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INDIAN ASSOCIATION OF SURGICAL ONCOLOGY
(A section of Association of Surgeons of India)
NEWSLETTER

Oct. '98 Vol. 12 No. 1

PRESIDENTIAL MESSAGE

Dear Friend,

Greetings !

I take this opportunity to share a few thoughts. Ideally all solid tumors should be treated by Surgical Oncologists since their overall survival then improves by upto 20%, but such a situation is not possible even in near foreseeable future. Majority of our patients do not have access to a Surgical Oncologist or a good Centre and are treated by the surgeon in the periphery, who often finds the task awesome, have little access to considered advice and no opportunity for reeducation. IASO, as a professional body, could take up the challenge of organising short-duration (1-2 weeks) intensive training programmes, in various areas to cover common cancer problems for all willing surgeons, once every 3-5 years. The issue could be debated in an IASO session involving general surgeons during ASICON-98, and if accepted details of course contents, time-frame, frequency, organisational needs and funding could be worked out.

IASO could also help by creating a directory of such Surgical Oncologists in the area who are easily accessible and may be willing to give their advice to general surgeons in need of personal guidance. In this era when telemedicine is becoming a reality, such a regional networking would help improve the follow-up of patients as well. I am suggesting to our Editorial Secretary, to consider publication of treatment protocols, for common cancers only, in the forthcoming issues of the Newsletter.

You may like to further consider ways and means by which IASO could reestablish the pre-eminent role of Surgical Oncologist in treatment of solid tumors. This involves taking up the responsibility, a huge one, of supervising and coordinating the entire treatment of such patients. This would include a continuing dialogue with the patients and relatives on one hand and with Medical/Radiation Oncologist/ Pathologist etc. on the other. Prevention being the best option, the Surgical Oncologist should also involve himself more actively in public education programmes.

Despite the vastness of clinical material available, multicentric trials have yet to take off in India. IASO could be a catalyst in this direction as well.

On the anvil is a rich academic programme during the forthcoming NAT-CON IASO '98 in the medieval city of Khajuraho. The choice of venue is significant not only as a World-famous centre of our heritage, but also as a relatively smaller location in a developing area for spreading the concept of Surgical Oncology.

I look forward to meeting you and other colleagues and friends in Khajuraho and to your support.

With best wishes

Yours sincerely,

S. P. KHAREY
Chief Medical Director
PRESIDENT
INDIAN ASSOCIATION OF SURGICAL ONCOLOGY
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June 8, 1998

EDITORIAL

DERMATOFIBROSARCOMA AND KAPOSI SARCOMA - Newer Aspects

PROF. RAVI KANT
MS, DNBE, FACS, FICS, FAIS

DERMATOFIBROSARCOMA :

DERMATOFIBROSARCOMA is a low grade sarcoma which has been associated with t (17,22), q 22+q 13 abnormalities at the genetic level. If melanin is found in the tumour, it is called Bednar tumour. Presence of CD34+ suggests neural component in the tumours. It involves head and neck in 20% cases and extremities in another 30%. A tumour which is < 5cm can be treated by excision alone, while a tumour >5cm can be treated by excision and external radiotherapy of 6000 GY.

KAPOSI'S SARCOMA :

The interest in Kaposi's Sarcoma (KS) has been revived in view of its association with patients of AIDS. There is a 40,000 times increased risk of this cancer in patients of AIDS, with a male to female ratio of 10:1. In a HIV+ patient having KS, the risk of developing Non-Hodgkin's Lymphoma is 198 times while a risk of developing other carcinomas is one and a half times.

The possible etiology of KS has been attributed to viral origin with Herpes (KSHV), HIV and cytomegalovirus being the prime suspects. In patients of KS, it has been found that there is decreased immunity due to Cytokine disregulation.

The Cell of origin of KS has been known to be of mesenchymal origin with multifocal vessels and connective tissue with angiogenic properties. This has been substantiated with vascular endothelial markers viz. endothelial cell associated antigen, OK M-5, E-92 and H2ADR being found positive.

A number of factors like Basic FGF, oncostatin M, IL-6, IL-1B, TNF-a, scatter factor (C-met) and K-8 have been found to be promoters of KS in a patient of KS. On the other hand inhibitory factors are antisense oligonucleotide, soluble receptors, antireceptor antibodies and neutralizing antibodies.

KS has been associated with lymphoma, hemolytic anemia, Diabetes Mellitus, Congenital fistula, transplantations like renal, hepatic and pancreatic, (especially renal) and also corticosteroid therapy. The known types of KS are Classic, AIDS, Endemic, African, Transplantation type and associated with lymphoma.

