PREFACE

The Kidwai Memorial Institute of Oncology is a comprehensive centre for Cancer Research and Treatment, located on Hosur Road, Bangalore, Karnataka. It is one of the ten Regional Cancer Centres in the country. The Institute was established in the year 1973 and became autonomous on 8 January 1980. The Institute after its autonomous status has developed rapidly in all its spheres. In addition to the rendering of treatment services to the cancer afflicted from all over the state and the adjoining areas of neighbouring states, due importance has been given for cancer research both basic as well as clinical and number of publications are emerging out from different disciplines of the Institute.

This is an attempt to throw light on the contribution made by the Kidwai Memorial Institute of Oncology staff members in the field of oncology and allied sciences. It is a bibliography with abstracts of publication published during last ten years. Efforts have been made to make it as complete as possible. Papers have been arranged according to the year of publication and authors arranged alphabetically. The booklet is provided with an alphabetical author index at the end. The numbers against the name of the author refer to serial number of papers. Most of these publications are available for ready reference in the KIMIO library.

DR. N. ANANTHA
Director

Edited by:  M. Nagaraj
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<table>
<thead>
<tr>
<th>Sl.</th>
<th>Authors Name</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>N. Anantha</td>
<td>5</td>
</tr>
<tr>
<td>2.</td>
<td>Anil K. Sharma</td>
<td>13-19</td>
</tr>
<tr>
<td>3.</td>
<td>Ashok M. Shenoy</td>
<td>9-19</td>
</tr>
<tr>
<td>4.</td>
<td>Chandrika S.</td>
<td>6,20,24</td>
</tr>
<tr>
<td>5.</td>
<td>Clementina R.</td>
<td>8,14,20</td>
</tr>
<tr>
<td>6.</td>
<td>Diganta Hazarika</td>
<td>21,27</td>
</tr>
<tr>
<td>7.</td>
<td>D.C. Doval</td>
<td>10,21</td>
</tr>
<tr>
<td>8.</td>
<td>Geethashree Mukherjee</td>
<td>10</td>
</tr>
<tr>
<td>9.</td>
<td>K. S. Gopinath</td>
<td>7,14,15</td>
</tr>
<tr>
<td>10.</td>
<td>K. Govinda Babu</td>
<td>27</td>
</tr>
<tr>
<td>11.</td>
<td>P. Girija Ramaswamy</td>
<td>1</td>
</tr>
<tr>
<td>12.</td>
<td>Hema Sridhar</td>
<td>28</td>
</tr>
<tr>
<td>13.</td>
<td>Kanan J. Gharpure</td>
<td>2</td>
</tr>
<tr>
<td>14.</td>
<td>S. Krishnamurthy</td>
<td>10,15,21</td>
</tr>
<tr>
<td>15.</td>
<td>Kumaraswamy</td>
<td>16,22</td>
</tr>
<tr>
<td>16.</td>
<td>Kumaraswamy S.V.</td>
<td>28</td>
</tr>
<tr>
<td>17.</td>
<td>N. Lalitha</td>
<td>1,11</td>
</tr>
<tr>
<td>18.</td>
<td>Meena Augustus</td>
<td>3,4,6,8,13</td>
</tr>
<tr>
<td>19.</td>
<td>B. K. Mohanty</td>
<td>7,16</td>
</tr>
<tr>
<td>20.</td>
<td>Nageshvara P. Rao</td>
<td>8</td>
</tr>
<tr>
<td>21.</td>
<td>A. Nandakumar</td>
<td>1,11</td>
</tr>
<tr>
<td>22.</td>
<td>K. N. Naresh</td>
<td>12,17,22,23</td>
</tr>
<tr>
<td>23.</td>
<td>Premalatha</td>
<td>17</td>
</tr>
<tr>
<td>24.</td>
<td>B. V. Ramesh</td>
<td>23</td>
</tr>
<tr>
<td>25.</td>
<td>R. Ravichandran</td>
<td>29</td>
</tr>
<tr>
<td>26.</td>
<td>M. Ravikumar</td>
<td>30</td>
</tr>
<tr>
<td>27.</td>
<td>Rekha V. Kumar</td>
<td>7,12,23,30,31</td>
</tr>
<tr>
<td>28.</td>
<td>Sanjay S. Supe</td>
<td>18,24,25</td>
</tr>
<tr>
<td>29.</td>
<td>T.S. Sundareshan</td>
<td>18,24</td>
</tr>
<tr>
<td>30.</td>
<td>R.P. Surendra Kumar</td>
<td>3,5</td>
</tr>
<tr>
<td>31.</td>
<td>M. Udayakumar</td>
<td>26,32,33</td>
</tr>
<tr>
<td>32.</td>
<td>S. Vijayaram</td>
<td>9,12,31</td>
</tr>
</tbody>
</table>
Evaluation of Radioimmunoassay and Enzyme linked Immunosorbent assay for Feto Protein.

Summary: Despite intense effort, very few specific protein tumour markers have been discovered for specific malignancies. Of those available, Carcinomembronic Antigen (CEA), Alpha feto protein (AFP) and β sub unit of human chorionic gonadotrophin (βHCG) have afforded themselves to clinical assay for progression of malignancies and effectiveness of therapy. Clinical assay of AFP was limited to conventional Radio immunoassay (RIA) until the recent introduction of solid phase RIA and enzymelinked immuno sorbent assay (ELISA)systems. A comparative evaluation of the RIA and ELISA protocols for AFP is presented in this paper.

Burkitt's Lymphoma of Tonsil Presenting as Leukaemia.

Summary: An 11year-old boy presented with a growth arising from the tonsil. Biopsy of the growth showed histological features of a malignant lymphoma, undifferentiated -Burkitt's type. A bone marrow aspiration biopsy revealed over 70 per cent of cells with features of Burkitt's cells. The peripheral blood picture at presentation also showed a few similar cells, which rapidly increased in number.
Cytogenetic studies of the bone marrow and electron microscope studies of the tonsil and bone marrow were done. The patient died within three months despite treatment.

Neurological Manifestations is Lymphoma with Special Emphasis on Neuromyopathy.

Summary: Neurological manifestations in 53 consecutive unselected
cases of lymphoma are described. 26 neurological syndromes were observed in 19 patients, with multiple syndromes in six. An incidence 36 % The commonest clinical type was neuromyopathy with proximal muscle weakness as the presenting manifestation. It is concluded that neurological examination should be routinely done for all cases of lymphoma.


Acinic Cell Tumour of the Bronchus (A Case Report)

Summary: A bronchial tumour of acinic cell type from a 36 year old non-smoker male is reported because of its rarity. It arises probably from the submucous bronchial glands, which are analogous to salivary gland.

5. Kanan J. Gharpure, M.D., D.P.B., D. Mahesh, M.D., M. Krishna Bhargava, M.D.

Malignant Lymphoma of the Uterine Cervix - A Report of two cases with Review of Literature.

Summary: Malignant Lymphoma (ML) of cervix is very rare. Two cases presenting initially with cervical growth are presented. Case-I was primary ML of cervix; the same cannot be said about Case-II with certainty. Vaginal cytology was non-contributory in both the cases. Gross appearance of the lesions was distinctive. Histology showed Rappaport's diffuse histiocytic type of ML. Local radiotherapy was administered initially. Both the patients came back with distant spread, involving uncommon extranodal sites, e.g. breast (Case-I), thyroid and spine (Case-II). The course was rapid and fatal within 6-7 months, in spite of chemotherapy.

6. Kanan J. Gharpure, Y. Basheer Ahmed, M. Krishna Bhargava

Cavernous Haemangioma of Testis with Acute Testicular Infarction - A Case Report

Summary: A rare benign tumour of testis, cavernous haemangioma, with acute testicular infarction, without torsion of the spermatic cord is reported in a 16 years old Indian boy. Clinically it was misdiagnosed as a malignant lesion.
and from 61 cancerous effusions of 46 patients. Classical cytogenetic analyses of numerical chromosome changes and marker chromosomes revealed the non-random involvement of chromosomes # X and # 22 as monosomics, of chromosomes #3, #7 and #19 as trisomics, and chromosome #1 (particularly p 13 to q12) in marker formation. Karyotypic evolution was followed in vitro and in vivo and showed a highly individualistic pattern of stability and variability.

