

SYLLABUS

M.Ch in Surgical Oncology

Dr. Bhubaneswar Boroah Cancer Institute

(Regional Cancer Centre)

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Dr Bhubaneswar Borooah Cancer Institute
Regional Centre for Cancer Treatment and Research
Gurwahati

Description, Structure and Syllabus
for
M.Ch in Surgical Oncology

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General Description and Goals of the Programme

Cancer is one of the most challenging health problems to our country and the world. The management of cancer spans over a wide spectrum which involves besides Surgical Oncology, many other disciplines - like radiotherapy, chemotherapy, hormonal manipulation, targeted therapy, histopathology, radio-imaging, immune-histochemistry, molecular diagnosis, regional interventions and many other allied branches. The surgical oncologist is required to integrate all these areas while managing the cancer patient.

Surgical Oncology involves procedures which are usually extensive and mutilating. Such operations are fraught with high levels of morbidity and residual disabilities. Under certain circumstances the justification of surgery needs to be relooked. Interventional procedures can at times obviate disfigurement, disability and minimise risk of death, if skillfully performed. Integration of adjuvant treatment requires meticulous and wise planning in order to effect cure. Rehabilitation, both physical and psychosocial, should be an important concern for the Surgical Oncologist.

The approach of a Surgical Oncologist should be based on relevant available evidence. He should be able to critically evaluate the benefits of any treatment, and possible outcome and its modifications best tailored to individual need. He should have a deep concern for the safety of the patient, and his approach should be ethical and humane. He should be able to inculcate scientific approach to oncologic problems, and be able to relate his experiences and findings scientifically for the benefit of others.

Objectives

The aforementioned goals are to be achieved through imparting knowledge, creation of necessary skills and promotion of human values, ethics and communication abilities.

Aims

The present programme of Surgical Oncology aims to train the surgeon in principles and practices of oncology, clinical research and evidence-based practice and principle of Surgical Oncology and promotion of cancer prevention, ethics and palliative care. The programme is designed to equip the surgeon with highly developed skills and techniques of modern management of cancer, which are recent and continuously updated.

The trainee should achieve such knowledge during the training period that he/she after qualification can become an independent or /and or a responsible surgical member of an Interdisciplinary Oncology Team.

He/She should be able to:

- Recognize the symptoms and signs of cancer.
- Make a diagnostic programme for suspected tumours or metastasis.
- Perform staging and classification of tumours/cancers.
- Perform prognostic assessment.

At the end of the course the candidate should have acquired knowledge, skills, aptitude and attitude to be able to function as an independent clinician/ consultant and a teacher.

Eligibility

Candidate seeking admission for M.Ch in surgical Oncology must possess M.S/MD (or equivalent degree) recognised by the Medical Council of India in any of the following subjects : General Surgery, Orthopaedic Surgery, Otorhinolaryngology, Obstetrics & Gynaecology from a recognised Institute or University as per Medical Council of India regulations.

Duration of Study

The course shall be for a period of three years consisting of six terms.

Type of Training

The training shall be of residency pattern with graded delegation of responsibilities in patient care and management. The course will be covered through didactic lectures, participation in seminars, journal reviews, grand rounds, case presentations, multidisciplinary meetings, joint tumour board meetings, and interdisciplinary postings etc. Training will involve clinical, epidemiological and basic science research, with publication of findings and dissertation. Candidates will be trained on design of clinical trials, and on writing grant proposals.

Monitoring Progress :

Work diary/log book : Candidate will maintain a work diary/log book as per the protocol of Surgical Oncology Department and record all participation in the training program and activities. The Log-book has to be endorsed by the Head of the Department periodically, and by the Head of the Institution before completion of the course.

Tests and Evaluations : Periodic tests at the end of each term will be conducted by the Surgical Oncology Department, which may be comprised of written, practical/clinical examination and viva voce. Based on the assessment and evaluation by a team, the candidate will be allowed into the next term. The final examination will be conducted by the University/MCI for award of degree.

