00 AM	**Breast Cancer**
09.00 - 09.15 AM	Indications of RT in TNBC (Review of Literature)
09.15 - 09.30 AM	Partial Breast Vs Whole Breast Radiation in Early Breast cancer
09.30 - 09.45 AM	Photon versus Brachytherapy Boost - May the best one win
09.45 - 10.00 AM	Emergence of Hypo-Fractional RT in Ca Breast
10.00 - 10.15 AM	Indications/Omission of RT in Early Breast Cancer
10.15 - 10.30 AM	Trastuzumab - Changing paradigm for Her2 positive Breast Cancer
10.30 - 11.00 AM	Panel Discussion - Oligometastatic disease – Definitions and practice patterns
11.00 - 11.15 AM	**Tea/Coffee Break**
11.15 - 01.15 PM	**Lung Cancer**
11.15 - 11.30 AM	Screening strategy for lung cancers - Beyond LDCT
11.30 - 11.45 AM	FLASH-RT - The tortuous road leads to a brighter future
11.45 - 12.00 PM	Management of III A (N2) NSCLC - The acceptable approach at present
12.00 - 12.15 PM	Respiratory gating and tumour movement adaptations - What next to improve targeting radiation delivery?
12.15 - 12.30 PM	Strategies to increase cure rate in Stage III NSCLC - Optimizing checkpoint Inhibitors
12.30 -12:45 PM	Management of oligometastatic Lung cancer
12.45 - 01.15 PM	Panel Discussion - Choosing systemic therapies after chemo-immunothrapy in NSCLC
01.15 - 02.00 PM	**Lunch Break**

Scientific Program (Day 1 - 16 April 2022)

02.00 - 02.40 PM	**Vocal for Local**
02.00 - 02.10 PM	Introduction to indigenous Brachytherapy Applicator
02.10 - 02.20 PM	Introduction on Targeted therapy Textbook
02:20 - 02:30 PM	Entrepreneurship in Radiation Oncology
02:30 - 02:40 PM	Plaque Brachytherapy - Introduction and experience
02.40 - 03.10 PM	**Learn from Experts**
02.40 - 02.55 PM	Introduction to carbon ion future in India
02.55 - 03.10 PM	Management of burn out syndrome in cancer physicians
03.10 - 03.40 PM	**Dr. B D Gupta Oration**
03.40 - 05.25 PM	**Head & Neck Cancer**
03.40 - 03.55 PM	Anatomy-adapted versus Response-adapted radiation therapy in Head and Neck cancers
03.55 - 04.10 PM	Upcoming pathological factors for personalized management of head & Neck cancer
04.10 - 04.25 PM	Role, indications and review of literature of post op radio-chemotherapy in oral cavity
04.25 - 04.40 PM	Recurrent Head & Neck cancers – How to proceed management guidelines & consensus?
04.40 - 04.55 PM	Role of immunotherapy in H&N Cancer
04.55 - 05.25 PM	Panel Discussion - Management of metastasis to the neck node from occult primary
05.25 - 06.25 PM	**GBM (General Body Meeting)**
08.00 PM Onwards	**Gala Dinner**

Scientific Program (Day 2 - 17 April 2022)

08.30 - 09.30 AM	**Oral Paper presentation**
09.30 - 11.15 AM	**Prostate Cancer**
09.30 - 09.45 AM	*Robotic Surgery versus follow up in early Ca prostate - Selection of ideal cases*
09.45 - 10.00 AM	*Role of SBRT in recurrent and metastatic disease of Ca Prostate*
10.00 - 10.15 AM	*Current paradigm for metastatic prostate cancer management*
10.15 - 10.30 AM	*Choosing drug sequence by choice or evidence for metastatic Ca prostate*
10.30 - 10.45 AM	*Brachytherapy or SBRT in early prostate cancer*
10.45 - 11.15 AM	*Panel Discussion - Immediate Post op RT versus delayed RT- Benefits versus Risk*
11.15 - 11.30 AM	**Tea/coffee break**
11.30 - 12.00 PM	**Learn From Experts**
11.30 - 11.45 AM	**Palliative Care Vs Immunotherapy in stage IV cancers in India**
11.45 - 12.00 PM	**Immunomodulation and radiotherapy – Where we are heading?**
12.00 - 01.15 PM	**Gynaecological Malignancies**
12.00 - 12.15 PM	**Defining the role of RT in Ca Endometrium**
12.15 - 12.30 PM	**Hybrid Applicator Based Brachytherapy in Cancer Cervix**
12.30 - 12.45 PM	**Elimination of Cancer Cervix - Are we heading in right direction?**
12.45 - 01.00 PM	**Primary cytoreduction Vs Interval Cytoreduction in Ca Ovary**
01.00 - 01.15 PM	**Potential Role of IGRT in Locally advances Ca Cervix**
01.15 - 01.45 PM	**Panel Discussion - Role of targeted agents in metastatic Ca Ovary**
01.45 - 02.15 PM	**Onco Quiz**
02.15 PM onwards	**Valedictory Function & Vote of Thanks followed by Lunch**

AOI
AMERICAN ONCOLOGY INSTITUTE
PRECISION CANCER CARE

NZ-AROICON 2022
JAMMU

Theme: Personalized to Precision Oncology - Data Driven Approach

16 - 17 April

HYBRID CONFERENCE

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IMPORTANT ANNOUNCEMENT

- **ORAL PAPER PRESENTATION**
- **E-POSTER PRESENTATION**
- **ONCO-QUIZ**

please visit website for registration & participation

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REGISTRATION FORM

Date:_____

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Institute/Organization:_____

Medical Council State & Registration No.:_____

Correspondence Address:_____

_____

Mobile No.:_____ Email:_____

Registration Categories & Fee:

Categories	Early Bird Registration (Till 28th Feb 2022)	(Till 10th April 2022)	Spot Registration (11th April to 15th April 2022)
PG Students	INR 1000	INR 1250	INR 1500
Delegate	INR 3000	INR 3500	INR 4500
Associate Delegate	INR 2000	INR 2500	INR 3000
Delegate (To attend online only)	INR 1000	INR 1000	INR 1000

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Conference Secretariat:

Ground Floor, 3096, Nr. Hanuman Temple, Ranjeet Nagar, Central Delhi - 110008

For any query, Feel free to get in touch:

nzaroicon2022@gmail.com | +91 79842 98960

ABSTRACTS SUBMISSION

Abstract Submission Guideline:

Last date of Abstract Submission is 22 March 2022

Please read abstract submission guideline before submission as mentioned below:

1. Registration is mandatory for all delegates including those presenting posters/ papers. Your abstract shall not be considered without registration
2. Updated research related to Original work, Case report, hypothesis, good quality review, preliminary data, and thesis work shall be acceptable for submission and presentation.
3. The abstract must be sent on nzaroicon2022@gmail.com
4. Inappropriately structured or incomplete abstracts will not be accepted.
5. The abstract author will be notified by email about its acceptance and other details by first week of April 2022.
6. Accepted presenters must adhere to deadlines and guidelines, and they must promptly respond to communication.
7. Abstract must be typed and presented in English.
8. Use the Font type Times New Roman and Font Size 11/12.
9. The Abstract written should not exceed 300 words limit.
10. The selected abstracts shall be published in journal.

For any query about Abstract Submission, please contact:

Ms. Sunidhi Kohli
M. +91 97113 50680 | E. nzaroicon2022@gmail.com

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