In addition, a systematic screening for the presence of cytogenetic equivalents of gene amplification (double minutes 'DM', homogeneously staining regions 'HSR') was carried out. A high incidence of DM-positive cases was detected in primary tumors (48%) as well as in metastatic cells from effusions (40%), with the frequency of DM-containing metaphases ranging from 1 to 100% in the positive cases. This finding supports the assumption of the fundamental biological importance of gene amplification in human solid tumors.

Furthermore, chromosome breakage and micronuclei were observed in breast carcinoma cells as an apparent consequence of therapy-independent mutability.

10. Silke Bruderlein1, E. Gebhart1, E. Siebert1, and Meena Augustus2

Premature chromosome condensation - studies on human metastatic carcinoma cells.


Summary: Utilizing the phenomenon of premature chromosome condensation (PCC) studies were carried out on interphase chromatin of metastatic cells from 52 cancerous effusions obtained from 45 patients presenting with various solid carcinomas. A highly individual pattern of distribution of the various interphase stages was detected, reflecting the heterogeneity of human solid tumors in an advanced stage. Nevertheless a variety of clinical, biologic, and technical factors were examined for their possible influence on these PCC patterns. The duration in culture was one of the influencing factors, as were the time lapse between the first diagnosis and the sampling of the respective effusion, or the nature of cytostatic therapy. Cytogenetic equivalents of gene amplification, as represented by "double minutes", could be found in the prematurely interphase chromatin of 35 of the 52 effusions. G1-PCC proved to be most reliable with regard to screening of double minutes. In addition, an adequate quality
of Giemsa banding was achieved in PCC of 21 out of 24 effusions yielding a sufficient number of well-spread PCC. In six of these 21 cases PCC was superior to metaphase analysis in obtaining karyotypes, while the same was true for 14 of the 52 effusions screened for double minutes. Thus the PCC technique was shown to be an indispensable additional source of cytogenetic information in cells of human solid tumors.

11. R. P. Surendra Kumar
Microphotometric Study of Ultrasonically Irradiated Human Cancer Tissues.

Summary: Human cancer tissues were exposed 'in vitro' to 1 MHz ultrasound with different intensities for 5 and 10 minutes in mammalian Ringer's solution. Minor staining changes were observed when the tissues were examined under microscope. However, scanning these sections through a microphotometer revealed significant changes, which were not prominent histopathologically. Hence microphotometry is a new method to detect minor changes which go unnoticed in histopathological studies.

Difficulties facing Radiotherapists in the Successful Management of Cancer of the Cervix. Experience in a Regional Cancer Centre in India.
Carcinoma of the Cervix in Developing Areas, (Jan 23-28)79-82 1987, India.

13. N. Anantha, B.K.M. Reddy, B.K. Mohanti, S. Nirmala and K. Laxminarayan,
Recurrence in the Radically Treated Cases of Cancer of the Uterine Cervix.
Carcinoma of the Cervix in Developing Areas, (Jan 23-28) 83-86 1987, India.

14. Chandrika Sreekantaiah, Ph.D., M. Krishna Bhargava, M.D., and N. Jaya Shetty, Ph.D.
Cytogenetic Findings in Two Cases of Carcinoma in Situ of the Cervix Uterus

Abstract: Karyotypic analysis of two cases of carcinoma in situ of the cervix uteri, studied on direct preparations by G-banding, revealed numerical and structural abnormalities characteristic of invasive cancers. Abnormalities of chromosome No. 1 were present in both cases. The chromosome No. 1 changes involved isochromosome formation of the long arm (i(1q)) in one case and monosomy in the other. The other chromosomes showing structural aberrations were Nos. 8, 11, and 21. One case revealed the presence of double minute chromatin bodies. The prognosis in both cases was good following excision of the tumor.

15. Chandrika Sreekantaiah, M. Krishna Bhargava, and N. Jaya Shetty
Premature Chromosome Condensation in Human Cervical Carcinoma

Abstract: Premature chromosome condensation was observed in 22 of 150 cases (15%) of cervical cancers studied with G-banding. The percentage of premature chromosome condensation in the tumors ranged from 1.5% to 8.9%. Premature chromosome condensation was present in greater frequency (16 of 22 cases) in tumors showing hyperdiploidy, suggesting that this could be a major mechanism of induction of polyploidy in addition to other operative mechanisms, such as endomitosis and ensoreduplication. No relationship, either with the disease stage or prognosis, was evident.

16. E. Gebhart, M. Augustus, and S. Bruderlein
Homogeneously Staining Regions (HSR) on Chromosomes of Human Solid Carcinomas.

Abstract: Karyotypes obtained from 19 primary breast tumors, 31 cancerous effusions of breast cancer patients, 17 effusions of patients with ovarian carcinomas, and 15 effusions from patients with tumors of other site, were screened for the presence of homogeneously staining regions (HSR) which are the stable cytogenetic equivalents of extend gene amplifications. A total of 22 HSR could be defined as to their chromosomal location and their relative length. Chromosomes #1 and #2 were those carrying HSR most frequently. The relative length of the served
HSR did never exceed 34% of the length of chromosome #1 in the respective karyotypes. Presence of HSR exceeding 20% of the length of chromosome #1, however, was not only connected with a high degree of karyotypic abnormality but also defined a group of patients characterized by a rapid progression of their malignant disease and a short survival time.

The fundamental biological importance of extended gene amplifications, which can be detected by screening for their cytogenetic equivalents, for the process of tumor progression is once more emphasized by the presented data.

17. B.K. Mohanti, MD, G.K. Rath, MD, B. Baser, MD, S. Bahadur, MD, and M. Mathur, MD.

Summary: Olfactory neuroblastoma is a rare tumor. The role of CT Scan, morphological details and the electron microscopic findings have been highlighted in the diagnosis of the lesion. The present patient, in which the tumor had recurred following surgical excision, was treated successfully with a combination of radiation, further surgery, and maintenance chemotherapy. We also feel that such a planned multidisciplinary approach is justified as the initial treatment for all advanced lesions in view of high recurrence rates reported following use of radiotherapy or surgery alone.

18. K.S. Gopinath, M. Chandrashekar, M.V. Kumar and K.C. Srikant

Tensor fasciae latae musculocutaneous flaps to reconstruct skin defects after radical inguinal lymphadenectomy.

Summary: Tensor fasciae latae flaps were used for primary reconstruction of large groin defects in 20 consecutive patients who had had radical block dissection of inguinal nodes as palliation for advanced nodal carcinoma. Excellent palliation was achieved, with lower than expected morbidity.

19. Rekha V. Kumar M.D., GeetaShree Mukherjee, M.D., P.S. Prabhakaran, M.S., M. Krishna Bhargava.
Diffuse Lipoblastomatosis - A Case Report
Summary: A rare case of benign diffuse lipoblastomatosis of the hand is reported with a review of the literature.


Melanotic Neuroectodermal Tumor of Infancy Initially Diagnosed by Fine Needle Aspiration Cytology.

Summary: A five month old male child presented with a tumor of the maxilla, which was clinically diagnosed as an eruption cyst or a rhabdomyosarcoma. Fine needle aspiration smears showed two types of cells: neuroblastlike cells and cells containing melanin pigment. A cytologic diagnosis of melanotic neuroectodermal tumor of infancy was made. This diagnosis was confirmed by histopathologic examination of the subsequently excised mass.

21. Meena Augustus, Ph.D., R.N. Visweshwara, M.D., M. Krishna Bhargava, M.D.

Chromosome Analysis in Effusions as a Diagnostic Adjunct to Cytology.

Summary: Cytogenetic analysis using G-banding techniques for the diagnosis of malignancy in pleural and peritoneal effusions is compared with the results of traditional cytomorphology. The studies indicate that the yield of mitotic cells in malignant effusions is quite high when compared to fluids with no cytological evidence for malignancy. Chromosome criteria for malignancy are of special value in the differential diagnosis of reactive cells versus malignant cells, which pose problems when cytological evaluation alone is considered. Cytogenetic analysis can be performed rapidly and used side by side with conventional cytological procedures to obtain higher sensitivity for cancer diagnosis.