Dissertation :

Every student will be required to undertake research under guidance of a post-graduate teacher of the department of Surgical Oncology. The results of this work will be published in the form of a Dissertation.

The Dissertation is aimed to train the candidate in research methodology, techniques and its implementation. It includes identification of a problem, formulation of a hypothesis, review of literature, design of study, collection of data, data analysis, appraisal and drawing a conclusion.

The candidate will submit the synopsis of the study to the Academic Registrar of the University in a prescribed format, at the beginning of the course before the scheduled date, through proper channel. The synopsis will be reviewed and after modifications if any, shall be approved by the University. No modification of the research topic shall be allowed without prior approval of the University.

The dissertation will have following headings :

- i. Introduction
- ii. Aims and objectives of the Study
- iii. Review of literatures
- iv. Materials and methods
- v. Results
- vi. Discussions.
- Vii. Conclusion.
- Viii. Summary
- ix. References
- x. Tables
- xi. Annexures

The dissertation will be prepared in the style prescribed by the University/Institute. It shall be presented in sufficient number of copies required for evaluation by individual examiners, as notified by the University. A copy for the library and a copy for the department should also be given. The Dissertation shall be certified by the Guide, Co-guide, Head of the Department, Head of Institute, and shall be a pre-requisite for appearing in the final examination.

Guide :

The Guide for the dissertation shall be as per MCI recommendations.

Co-guide :

A Co-guide may be included if the work involves substantial involvement. Co-guide has to be a PG teacher as per MCI.

Change of Guide :

Only with prior approval of the University

Scheme of Examination :

The examination shall be at the end of three years, on completion of six terms.

Written/Theory Examination : The Theory examination shall be of four papers of three hours duration and 100 marks each. It will cover basic medical sciences, recent advances, theory and practice of Surgical Oncology, and any question for evaluation of aptitude of the candidate in relevant areas.

Practical Examination : Practical examinations will be of 200 marks, and will aim at examining the skills and competence of candidates for undertaking responsibilities as an independent Surgical Oncologist. The pattern of the examination will be one long case, two short cases, assorted items of images, instruments, surgical specimen etc.

Viva-voce : It shall aim to assess the depth of knowledge of the candidate thoroughly, and shall be on discussions on any relevant topic, item or study, including the dissertation submitted by the candidate. It shall be of 100 marks.

Criteria of Pass : A candidate shall have to complete all required activities, and shall have to obtain minimum 50% marks individually in theory, practical and viva-voce, to be declared passed the final examination and be recommended for the award of M.Ch in Surgical Oncology degree by the University.

TEACHING & LEARNING METHODS

Teaching and Learning Methods will include.

a) Knowledge acquisition by

- Personal study including effective use of medical literature, tutorials, post graduate teaching programmes
- Journal Club / Symposium / Panel-discussion.
- Seminars (presentations)
- Lecture/ Discussion: lectures on newer topics by faculty.
- Case presentation/Discussion: Trainees will present a clinical case for discussion before an audience and faculty members. The discussions made pertaining cancer management and decision are to be recorded in case files.
- Active participation in the Clinical Society of Dr. B. Borooah Cancer Institute, Guwahati.

b) Clinical skills and attitudes by

- Presenting history, demonstrating clinical findings & explaining rationality for the use of investigations in the Ward-rounds.
- Presenting cases for Group Discussion / Grand-rounds, Review of paper or electronically based problem cases.
- Observation of Consultant /Trainers in day to day practice.
- Clinical Teaching: In OPD, Ward rounds, Emergency, ICU and Operation Theatre
- Multi-disciplinary Seminars.
- Clinico-pathological Conference and Interdepartmental Meetings.

c) Procedures –

- Live demonstration of technique/Surgical procedure by trained operators in patients requiring the procedure.
- Use of models to practice technique.
- Perform procedure under observation or assist in OT.
- Reinforce skills during on the job training in both in-patients and out-patients.

d) Presentation of papers and posters.