The clinical picture of KS has a wide spectrum. Skin may show macular lesions which range from pink, violet, purple red in color, spread over upper parts of the body usually. Often there is superadded infection. Presence of periorbital edema has also been noted and cosmesis appears to be a significant problem in advanced cases.

The gastrointestinal system may be affected with gastric outlet obstruction, gastric enteropathy, small bowel obstruction and hemorrhage being some of the manifestations. Lung involvement is a fatal complication, with patients having dyspnea and hemoptysis and sometimes P. carnii infection. A P.carnii infection alone can be picked up on Gallium Scan while the pulmonary involvement of KS is seen on Thallium scan.

Involvement of Skin and lymphnodes alone has a good prognosis but edema over limb and face have poor prognosis. A patient with gastrointestinal or pulmonary involvement has poor prognosis. A patient with a CD4 count of >200UL has a better prognosis than one with a CD4 count of <200UL. A patient having superadded infection, lymphoma or any neurological deficit has worse prognosis. If Karnofsky scale is better then prognosis is also improved.

A patient with superadded infection, B symptoms like night sweats and weight loss have poorer prognosis. Lymphoproliferative response to microbial antigen is also taken as poor prognosis. Immunomarkers like CD4 count, B microglobilin, neopterin, IL-6, soluble iL-6 receptor and endogenous alpha interferon are also being investigated as prognostic variables.

Treatment can be divided into 3 stages. A patient with *Minimum disease* is defined as having less than 25 skin lesion; is treated with interferon therapy if CD4 count is >100 UL. Antiretroviral drugs, antiinfective drugs and tropical agent like liquid nitrogen radiotherapy are al

A patient with *Mod* is defined as havi lesions/edema, but pulmonary disease with *liposomal base anthracyclines* Liposomal Doxor Liposomal Daunoru two drugs us chemotherapeutic VCR, VBL and BLE In patients with *Sev* with pulmonary in Liposomal doxoru Liposomal Daunoru paclitaxel and AB Treatment of P. Ca essential.

Thus, KS is a myriad understood in the futu

RECOMMENDED BREAST CANCER SURVEILLANCE GUIDELINES
by American Society of Clinical Oncology

RECOMMENDED BREAST CANCER SURVEILLANCE

History/Eliciting of Symptoms

Guideline : All women should have a careful history every 3 to 6 months for the first 3 years after primary therapy; then every 6 to 12 months for the next 2 years; then annually.

Level of evidence : III, and Expert Consensus.

Grade of recommendation : B

The history and eliciting of symptoms should include identifying symptoms of a general medical nature particularly ones that may suggest the presence of metastatic disease or long-term toxicity from therapy. Symptoms that should be elicited include general performance status, bone pain, skin rash, results of breast self-examination, changes in the breast, chest pain and dyspnea, abdominal pain, gynecologic symptoms (especially for women on tamoxifen), and weight loss.

Because 60% to 80% of all breast cancer recurrences are detected in the first 3 years after primary therapy, scheduling of surveillance visits should be more frequent during that period of time.

Physical Examination

Guideline : All women should have a careful physical examination every 3 to 6 months for the first 3 years; then every 6 to 12 months for the next 2 years; then annually.

Level of evidence : III, and Expert Consensus

Grade of recommendation : B

A physical examination should include the identification of abnormal physical findings that relate to general health and the identification of physical findings that suggest contralateral breast cancer, recurrence in the ipsilateral intact breast, locoregional, or systemic recurrence of disease.

Careful physical examination will detect the recurrence of disease in asymptomatic patients at routine surveillance visits. Physical examination is a method of detection in approximately 15% of recurrences. Attention should be paid to the locoregional area for breast, chest wall, and lymph node recurrence, and systemic recurrence that may present as pulmonary or neurologic abnormalities, hepatomegaly, or bone tenderness.

Breast Self-Examination

Guideline : It is prudent to recommend that all women perform monthly breast self-examination.

Level of evidence : V, and Expert Consensus

Grade of recommendation : C

The patient should be instructed in the detection of abnormalities in the contralateral and ipsilateral breast. Self-examination should include the careful examination of a breast that has been previously operated on and may have a prosthesis in place.

Breast self-examination, when correctly performed, may be of value in the early detection of primary breast cancer. Although no studies have addressed its effects on stage of presentation of or on the survival after a second primary breast cancer, the Panel deemed it prudent to instruct women regarding breast self-examination.

Mammography

Guideline : It is prudent to recommend that all women with a prior diagnosis of breast cancer have yearly mammographic evaluation. Women treated with breast conserving therapy should have their first posttreatment mammogram 6 months after completion of radiotherapy, then annually or as indicated for surveillance of abnormalities. If stability of mammographic findings is achieved, mammography can be performed yearly thereafter.