Uptake of 99mTc-phylate in osteosarcoma cases - Case report
European Journal of Nuclear Medicine, 1-3, 1989.
Abstract: During routine liver spleen scintigraphic studies using 99mTc-phytate inpatients with proven osteosarcoma, an unusual uptake of this radiopharmaceutical at the primary site was observed. In all, five cases have been investigated and we have observed the uptake of 99mTc-phytate at the primary tumor site. Early and delayed imaging showed persistent concentration of the radiopharmaceutical. Studies with 99mTc-sulfur colloid in one of the patients did not show any uptake at the tumor site.

23. S. Vijayaram, MD, Krishna Bhargava, MD, Ramamani, MD, Chandrasekhar, MD, Sudharshan, MD, Roshni Heranjal, MD and Bridget Lobo, RN.

Experience with Oral Morphine for Cancer Pain Relief.


Abstract: The authors report a prospective survey of 88 patients with cancer pain who were treated with oral morphine solution during a period of 140 days at the Pain Relief Unit, Kidwai Memorial Institute of Oncology, Bangalore. A high percentage of pain relief was achieved at the end of the first week of titrated therapy; relief was maintained at satisfactory levels throughout the study period in a majority of patients (86%).

 Interruption of oral morphine administration was necessitated by intractable vomiting in two patients. The majority of patients (65%) did not manifest any side effects, and appropriate medication successfully managed those who did. Oral morphine therapy for cancer pain offers effective pain relief with minimal side effects in the majority of patients.


Abstract: Nineteen consecutive Paranasal tumors, 12 maxillary and 7 ethmoidal were managed by primary surgery followed by post operative radiation. CT Scan proved to be invaluable in determining the resectability. Compliance to complete oncotherapy was noted in 13/19 patients. Satisfactory local control was achieved in 52.9% of the evaluable cases. Failure at primary site (35.3%) was invariably associated with incomplete resection. Failure with
recurrence in the neck occurred in 2 patients despite adequate local control. Enbloc excision with tumor free cutmargins when followed by postoperative radiation appeared to enhance local control.

25. D. C. Doval., M.D.,
Chemotherapy in Cancer.

26. GeetaShree Mukherjee M.D., Rekha V. Kumar M.D.,
V. Shrinivas, M.D., M. VijayKumar, M.N.A.M.S., M. Krishna Bhargava.
Extraskelatal Myxoid Chondrosarcoma - A review of three cases.

Summary: During a ten year period, only three cases of extraskeletal myxoid chondrosarcoma were seen at Kidwai Memorial Institute of Oncology, South India. All were adults; the youngest patient was twenty-six years old and the oldest was seventy-five years old. The tumors arose in the soft tissues of the extremities. Our findings indicated that tumor size, site and morphology had no bearing on prognosis. With surgery radiotherapy and chemotherapy, two patients survived for four years and nine months respectively and one patient is still on follow up, five months after treatment.

27. S. Krishna Murty, MS, P.S. Prabhakaran, MS, M. Chandrashekar, MS, Raman Deshpande, MS, D.C. Doval, MD, and K.S. Gopinath, MS.

Neoadjuvant Cis-DDP in Esophageal Cancers : An Experience at a Regional Cancer Centre, India.

Summary: We are analysing the results of 80 patients who underwent surgery during 1983 - 84 for esophageal cancer. Forty patients who received pre-operative single agent Cis-DDP were grouped under "A" and 40 patients who went for surgery directly were grouped under "B". Twenty-two patients (55%) of Group A showed tumor necrosis. Both groups underwent resection and hand-sewn anastomosis of the esophagus. There were 10 post-operative deaths among 80 resected cases, 9 of them being from anastomatic leak. Cis-DDP has induced negligible side effects. A comparatively high survival rate during early years in patients who responded to Cis-DDP suggests that neoadjuvant chemother-
apy might be of value.

28. N. Lalitha,
Clinical Staging of Adult Non-Hodgkin's Lymphoma.

Abstract: In this study and attempt is made to propose a working clinical classification and staging of adult non-Hodgkin's lymphoma (NHL) which brings out both primary site and extent of disease. Unlike childhood NHL, where histopathology is uniformly of unfavourable type, this clinical staging system seems to have a prognostic value when applied with reference to different histology groups of working formulation. Based on the experience of staging of childhood NHL as proposed earlier, 304 cases of adult NHL above 14 years of age seen at Kidwai Memorial Institute of Oncology, Hosur Road, Bangalore - 560 029, India, over a period of 5 years (1981 - 1985) are first categorized according to primary site (initial bulky site at representation): (1) peripheral nodal (n = 181); (2) extranodal (excluding gastrointestinal tract; n = 48); (3) abdominal (including gastrointestinal tract; n = 46), and (4) mediastinal (n = 29). Each group is further staged according to the extent of the disease. Once categorized into various clinical groups, the Ann Arbor Clinical staging fits very well only with the peripheral nodal group, the major group, although not suitable for other clinical groups.

A Population-based case-control investigation on cancers of the oral cavity in Bangalore, India.

Summary: A case-control study on cancers of the oral cavity was conducted by utilising data from the population based cancer registry, Bangalore, India. Three hundred and forty-eight cases of cancers of the oral cavity (excluding base tongue) were age and sex matched with controls from the same residential area but with no evidence of cancer. The relative risk due to pan tobacco chewing was elevated in both males and females, being appreciably higher in the latter (relative risk 25.3%; 95% confidence interval 11.2 - 57.3). A statistically significant (linear test for trend P<0.001) dose response based on years, times per day and period of time chewed was seen. Any smoking (cigarette or bidi or both) had only slightly elevated risk of developing oral cancer, whereas a history of alcohol drinking or inhalation of snuff
did not influence the risk. A new finding of our study was the markedly elevated risk of oral cancer in persons consuming ragi (Eleusine coraccana, family graminae) in comparison to those not consuming ragi as staple cereal in their diet. There also appeared to be some interaction between ragi consumption and tobacco chewing with substantially higher relative risks in those who pursued both habits compared to those who gave a history of either.

30. K. Narasimha Murthy Naresh, Geetashree Mukherjee, Clementina Ramarao, Vijay Kumar Ahuja.
Pathological diagnosis.

Case History: A 35 year old lady presented with complaints of intermenstrual bleeding of three months duration. Per speculum examination revealed only cervical ectopy and pelvic examination was normal. Pap smear showed mild dysplasia. Colposcopically directed cervical biopsy was reported as CIN Grade II and cone biopsy revealed features of carcinoma-in-situ. Hysterectomy with bilateral salpinogoo-oopherectomy was performed.

31. Rekha V. Kumar, MD, Geetashree Mukherjee, MD, and M. Krishna Bhargava, MD.
Malignant Fibrous Histiocytoma of Bone
Journal of Surgical Oncology, 44: 166-170 1990.

Abstract: Malignant fibrous histiocytoma (MFH) of bone is a malignant primary bone tumour that is being increasingly recognised, as more details emerge in the literature regarding its natural history and precise (although sometimes diverse) histological appearance. When the whole bulk of a malignant bone tumour fits the criteria laid down, the designation of MFH seems appropriate. Seven cases of MFH of bone were encountered from a total of 220 primary malignant bone tumours in our files over a 4-year period. The metaphyses of long bones were the most common sites harbouring the tumour, and a wide age range was represented. Amputation was the treatment of choice in all cases. The relevant literature is reviewed.

32. S. Vijayaram, MD, P.V. Ramamani, MD, N.S. Chandrashekhar, MD, R. Sudharsham, MD, Roshini Heranjal, MD, Bridget Lobo, RN, D. Obedullah, and M. Krishna Bhargava, MD.
Continuing Care for Cancer Pain Relief With Oral Morphine Solution
One-Year Experience in a Regional Cancer Center.

Abstract: This report is a prospective study of 223 patients
with intractable cancer pain who were offered continuing care
during the year 1988 at the Pain Relief Unit, Kidwai Memorial
Institute of Oncology, Bangalore - 560 029, India, with a
minimum follow-up of 4 months and a maximum follow-up
of 16 months. A high percentage of pain relief was attained
within a mean duration of 4 days, which on follow-up was
maintained at a steady level in most patients (91.1%). Oral
morphine could not be continued in three patients because
of vomiting. The main side effects noticed were nausea and
vomiting, itching, and constipation. At any time during the
first 140 days, only 30% of patients had side effects and
appropriate medication successfully managed these side
effects. During the rest of the study period, the side effects
were minimal. Oral morphine used with proper adjuncts offers
the best pain palliation in most patients, with minimal side
effects.