COURSE SYLLABUS

Part I : Basic Sciences

1. Etiology and Epidemiology of Malignant Diseases.
2. Natural History and Progression of Malignant Diseases.
3. Cancer Biology and Tumor-immunology.
4. Cancer Screening and Early Detection.

Part II Basic principles of cancer treatment

1. Cancer Epidemiology
2. Cancer Prevention
3. Chemotherapeutic Agents and Principles of Chemotherapy
4. Radiation Biology and Principles of Radiotherapy
5. Principles of Surgical Oncology.
6. Principles of Endocrine Therapy
 - Hormone Binding and Hormone Receptors
 - Estrogens, Anti-estrogens and Aromatase Inhibitors in Breast Carcinoma
 - Progestins
 - Androgen Deprivation Strategies in Advanced Prostate Cancer
7. Principles of Bio-therapeutics
8. Principles of Cancer Pathology
9. Principles of Radio-Imaging
 - Imaging neoplasms of the head and neck and central nervous system
 - Imaging neoplasms of the thorax
 - Imaging neoplasms of the abdomen and pelvis
 - Cross-sectional imaging of musculoskeletal neoplasms
 - Imaging the Breast / Mammography.
 - Ultrasound in Cancer Medicine
 - Radionuclide Imaging in Cancer Medicine
 - Perspectives in Imaging
 - Interventional Radiology for the cancer patient
10. Principles of Adjuvant / Neo-adjuvant Therapy and Multi-disciplinary Management
Cancer
11. Principles of Palliative care in Surgical Oncology

Part III : Systemic Surgical Oncology

1. Thoracic
 1. Lung and Bronchus
 2. Oesophagus
 3. Chest wall and Mediastinum

2. Breast

- Early Breast Cancer
- Locally-advanced and Metastatic Breast Cancer
- Breast Conservation and Onco-plastic Surgery
- Breast Reconstruction.
- Sentinel Lymphnode Biopsy.

3. Gastro-intestinal

- Gastric Cancer
- Small bowel and appendiceal Tumours
- Cancer of the Colon, Rectum and Anus
- Pancreatic Cancer and Periapillary / Ampullary Carcinoma
- Hepatocellular Carcinoma
- Carcinoma of the Gall Bladder and Biliary tree
- Metastatic liver

4. Genito-Urinary

- Adult and Paediatric Tumours of Kidney
- Renal Cell Carcinoma
- Urothelial Carcinoma of Bladder and upper Urinary tracts
- Carcinoma of Prostate
- Testicular Tumours
- Cancer of the External Genitalia

5. Malignancies of the Skin

- Squamous Carcinoma and Basal Cell Carcinoma
- Melanoma

6. Endocrine

- Adrenal Tumours
- Thyroid and Parathyroid Malignancies
- Neuro-endocrine Tumours

7. Sarcoma

- Soft Tissue Sarcoma
- Skeletal Malignancies

8. Brain

- Neoplasms of the Brain and Meninges

9. Head and Neck

- Common Malignancies of the Head and Neck
- Management of Neck Nodes

10. Gynaecologic Oncology
 - o General principles of Gynaecologic Oncology for General Surgery.
12. Neoplasms in Children and their Surgical Management.
13. Metastases of Unknown Origin.
14. Management of Complications of Cancer Treatment
15. Oncologic Emergencies
16. Reconstruction and Restorative Techniques in Oncologic Surgery
17. Vascular access in Cancer Patients
18. Minimal access and Ablative approaches in Cancer Surgery
19. Communication, Physical and Psychological Rehabilitation in Cancer.
20. Recent Advances and Future of Cancer Management.

Part IV : Evidence-based Practice of Surgical Oncology:

1. Research Study Designs.
2. Design and Conduct of Clinical Trials.
3. Principles of Quality Control and Audit in Surgical Oncology.
4. Training in Writing of Grant Proposals.

CLINICAL PROCEDURES

The trainee in Surgical Oncology must achieve knowledge and skills in performing different surgical procedure and operations. The aim of surgical training is to develop skills in performing radical resections, diagnostic procedures, lymph node dissections and meaningful palliative procedures.