33. Anil K. Sharma, Sanjay S. Supe and V.K. Sathiyararayanan,
Determination of Virtual Source Position of Electron Beams from
a Dual Energy Linear Accelerator.

Abstract: Electron beams from an accelerator appear to come
from a point in vacuum designated as virtual source that lies
at a distance not coinciding with the scattering foil or the beam
exit window. This is due to the influence of the various scattering
processes taking place in the foils, collimator and the electron
applicator apart from the fringe magnetic fields in the blending
magnet. Virtual source to isocentric distances are experimentally
determined by measurements made in a polystyrene phantom using
an ionization chamber and applying inverse square law. The
results for the narrow and broad beam geometry are presented
for the electron beams available with Clinac - 1800.

34. M. Augustus, T.S. Sundareshan, D.C. Doval, B. Padmanabhan,
K.S. Gopinath, M.K. Bhargava,
An interpretation of cytogenetic profiles in sporadic Wilms' tumor
cases receiving preoperative cytoreductive chemotherapy.

Abstract: Wilms' tumor, a malignant embryonic tumor, was detected in 4 children, and preoperative chemotherapy using vincristine, actinomycin D, cyclophosphamide and Adriamycin, was administered to achieve tumor mass reduction prior to surgery. Chromosome analysis in cultured blood lymphocytes revealed a constitutional interstitial deletion of chromosome 11 at p13 in 2 of the 4 cases studied. Other chromosomal aberrations such as a constitutional pericentric inv(9), a polymorphic variant (also known to be associated with chromosome instability and cancer proneness), and random abnormalities such as del(17) q21-22), del(17) (p11), del(9) (q11) and tdc(11;21) (q23;q22) were found in 2 treated cases, suggesting serious consequences of such therapy for children with Wilms' tumor.

35. Clementina Rama Rao, K.N. Naresh, Digantha Hazarika, B.S. Aruna Kumari, L. Appaji,
Pathological diagnosis.

Case History: A fifteen year old girl was brought to the hospital with complaints of high grade fever and painful swellings on both sides of the neck of two months duration. She also complained of a rash over the face and front of the chest for two days prior to admission, following drug intake.

On examination, the patient was febrile with bilateral multiple, firm, discrete, cervical lymph nodes and an erythematous rash over the face, neck and front of chest. Small axillary lymph nodes on the right side and a moderate degree of hepatosplenomegaly were noted. Hematological and biochemical investigations were within normal limits except for a mild hypochromic anaemia.
Ches X-ray and abdominal ultrasound were normal but for hepatosplenomegaly. The LE cell phenomenon and ANA were negative. A lymph biopsy was performed.

Primary reconstruction of groin defects by tensor fascia latae flap after radical surgery.

Abstract: A consecutive series of 25 patients who had locally
advanced metastatic inguinal lymph nodes, and who underwent radical en bloc resection with reconstruction of the groin defects, using tensor fascia lata muscularocutaneous flaps, was analysed. The majority of patients was having cancer of the pelvis as a primary pathology. All these patients were subjected to radical surgery followed by post-operative adjuvant radio-therapy to the loco-regional disease to achieve better palliation. The long-term follow-up of these patients revealed that there is lymphoedema of the lower extremity inspite of radical surgery and radio-therapy. The TFL flap is a versatile flap which merits wider usage.

Clinical use of fine needle aspiration cytology (FNAC) in paediatric urogenital malignancies

Abstract: During the past 2 years, percutaneous fine needle aspiration cytology has been employed in paediatric urogenital malignancies to help, establish or confirm the diagnosis, in 30 infants and children. This was utilized to do the treatment planning by a combined modality of treatment. The technique of FNAC was found to be simple, rapid, safe and reliable. The skill and experience of the cytopathologist are essential for the success of this procedure.

38. S. Krishna Murthy, MS, P.S. Prabhakaran MS, Sameer R. Rao MS, Rekha V. Kumar,
Unusual Splenic Metastasis from Oesophageal Cancer.

Summary: The most common visceral metastasis from oesophageal carcinomas are lungs and liver. A case of Splenic metastasis from a squamous carcinoma of oesophagus is reported. To our knowledge, splenic metastasis without any nodal disease has not been described previously. The pattern of reported metastasis is summarised.

39. Krishnamurthy, Prakash P.R., Vijay Joseph T.M., Shanmugavelu T.T., Krishnan M.H.
Cystosarcoma Phylloides in adolescent and adult females. - A review of 7 cases.
Abstract: 7 cases of massive breast lumps diagnosed as Cystosarcoma phylloides over a 3 year period between 1982 - 1985 are reviewed. Two of these patients were in the adolescent age group which is very rare. Three patients presented with fungating lesions. Only one patient had malignant variety. Early diagnosis and surgical extirpation avoids all complications.

40. Kumara Swamy, MBBS, MD, DMRT, N. Viswanathan, MBBS, MD, DMRD, D. S. Mohan, MBBS, MD, DDMRT, M.S. Belliappa, MBBS, DMRT.

Influence of Brachytherapy Dose Rate on Complications in the Treatment of Carcinoma of the Uterine Cervix.


Abstract: A retrospective analysis of 291 patients with carcinoma of the uterine cervix treated with external radiotherapy (EXRT) (45 Gy in 20 fractions over four weeks or its equivalent dose) and followed by a single session of afterloading intracavity brachytherapy application (ICT) is presented. The EXRT dose was constant for all patients while ICT doses were of two ranges: 27 to 28 Gy and 30 to 32 Gy. Complications were graded as I, II, and III. As the grade I complications were inconsequential, only grade II and III were analyzed. Grade II and III complication rate was 15% with an additional 3% developing VVF and RVF. The average period of onset of bladder complications was later than those of the rectum. The ICT dose rate varied from 140 CGY to 220 cGy to point A. There was a significant influence of ICT dose rate on complications. The complication rate was 3% (1/34) with 140 to 159 cGy/hr, 14% (30/213) with 160 to 189 cGy/hr, and 27% (12/44) with 190 to 220 CGY/hr (P<0.05). When ICT was combined with EXRT, there appeared to be no necessity for any dose reduction from a total dose of 75 Gy to point A, provided the ICT dose rate was less than 160 cGy/hr.


Central Nervous System Therapy in Childhood Acute Lymphoblastic Leukemia: 3 Years Follow Up

**Abstract**: Specific craniospinal meningeal therapy early during the remission has become an integral part of the treatment of acute lymphoblastic leukemia. In this study 34 previously untreated children below the age of 20 years with ALL have been entered. Out of these 28 patients received adequate treatment including the CNS therapy. There were 4 patients each in the good and average risk groups and the rest 20 patients had poor risk features. The CNS therapy consisted of a uniform practice of cranial irradiation and inthathocal mothotrexate. The median follow up period is 3 years, with a CNS reapse rate of 21.4. The following were the observations i) 6 out of 8 relapsed cases had poor risk features ii) longer the induction remission phase, greater the risk of CNS relapse, iii) homatologic features could not be correlated with CNS relapse, iv) none of the CNS relapsed patients showed marrow relapse and v) majority relapsed in the second year following the therapy.

Squamous cell carcinoma arising in endometriosis of the ovary.

**Abstract**: Squamous cell carcinoma arising in ovarian endometriosis is extremely rare, but a case is reported in a 62 year old woman. If such an ovarian tumour is discovered evidence of teratoma, Brenner tumour or endometriosis should be sought. Extensive sampling is mandatory as the developing tumour often overgrows the foci of endometriosis, thus obliterating evidence of its origin.

Post Laryngectomy Rehabilitation, The Case for Planned Early Speech Therapy

**Summary**: This study reflects the efficacy of planned early speech therapy on post laryngectomy rehabilitation. Not only do a larger number of laryngectomies acquire intelligible esophageal speech where therapy is instituted early but also the pace of development and quality of the speech is far superior when compared to those laryngectomees in whom speech therapy was delayed. This paper unequivocally supports the institution of planned early speech therapy in the successful rehabilitation therapy sans deleterious
effects and without prolonging hospital stay with its attendant overheads.

44. T.S. Sundareshan, M. Krishnamurthy & T.C. Yasha.  
Trisomy 4 and 9 in a Case of AML-M2 Type  

Abstract: Trisomy 4 and sole chromosome abnormality in hematologic disorders has only recently been described (1), although its existence with the trisomy of another chromosome was observed much earlier (2-5). This chromosome change initiating leukemogenesis in ANLL, particularly the M4 type, was well supported (6). An editorial was specially written with the aim of stimulating authors to publish this new entity in ANLL that was undetected for several years in the post-banding era (7). This was mainly with the intention of finding out whether there was any relation to a geographical distribution or occupational history, such as exposure to toxic substances and environment. Articles giving specific importance to the above factors, amounting to over 20 cases, are now documented and a possible relationship is ruled out (8). Even now, etiology of trisomy 4 is unknown, although, based on the reported cases.

Paracentric inv(3)(q21q26) in Acute Myeloblastic Leukemia (M2) with Normal Thrombopoiesis. (Letter to the Editor)  

46. S. S. Supe, K.T. Bhowmick and S. J. Supe,  
Predicting Early and Late Reactions of Selectron LDR Treatments  

Abstract: The conventional intra cavitary treatment of cancer cervix with pre loaded or after loaded applicator with Radium, Cs or Cobalt-60 are being replaced by selectron after loading systems. The dose-rate for Brachytherapy is changed from over 0.5 Gy per hour to about 1.7 Gy per hour and because of this change the dose to be delivered by intracavitary insertion is to be reduced by an appropriate percentage. Using clinical data published so far, a suitable correction factor is arrived at. Even though the correction factors used in various clinical work appear to be varying
they fall more or less on smooth curve which gives the correction factor to bring about same normal tissue late reactions. A similar curve has also been obtained to give the same tumour control when selectorn is used in the range of 1.5 Gy per hour to 2.0 Gy per hour. Appropriate correction factors are 42 and 47% respectively.

Neck Metastasis from an Occult Primary the Kidwai Experience.
Indian Journal of Cancer, 29: 203-209, 1992

Summary: This study highlights our treatment policy in 26 cases of epidermoid metastatic carcinoma in the neck from a primary deemed occult after exhaustive examination of the Upper Aero-digestive Tract (UADT). Planned Radical Neck Dissection (RND) and post-operative radiotherapy (RT) has been the favoured approach in all neck nodes deemed resectable and a loco-regional control rate of 64% was obtained using this combined modality approach. Pre-operative RT was utilised in three cases with nodal disease of borderline resectability and loco-regional control was achieved in one case. Three cases of massive neck metastasis initially deemed unresectable became amenable to surgical salvage after Radical RT with concurrently administered chemotherapy. Only one of these remained disease free. Overall loco-regional control rate of 55 percent could be achieved in 20 evaluable patients followed up for two years - three years (mean 30.5 months). Regional failures were noted in 25 percent of patients while distant spread occurred in 15 percent, thus accounting for an overall failure rate of 40 percent. Manifest primaries were documented in 20 percent, half of which could be salvaged and successfully controlled.

Determination of virtual SSDs for electron beams from a dual energy linear accelerator.

Abstract: Electron beams from an accelerator appear to originate from a point away from the vacuum window designated as virtual source. Virtual source to isocenter distances are determined experimentally by measurements in a polystyrene phantom with inverse square law method. Corrections required for percentage depth dose are also determined.
Results of our study are compared with that of other investigators.

49. Chandrika Sreekantaiah, M.Krishna Bhargava
Double Minute Chromatin Bodies in Carcinoma of the Human Cervix Uteri
Cancer Genet Cytogenet 58: 134-140, 1992

Abstract: In direct G-banded preparations of 150 cases of cervical cancer, double minutes (dmin) were observed in 43% (64 cancers) of the patients, including a case of carcinoma-in-situ (CIS). The incidence of dmin varied from 1 to over 20 percent. The karyotypic findings in the tumors containing dmin did not reveal any similarities and the prognosis of the patients with dmin was significantly worse compared to those without dmin. The presence of dmin in cytogenetic preparations of primary tumors may indicate a role in the maintenance and/or progression of malignancy, particularly as dmin have been suggested to represent amplified genes.

50. Clementina Rama Rao, M.D., Naresh K.Narasimhamurthy, M.D., D.C.P.,
Kalavathy Jaganathan, C.T., Geethashree Mukherjee, M.D. Diganta Hazarika, M.D.
CYSTOSARCOMA PHYLLODES DIAGNOSIS BY FINE NEEDLE ASPIRATION CYTOLOGY

Abstract: The cytologic features of 10 benign, 2 borderline and 5 malignant phyllodes tumors were studied, and an attempt was made to correlate the cytologic findings with corresponding histologic categories. Seventy-five percent of the benign and borderline tumors were interpreted as benign cystosarcoma phyllodes on fine needle aspiration cytology. Eighty percent of the malignant phyllodes tumors were identified as malignant lesions cytologically. The cytologic features assessed were the epithelial: stromal ratio and morphology of the stromal component, including the degree of atypia, mitotic activity, capillary vessels traversing the stromal fragments, presence of foamy macrophages, histiocytic giant cells and bipolar naked nuclei. A diagnosis of phyllodes tumor was suggested cytologically by the presence of both epithelial and stromal elements; the stroma was present as cellular "phyllodes fragments" and isolated mesenchymal cells. The parameters suggesting malignancy were extreme paucity or absence of epithelial elements and stromal cells in diffuse sheets and clusters less cohesive than normal, with marked stromal atypia and mitotic activity.
Mandibular Metastasis in Hepatocellular Carcinoma

Abstract: Hepatocellular carcinoma (HCC) presenting initially as a bony metastasis is rare. Involvement of maxillofacial bones is even more rare and only 20 cases have been reported. A case of a 65 year-old male patient presenting with metastasis to the mandible from a primary HCC is described.

52. Dr. D. Hazarika M.D., Dr. V. C. Padaki, Ph.D
Computerised Image Analysis System and Interactive Morphometry in Pathology
Laboratory Diagnosis, 4: 8-12, 1992.

Abstract: The recent developments in computer technology has brought revolution in various branches of science including medical science. The low cost micro computers are now within the reach of many laboratories and allow the investigators to do many complex analysis. Digital image processing, the manipulation of images by computers has found wide applications in medical science and is making impact in the field of Pathology also. There has been a substantial change in the field of Cytology in the past years. The emphasis today is on information extraction from the cell, on the utilization of information accessible only by computation and on providing diagnostic/prognostic clues to the Cytopathologist. Hence the research efforts are on the way to provide powerful tools in the hands of Cytologist to make it a quantitative science and more objective in approach towards diagnosis/prognosis. Computer based image analysis and determination of size, shape, texture, pattern classification and whole lot of other morphometric, photometric and spectral information will become leading considerations for diagnostic/prognostic purposes. Hence in the following text efforts are made to provide basic understanding of the type of instrumentation setup used for the purpose and possible applications of computer interactive morphometry in Pathology.

53. Krishnamurthy, S., Chandrashekar, M., Baldwa Nandkishore, Prakash, P.R., Vivekanand Dharwar, Vijayaram, S., Gopinath, K.S., Prabhakaran, P.S.
'Tube Intubation' - It's Necessity in Palliation of Advanced Oesophageal Cancer
The Antiseptic, 89: 3, 1992
Abstract: This is a retrospective case control study of 36 patients (Group A) who underwent tube intubation for advanced oesophageal carcinoma. Additional treatment in the form of chemotherapy and radiotherapy was instituted in 11 patients who showed improvement following intubation. The results were compared with 36 patients (Group B) who were given symptomatic treatment during the same period. The mortality in Group A was 16.5%, the mean survival was 6 months as against 2 months in Group B. Eleven patients of Group A who received additional therapy had a better survival at 9 months. These results suggest that tube intubation improves the quality of life in advanced oesophageal cancer and enable the patients to receive salvage therapy. Keywords: Total dysphagia, advanced oesophageal carcinoma tube intubation, salvage therapy.