The trainee shall acquire knowledge and experience to undertake following procedures:

Breast :

- Modified Radical Mastectomy
- Breast Conservation Surgery
- Breast Reconstruction and Oncoplastic Surgeries
- Sentinel Node Biopsy
- Local Excision of Recurrences and Cover.

Thoracic

- Oesophagectomy : 3-stage, Ivor Lewis, Thoracoabdominal, Trans Hiatal, VATS
- Pneumonectomy
- Lobectomy
- Resection of Pleura and Chest Wall Tumours, with Reconstruction.
- Mediastinoscopy / Thoracoscopy
- Resection of pulmonary metastases

Gastrointestinal and Hepatobiliary

- Gastrectomy – Radical, Total, D2, Palliative
- Intestinal Resections and Restoration of Continuity
- Radical Hemicolectomy
- Total Mesorectal Excision of Rectum and Low Anterior Resection (LAR), Abdomino-Perineal Resection (APR), Ultra Low Anterior Resection (ULAR).
- Radical Cholecystectomy
- Hepatic Resections
- Whipple's Pancreatoduodenectomy with and without pylorus preservation
- Distal Pancreatectomy
- Palliative Biliary Bypass Operations.
- Palliative Enterocutaneous Stomas.
- Abdominal wall Excisions and Reconstructions.

Genitourinary

- Radical Nephrectomy
- Partial Nephrectomy
- Cysto-urectomy
- Radical Prostatectomy
- Penectomy with Inguinal/Pelvic Lymph Node Dissection
- Retroperitoneal Lymph Node Dissection

Melanoma and Sarcoma:

- Excision of Melanoma
- Regional Node Dissection
- Regional Perfusion
- Surgery of Abdominal Sarcomas
- Surgery of Soft Tissue Sarcomas
- Limb Preservation Surgeries for Skeletal Tumours
- Amputations

Endocrine Surgery

- Thyroidectomy procedures with Regional Lymph Node Dissection
- Adrenalectomy

Vascular Access

- Venous Port System

Laparoscopic Surgery

- Staging Laparoscopy for GI and other Cancer
- Laparoscopic Resection of Malignant Tumours

Head and Neck Surgeries

- Neck Dissection Procedures
- Radical Surgeries for Salivary Tumours
- Oral Cancer Surgery viz of Tongue, Alveolus, Maxilla, Mandible, Buccal-Mucosa, Lips, Palate, Retro-molar Trigone.
- Surgery of Nose and Para-nasal Sinuses.
- Laryngo-Pharyngeal Surgeries with Voice Rehabilitation.
- Skull Base Surgery.
- Laser Surgeries in Head & Neck Malignancies.
- Reconstructions in Surgeries for Head and Neck Malignancies.

Gynaecologic Surgery

- Radical Hysterectomy
- Surgery for Ovarian and other Pelvic Malignancies.
- Radical Vulvectomy and Groin Node Dissection along with Flap Re-construction.