54. Kumara Swamy, Sanjay S.Supe, Manoor Udaya Kumar, Nanjundappa Viswanathan, Naranappa Anantha
Application of Radiation Effect Models in Combined External and Intracavitary Radiotherapy of Carcinoma of the Uterine Cervix

Abstract: A retrospective analysis of 291 patients with cancer of the uterine cervix treated with a combination of external and intracavitary radiotherapy was carried out. Patients were treated with an external radiotherapy dose of 45 Gy in 20 fractions, 5 fractions per week, or 42 Gy in 14 fractions, 3 fractions per week. For brachytherapy the dose was 24 to 32 Gy at a dose rate of 1.4 to 2.2 Gy per hour. Treatment results in terms of survival, local disease-free survival and complication rates were compared with cumulative radiation effect (CRE) and extrapolated response dose (ERD) values for point A (CRE\textsubscript{TA} and ERD\textsubscript{TA} respectively) and for rectum (CRE\textsubscript{TR} and ERD\textsubscript{TR} respectively). CRE\textsubscript{TA} and ERD\textsubscript{TA} values did not significantly correlate with local disease-free and survival rates. Correlations of CRE\textsubscript{TA} and ERD\textsubscript{TA} with overall complication rate and with rectal complication rate (p-value < 0.025) were good. No significant correlation rate. In order to limit grades II and III rectal complications to acceptable level, in combined external and intracavitary treatment, CRE\textsubscript{TA} and ERD\textsubscript{TA} values of less than 2500 and 93 respectively are suggested.

55. K.N.Naresh, M.D., D.C.P., Geethashree Mukherjee, M.D., Clementina Rama Rao, M.D., Digantha Hazarika, M.D., B.N.Kishore Kumar, M.D., D.M.R.D., L.Appaji, M.D., B.S. Aruna Kumari, M.D.,
Extranodal Sinus Histiocytosis with Massive Lymphadenopathy - A Case Report
Indian Journal of Cancer, 29: 226-229, 1992

Summary: Sinus histiocytosis with massive lymphadenopathy involving organs other than the lymph nodes in a rare event. A case of SIIML presenting with multiple skin and subcutaneous nodules and multiple osteolytic lesions is described. A search of the Indian literature revealed many cases of nodal SIIML, but none of the reported cases had prominent extranodal involvement.

56. Naresh K. Narasimha Murthy, Andrew J. Velisath
Papillary carcinoma in a thyroglossal duct cyst.

Abstract: A case of papillary carcinoma in a thyroglossal duct cyst which was unsuspected clinically and post-operatively has been described.

57. B.V. Ramesh, V.C. Padaki, K.S. Hegde, D. Hazarika, C.A. Verghese
An Interactive Image Analysis System for Quantitative Cytology & to Classify Cervical Cells

Abstract: Introduction of computers and image analysis systems are gaining faster momentum in order to quantitate the assessment of cells for diagnosis and prognosis, and this system aims to relieve the operator from the tedium of microscopic observation and reduce operator bias and human error. This paper discusses the design and configuration of an interactive image analysis system built in the laboratory for the purpose of cell analysis and classification. The software developed to compute various textural and morphological parameters of cells on smear are briefly described. The results of the experiments carried out to classify normal and abnormal cells on cervical smear show 94 percent success rate.

58. Rekha V. Kumar, Geetashree Mukherjee, M. Krishna Bhargava
Frozen Sections - A Retrospective Study.
Indian J. Pathol. Microbiol, 35: 1;27-33, 1992

Abstract: Two hundred and fortyfour (244) specimens were examined by frozen section(FS) from 1987 through 1988 at the Kidwai Memorial Institute of Oncology. Of these eleven(11) were performed for evaluation of the surgical margin of tumours and fifty four (54) for detection of
lymph node metastasis. All these examinations (65) proved to be hundred percent (100%) accurate. The remaining 179 frozen sections were performed for the diagnosis of an unknown pathologic process. Of these, 44.69 percent were precisely diagnosed, in 41.9 percent the pathologic process was correctly but not precisely diagnosed, in 11.17 percent the diagnosis was deferred and remaining 2.24 percent were incorrectly diagnosed with no harmful consequences to the patients. By eliminating the cases where diagnosis was deferred and combining results of "precise diagnosis" with those of "correct pathologic process", the overall accuracy rate was 98.2 percent. Thus, FS has greater benefit when used for the general diagnosis of an unknown pathologic process rather than for an exact or precise diagnosis.

59. C.Sreekantaiah, L.Appaji, D.Hazarika
Cytogenetic Characterisation of Small Round Cell Tumours Using Fine Needle Aspiration

**Abstract:** Cytogenetic analysis of short term cultures of fine needle aspirates from two tumours, characterised cytologically as small round cell neoplasms, showed specific clonal chromosomal abnormalities. In both cases the cytogenetic finding of a t(11;22) (q24;q12) helped determine their diagnosis as peripheral neuroectodermal tumours of the thoraco-pulmonary region (Askin's tumour). These findings suggest that cytogenetics can reliably distinguish neoplasms which present as undifferentiated small round cell tumours.

60. T.S.Sundareshan, M.Augustus, T.C.Yasha, S.N.Shailaja, N.Lalitha
Variant Complex Translocation t(8;15;21) in Acute Myeloblastic Leukemia (M2) Associated with Bilateral Chloroma

**Abstract:** Complex translocation t(8;15;21) (q22;q21;q22) in a 9-year-old female with acute myeloblastic leukemia (M2) with bilateral chloroma is described. This particular variant type of translocation in M2 type is rare. The importance of variant translocation in defining the critical segment on the chromosomes responsible for phenotypic expression of the disease is emphasized.

61. S.S.Supe, V.Khole, S.J.Supe
Accuracy of the Parameters for Linear Quadratic Model.
Abstract: The application of linear quadratic (LQ) model to biological effects of radiation is known for at least three decades. In case of radiotherapy in order to ensure that appropriate tumour lethal dose is delivered without exceeding normal tissue tolerance, concepts like NSD and its derivatives were used in the past. Due to their shortcomings these concepts are now replaced by a linear quadratic model. As this model is based on the recent radiological data, it is claimed to be able to predict the biological depends on the precise values of various parameters that are involved in the linear quadratic equation. For most of the tumours and the associated normal tissues, values of the parameters are not yet accurately known. The parameters involved are the repair constant and repopulation factor. From radiobiological data on animals, in-vitro experiments on tumour cells and clinical data values of these parameters have been compiled and presented in this paper. It is found that the parameters are very much different from tissue to tissue and site to site. Large number of clinical data will have to be analysed to obtain precise values of these parameters so that LQ model can really be as accurate as it is promised to be.

62. Sanjay S. Supe, Kumara Swamy, M. Udaya Kumar, N. Viswanathan, N. Anantha
Extrapolated Response Dose (ERD) as a Potential Guide in the Management of Carcinoma of Uterine Cervix

Abstract: A retrospective analysis of 291 patients with cancer of the uterine cervix treated with a combination of external and intracavitary radiotherapy was carried out. Patients were treated with external radiotherapy dose of 45 Gy in 20 fractions, 5 fractions per week or 42 Gy in 14 fractions, 3 fractions per week. For brachytherapy the total dose was 24 to 32 Gy at a dose rate of 1.4 to 2.2 Gy per hour. Treatment results in terms of response, survival, recurrence and complication were correlated with total Extrapolated Response Dose (ERD) value for point A (ERD$_{TA}$) and for rectum (ERD$_{TR}$). ERD$_{TA}$ values did not correlate with response, recurrence and survival rates (p value > 0.05). ERD$_{TR}$ values correlated well with rectal complication rate (p value < 0.025). Lack of correlation was observed between ERD$_{TR}$ with rectal complication rate (p value > 0.1). In order to limit Grade II and III rectal complications to acceptable level, in combined external and intracavitary treatments, ERD$_{TA}$ value of less than 93 is suggested.

63. Sanjay S. Supe, Kumara Swamy, M. Udaya Kumar, N. Viswanathan,
N. Anantha

The Dose Time Relationship in the Radiatherapy of Carcinoma of the Cervix - Application of Cre Formalism


Summary: A retrospective analysis of 291 patients with cancer of the uterine cervix treated with a combination of external and intracavitary radiotherapy was carried out. Patients were either treated with 45 Gy in 20 fractions by five fractions per week or with 42 Gy in 14 fractions by three fractions per week or with 42 Gy in 14 fractions by three fraction per week schedule by external radiotherapy. For brachytherapy the total dose was 24 to 32 Gy at a dose rate of 1.4 to 2.2 Gy per hour. Complication were correlated with total CRE values for point A (CRE\textsubscript{TA}) and for rectum CRE\textsubscript{TR}. Correlations of CRE\textsubscript{TA} with overall complication rate (p value <0.05) and rectal complication rate (p value < 0.01) were excellent. Lack of correlation was observed between CRE\textsubscript{TR} and overall complication rate (p value > 0.1) as well as rectal complication rate (p value > 0.1). In order to limit Grade II and III rectal and bladder Complications to acceptable level, in combined exteranl and intracavitary treatments, CRE\textsubscript{TA} value of less than 2500 reu is suggested.

64. M. Udaya Kumar, Alain P. Gerbaulet

Brachytherapy Practice in Gynecological Cancers the Moulage System

Ind J Radiol Imag, 2: 61-64, 1992

Abstract: Carcinoma of the uterus afflicts a large number of patients, more so in the developing countries. For the treatment of this malignancy, radiation oncology plays a major role in the form of both external beam radiotherapy and brachytherapy, the latter most frequently being employed as intra-cavitary brachytherapy. The management of uterine carcinomas employs intracavitary brachytherapy alone in early cases, and uses it in conjunction with external beam radiotherapy in advanced lesions.

There are many systems of intracavitary brachytherapy in practice today to effectively deliver radiation to the uterovaginal target volume in carcinoma of the uterus, and the ‘Moulage system’ is a popular type. A description of its applicator fabrication, application in patients, advantages, complications associated with its use, results of treatment and treatment protocols as practice at Institut Gustave Roussy, France, is outlined in some detail.
The system is well tolerated by the patients because of individualised adaptations, and is infection and odour free. 60 Gy are delivered to the tumour using Cerium 137 sources. An overall survival for stages I and II carcinoma of the cervix was 87% with disease-free survival of 85% at 5 years. Local recurrence occurred in 5%, and metastatic disease in 80% of patients.

Key words: Brachytherapy; Gynecological Cancers; Moulage System.

65. S. Vijayaram, M.D., N.S. Chandrashekar, M.D., P.V. Ramamani, M.D., P. Saraswathi Devi, M.D., Sudharshan, M.D., Usha Rani, V. Pattabhiraman, M.D., Purnima Hedge, M.D., K. Gange Gowda, M.D., N. Anantha, M.D., DMRE,

CT - Guided Coeliac Neurolysis for Upper Abdominal Cancer

The Pain Clinic, 5,3: 165-173, 1992

Summary: This report is a prospective study of 33 patients who had CT-guided coeliac block for upper abdominal cancer pain between January 1988 and December 1990 at the Pain Relief Unit, Kidwai Memorial Institute of Oncology (KIMO), Bangalore, India. These patients were followed until death. The majority of patients who had relief had a significant reduction in analgesic requirement. The patients who had no relief had an early death, probably as these patients had advanced disease. No serious side-effects were noted except for backache and hypotension which were managed successfully with appropriate treatment. Neurolytic coeliac block under CT is one of the best complementary treatments for pain palliation of upper abdominal cancer.

66. Diganta Hazarika, M.D., K.N.Naresh, M.D., D.C.P., Clementina Rama Rao, M.D., B.M.Ganga Hanume Gowda


Abstract: A case of ganglioneuroma presenting in a parapharyngeal location in a 4-year-old girl was subjected to fine needle aspiration cytology. A preoperative diagnosis of ganglioneuroma was subsequently confirmed on histopathologic examination. Only a few reports on the cytologic features of this tumor exist. The importance of considering this diagnosis for a tumor at an unusual site and in an uncommon age group is stressed.

67. K.Govind Babu, Radheshyam, Naresh, N.Lalitha

Cardiac Tamponade - A Rare Manifestation of Non-Hodgkin's Lymphoma

27
Summary: A very rare clinical manifestation - Cardiac tamponade with Pathognomonic electrocardiographic findings in a not too rare a malignancy - Non-Hodgkin's Lymphoma is presented.

68. Dr. Hema Sridhar
Acquired Immunodeficiency Syndrome.
KMJ, 5-8, 1993

Abstract: AIDS is an acronym for Acquired Immunodeficiency Syndrome. It was in the summer of 1981 when CDC in USA started receiving reports from Los Angeles and New York regarding some Healthy homosexual men suffering from an unusual type of pneumonia caused by Pneumocystis carinii - a parasite which is normally considered nonpathogenic in man. Further, reports of homosexual men developing a rare form of skin cancer called Kaposi's sarcoma were also received at CDC. These reports suggested that a new syndrome had emerged which was found to be affecting merely the immune system. By December 1981 a well documented report on this new syndrome was published. In 1982 CDC coined the word 'AIDS' for this new syndrome. In 1983 within two years of the discovery of AIDS, Prof. Luc Montagnier and his colleagues at the Pasteur Institute, Paris discovered a virus, the virus was discovered in the lymph node of a male homosexual with persistant generalised lymphadenopathy (PGL). The virus was named lymphadenopathy virus (LAV). Shortly after this a team led by Dr. Robert Gallo at NCI Bethesda, USA confirmed the presence of a new virus isolated from patients with AIDS for which he was awarded the Nobel Prize. They called the virus Human T-lymphocytic virus III (HTLV-III). The International Committee on Taxonomy of Viruses later called it the Human Immunodeficiency Virus (HIV) - the AIDS virus.

69. Jatin P. Shah, M.D., FACS, S.V. Kumaraswamy, M.D., Vijay Kulkarni, M.D.,
Comparative Evaluation of Fixation Methods After Mandibulotomy for Oropharyngeal Tumors.

Abstract: Mandibulotomy for gaining access to the posterior aspect of the oral cavity and oropharynx for excision of tumors has been widely employed for several decades. However, the technical aspects of the procedure continue to evolve. This study compares the
complications and bony union rates in a consecutive series of 135 patients undergoing mandibulotomy at 1 institution between 1987 and 1991, using wires and miniplates.

The primary tumor sites were oral cavity in 35 patients, oropharynx in 98, and deep lobe of the parotid gland in 2. Twenty-eight patients were previously irradiated, and 62 received postoperative radiotherapy. Thirty-eight patients had a straightline osteotomy, 31 had step osteotomy, and 66 had notched osteotomy. The fixation of the osteotomy site was done with wires in 59 patients and miniplates and screws in 76 patients. The duration of follow-up ranged from 1 to 5 years.

No difference in complications or bony union was observed in patients who underwent repair with wires or miniplates. Due to the number of surgeons and their preferences for different types of osteotomies, as well as the differences in surgical techniques, we further studied the 2 methods of fixation employed by 1 surgeon who performed notched osteotomies on all of his patients (56 patients). Twenty-two underwent repair with wires, and 34 with miniplates. Four patients with wires and seven with miniplates developed wound complications requiring removal of wires in two and miniplates in one. Delayed union or nonunion was not observed in any patient. Fixation with wires or miniplates is equally satisfactory as long as adequate immobilization of the mandibular segments is achieved.

70. R.Ravichandran, M.Ravikumar, N.Anantha, A.D.Naik K.Krishnamurthy

Abstract: In India significant percentage (25% - 30%) of cancer patients are to be treated for head and neck sites where there is no need for rotational techniques. The field sizes are also small. A dedicated short SSD (40 cm) cobalt machine with 74 TBq (2000 Ci) capacity appears to be relevant and cost effective. If suitably designed, these machines could make use of decayed cobalt sources removed from long SSD models. If skin-sparing effect is preserved at short SSD, there is definite scope for such machines in the treatment of cancer patients. The possible design feature of such machine is highlighted.