Suggested Reading

- Molecular Diagnosis of Cancer, Cotter. F.E
- Molecular Biology for Oncologist, Yarnold. J. R. et al
- Cancer Chemotherapy Handbook, Baquiran Delia
- Chemotherapy Source Book, Perry. M. C.
- Cancer Medicine, Holland. J .F.et al
- Clinical Oncology, Abeloff et Al
- Important Advances in Oncology, Devita,V. T.
- Cancer Principle And Practice Of Oncology, Devita,V.T. et al
- Decision Making in Oncology Evidence Based Management, Djulbegovic .B and Sullivan.
- AJCC Cancer Staging Manual (Americal Joint Committee on Cancer)
- Cancer Treatment, Halnane.E
- Cancer Treatment , Haske.L
- Oncology for Palliative Medicine, Hoskin Peter And Wendy
- Regional Therapy of Advanced Cancer, Rubin.J.T
- The non Hodgkin's Lymphoma, Magrath.I.
- Comprehensive Text book of Oncology, Vol 1-2,Mossa, A.R
- Oxford textbook of Oncology Peckham. M et al
- A Multi- disciplinary Approach for Physicians and Students, Rubin
- Atlas of Diagnostic oncology, Skarin.A.T
- Basic Science of Oncology,TannockK,E.I
- Pediatric Oncology, Philip Lanzowsky
- Comprehensive Text Book of Thoracic Oncology, Aisner J,at al
- Pediatric Surgical Oncology, Andrassu, R.J
- Breast: Comprehensive Management of Benign and Malignant Disorders, Bland
- Gleenn's Thoracic and Cardiovascular Surgery, Baue.A.E et al
- Surgery of Childhood Tumours, Carachi. R. et al
- Cancer of the Colon, Rectum and Anus, Cohen, A.M
- Atlas of Surgical Oncology, Daly.J.M And Cady.B
- Cancer of the Prostate, Das.S & Crawford ,E.D
- Prostate Cancer, Ernstoff,M.S.et al
- Minimal Access Surgery in Oncology, Geraghty,J.G.et al
- Clinical Management of Bladder Cancer, Hall,R,R 1999 (Acc.No.3667
- Soft Tissue Tumours, Harms D & Beattie, E.J
- Cancer Surgery, Harvey,J.C and Beattie,E.J
- Testicular Cancer: Investigation and Management, Horwich. A
- Bone Tumor: Diagnosis, Treatment and Prognosis, Huvos. Andrew G
- Reconstuction and Plastic Surgery: Grab's Encyclopedia of flaps.
- Builey & Love's Short Practice of Surgery , Manrl, C.V.Russel R.C.G
- Surgical Emergencies , Monson .J. et al
- Gastric Cancer, Nishi.M
- Superficial Bladder Cancer, Pagano.F. et al
- Carcinoma of the Kidney, Testis and Rare Urologic Malignancies, Petrovic H .Z.
- Breast Cancer, Roses.D.F
- Breast Cancer, Singlets .D.E
- Atlas of Esophageal Surgery, Skinner D.B.
- Surgery of the Breast: Principles and Art, Spear.S.L. et al.
- Gastric Cancer, Sugimori. T & Sasaki.M.
- Colorectal Cancer, Williams.N.S
- Campbell's Urology, Walsh. et.al
- Soft Tissue, Weiss.S.W. & Brooks J.S.J.

- Urological Oncology Waxmanj, J. Williams.
- Prevention and Early Detection of Colorectal Cancer, Young.G.P. et.al
- Maingot's Abdominal Operations, Zinner M.J.
- Practical Gynaecologic Oncology, Berekj & Hacker .W.F
- Gynecological oncology : Guide to Clinical Management, Blake Peter et.al
- Gynaecologic Oncology: Fundamental Principles & Clinical Practice, Coplegon.

Journals

- Acta Oncologica
- Hematology / Oncology
- British Journal of Cancer
- Cancer
- Cancer Journal For Clinicians
- Cancer Detection & Prevention
- Cancer Genetics and Cytogenetics
- Cancer Survey (NP)
- Cancer Treatment Review
- Clinical Oncology
- Current Problem In Cancer
- Current Opinion In Oncology
- European Journal of Surgical Oncology
- European Journal of Surgical Oncology
- Genes, Chromosomes And Cancer
- Gynecologic Oncology
- Hematological Oncology
- Hematology Oncology Clinics of North America
- Indian Journal of Cancer
- International Journal of Cancer (UICC)
- International Journal of Gynecological Cancer
- International Journal of Radiation Oncology
- Journal of Cancer Education (NP)
- Journal of Clinical Oncology
- Journal of National Cancer Institute
- Journal of Psycho Social Oncology
- Journal of Surgical Oncology
- Medical & Pediatric Oncology
- Nutrition and Cancer
- Oncology (NP)
- Psycho-Oncology
- Radiotherapy & Oncology
- Seminars In Oncology
- Seminars In Oncology Nursing
- Seminars In Radiation Oncology
- Seminars In Surgical Oncology
- Surgical Oncology Clinics of North America