71. R.Ravichandran and M.Ravikumar
Dosimetry of Tangential Radiotherapy Portals Calculation Methods and
Phantom Study

Abstract: Tangential radiotherapy portals with cobalt-60 gamma radiations are widely used in the management of post-operative breast cancer. The treatment planning and dosimetry are complex because of the obliquity and irregular contours. A method followed at our centre makes use of selected percentiles covering the tumour volumes for various preselected inter-field separations. Equivalent field concept is used for the half-blocked portals. Comparison with computerised plans and phantom measurements validate the outlined concept.

72. M. Ravikumar and R. Ravichandran
An Analysis of Geometrical Aspects of Fabrication of Irregular Shielding Blocks for Large Portal Radiotherapy
Ind J Radio Imag, 3: 43-48, 1993

Abstract: This article deals with the inaccuracy in the volume shielded, if shielding blocks are fabricated with the 'mantle cutting machine' using different distances obtained during planning radiography. However, there is no compromise in the volume of irradiation for curative radiotherapy. The concept of partially shielded volume in the regions to be shielded is brought out when 'blocks' fabricated by the 'tray shift technique' are used for treatment.

73. Rekha Vijay Kumar, M.D., Clementina Rama Rao, M.D., Diganta Hazarika, M.D., Geetashree Mukherjee, M.D., B.M. Gangahanume Gowda, C.T.
Aspiration Biopsy Cytology of Primary Bone Lesions
Acta Cytologic, 37, 1: 83-89, 1993

Abstract: Fine needle aspiration cytology of 79 primary bone lesions was done, and the clinical and radiologic features were correlated with cytopathology. Seventy-four of these cases were primary malignant bone tumors, two cases each were tumorlike or inflammatory lesions, and one case was benign bone tumor. Osteosarcoma (37.7%) and Ewing’s sarcoma (15.6%) were the most common primary lesions. Correlation with histopathology was possible in 37 cases, and an accuracy rate of 94.1% was achieved. There was an 89% correlation between radiologic and cytopathologic diagnoses. It was concluded that in this oncology center a working diagnosis based on cytology was possible in almost all cases after correlating with the radiologic findings. However, when there was a discrepancy between the clinical, radiologic and cytopathologic
diagnoses, an open biopsy was mandatory.

74. R.V.Kumar, D.Hazarika, T.Mathews, C.Rama Rao, S.Satpute
Fine Needle Aspiration Biopsy Cytology of Chondrosarcoma

Abstract: The cytomorphological appearances of bone and soft tissue
tumours, when combined with radiology and clinical presentation, can
lead to a positive diagnosis in the majority of cases. Our experience
with fine needle aspiration biopsy of 13 cases of chondrosarcoma,
encountered over a four year period is presented, in correlation with
their radiological appearances. It is concluded that FNAB is a valuable
pre-operative tool in characterising chondroid neoplasms in soft tissue
and bone.

75. Rekha V.Kumar,M.D., Lata Kini,M.D., Asha K.Bhargava,MS.,MCH.,
Geetashree Mukherjee,M.D., Digantha Hazarika,M.D., Ashok M.She-
noy,MS., and N.Anantha, M.D.,DMRI.
SALIVARY DUCT CARCINOMA
Journal of Surgical Oncology 54: 193-198, 1993

Abstract: Salivary duct carcinoma is an uncommon malignant tumor
that occurs mainly in the parotid gland of elderly men. The 11 cases
of salivary duct carcinoma which are included in this study occurred
in older men(mean age 56 years) and were located in the parotied
(7), submandibular salivary gland (2), and the minor salivary glands
in the maxilla (2). The maximum tumor dimension ranged from 3
to 9 cm. Microscopically, all had infiltrating margins, with circumscribed
groups of epithelial cells arranged in various patterns; the invasive
component was embedded in a desmoplastic stroma. Perineural
invasion and lymph node metastasis were noted in seven and three
cases, respectively, at the time of initial surgery. Radical surgery
was offered to ten patients and postoperative radiotherapy to nine
patients. Salivary duct carcinoma appears to be an aggressive tumor
with distinctive histological features, which has not been described
in the minor salivary glands of the maxilla to date. The clinicopathologic
features of these tumors are presented, with a review of the literature.

76. Setharamaiah Vijayaram,M.D.
India: Status of Cancer Plain and Palliative Care
Abstract: Awareness about cancer has been spreading in India as in other developing countries. It has been estimated that there are about 1.5 Million cancer cases in the country at any given time with about 0.5 million new cancer cases being added every year. The majority of these cancer patients present themselves for treatment in an advanced stage of the disease, and therefore only palliative treatment is possible. The facilities for treatment are largely restricted to urban centers and are too meager to cater to the existing needs.

The national Cancer Control Program has been designed to meet the challenge of cancer control in India and also to set the priorities for allocation of treatment. The National Cancer Control Program has realized that the majority of patients require pain and palliative care as one of the priorities. Within India individual states like Karnataka and Kerala have established guidelines in cancer pain relief. They are ahead of the rest of the states in establishing cancer pain and palliative care units in the regional cancer hospitals.


Intraluminal Brachytherapy in Carcinoma of the Oesophagus: Comparison of Afterloading Techniques


Summary: For improved local control or palliation of oesophageal cancers, Intraluminal brachytherapy (ILB) has emerged as an increasingly popular treatment modality of therapy in recent years. In combination with external radiotherapy, afterloaded ILB can increase local control rates and may prolong survival of these patients. In this paper two techniques of ILB viz., manual and low dose-rate remote afterloading methods, using Caesium-137 tubes and pellets respectively, are described in detail. On comparison of these two techniques it was found that both of them were similar with respect to their physical characteristics (dose rate, dose fall-off, maximum spinal cord dose, total reference air kerma, etc.). Clinically, the manual afterloaded ILB technique was found to be easier to use when compared with the low-dose rate remote afterloader. In addition, the number of patients with uterine cancers being high in a developing country, it was found that it was inappropriate to use the low dose remote afterloaders, designed for use in gynaecological cancers, for ILB of oesophageal cancers. Therefore, in the absence of high dose rate afterloaders, which can be utilized for intracavitary
treatments of both uterine and oesophageal malignancies effectively, the manual after-loading ILB system as described in this paper could be a practical alternative. Cancer Oesophagus, Intraluminal radiotherapy technique.

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Influence of Intraluminal Brachytherapy Dose on Complications in the Treatment of Esophageal Cancer.

Int J Radiation Oncology Biol Physics 27: 1069-1072, 1993

Abstract:
Purpose: Demonstration of the influence of intraluminal brachytherapy dose on complications in the treatment of esophageal carcinoma.

Methods and Materials: Between January 1990 and June 1991, 75 patients with esophageal cancer were treated with external radiotherapy followed by intraluminal brachytherapy. Patients had a Karnofsky score of over 70, with no supra-clavicular nodal or distant disease. An external radiotherapy dose between 40 and 55 Gy (mean 52 Gy), 5 times a week, 2 to 2.06 Gy/fraction, followed by a single session of Intraluminal brachytherapy using a locally developed, manual, after-loading applicator with Cs-137 sources with dose ranges of 8-10 Gy (Group 1: 42 patients), 10-12 Gy (Group 2: 11 patients), and 12-15 Gy (Group 3: 22 patients) at a mean dose rate of 2.09 Gy/hr was delivered.

Results: The actuarial figures at 1 year were 39% for overall survival, 29% for disease-free survival, and 38% for local control. Fourteen patients (18.6%) developed complications of either an esophageal stricture or fistula. These were dependent on intra-luminal brachytherapy dose, whereas external radiotherapy and intra-luminal brachytherapy doses did not contribute significantly to local control. For Groups 1, 2 and 3 actuarial local control were 28%, 45% and 63% (P < 0.1) and of complications were 6%, 20% and 70% (p < 0.001), respectively. Also, on applying the Time/Dose/Fractionation formula on brachytherapy doses, it was found that the complication rate was 6% for TDF of < 31, 25% for TDF of 32-37, and 70% for TDF of > 38 (p < 0.001).

Conclusion: External radiotherapy doses in the range of 50 to 55 Gy followed by a dose of 10-12 Gy of intraluminal brachytherapy was found optimal with respect to complications and local control in the radiotherapeutic management of esophageal cancer.