Contralateral Breast

Level of evidence : I

Grade of recommendation : A

Ipsilateral Breast

Level of evidence : IV

Grade of recommendation : C

Mammography surveillance should include a two-view mammogram performed by a licensed technician in a nationally accredited institution that is approved to perform breast cancer mammographic screening.

There is a scientific consensus based on evidence from randomized trials that routine-screening mammography reduces the mortality from breast cancer in women who are 50 years of age and older. Although no studies have addressed the stage of presentation and the survival after a second primary breast cancer, the Panel felt it prudent to recommend the routine use of annual-screening mammography of the contralateral and ipsilateral breast in women of any age with a history of breast cancer.

Women who have had breast conservation surgery also are at risk of ipsilateral breast cancer recurrence. Mammography detects ipsilateral breast cancer recurrences when they are smaller with less invasive characteristics than recurrences detected by physical examination. With respect to the contralateral breast, mammography detects tumors at an earlier stage than palpation alone.

Patient Education Regarding Symptoms of Recurrence

Guideline : Because the majority of recurrences occur between scheduled visits, it is prudent to inform women about symptoms of recurrence.

Level of evidence : V, and Expert Consensus

Grade of recommendation : D

Patients should be instructed regarding symptoms that may indicate recurrence of breast cancer. As the skeleton is the commonest site of first recurrence, enduring bone pain or tenderness may represent recurrent disease. Likewise, pulmonary, neurologic, or gastrointestinal symptomatology that is persistent should be reported and evaluated.

Coordination of Care

Guideline : The majority of breast cancer recurrences will have occurred within the first 5 years after primary therapy. Subsequent care of the patient after primary treatment should be coordinated and not duplicated. In addition, continuity of care should be encouraged and conducted by a physician experienced in the surveillance of cancer patients, and in the examination of women with both irradiated and normal contralateral breasts.

Level of evidence : V, and Expert Consensus

Grade of recommendation : D

Initial care of the patient may involve multiple oncologic disciplines. After primary treatment of this breast cancer is completed, follow-up by multiple specialists may not be necessary and may represent duplication of effort.

As the history-taking and physical examination represent the commonest method of discovering recurrence of breast cancer, continuity of care and dialogue between the physician and patient may well enhance and facilitate this method of detection.

Cancer patients should have the right to treatment by an oncologist indefinitely after a cancer diagnosis in accordance with ASCO policy.

Pelvic Examination

Guideline : It is prudent to recommend that all women should have a pelvic examination at regular intervals. Longer intervals may be appropriate for women who have had a total abdominal hysterectomy and oophorectomy.

Level of evidence : III

Grade of recommendation : B

Periodic pelvic examination should include a Pap test and bimanual rectovaginal examination. Physicians should be alert to the increased incidence of endometrial cancer in patients who take adjuvant tamoxifen and specifically should inquire about vaginal discharge or bleeding.

The literature supports the periodic screening of women for cervical cancer with Pap tests. Studies have shown that prolonged tamoxifen administration is related to the diagnosis and/or development of atypical endometrial hyperplasia and endometrial carcinoma. Current data do not appear to support routine annual endometrial biopsies for all women who take tamoxifen. The Panel believed that careful questioning of patients regarding vaginal discharge and bleeding is an essential component of routine history taking at follow-up visits.

BREAST CANCER SURVEILLANCE TESTING-NOT RECOMMENDED

Complete Blood Count

Guideline : The data are insufficient to suggest the routine use of complete blood counts.

Level of evidence : V, and Expert Consensus

Grade of recommendation : D

A complete blood count includes a hemoglobin level, hematocrit, total and differential WBC count, and a platelet count.

Neither retrospective nor prospective studies have addressed the value of a complete blood count as a method of detecting initial recurrence[2-12]. Although bone marrow involvement may be reflected by an abnormal blood count or peripheral smear, the Panel believed that this clinical scenario is too rare to warrant routine surveillance. The Panel also recognized that breast cancer patients who have received combination chemotherapy and radiation therapy are at risk for the development of leukemia; however, they believed that the magnitude of the risk did not warrant routine surveillance.

Automated Chemistry Studies

Guideline : The data are insufficient to suggest the routine use of automated chemistries.

Automated chemistry studies include liver and renal function tests, protein, albumin, and calcium levels.

Level of evidence : I

Grade of recommendation : A

In a retrospective review, automated chemistry studies detected recurrence first in 5.9% of cases (range, 1.2% to 12.0%). In one study of the 6.3% of p who developed liver meta only 1.3% of the total num patients were asymptomati alkaline phosphatase level h been useful in detecting metastases. In one study, 50% of women with metastases also had ele alkaline phosphatase level 30% of women without metastases also had ele levels. In another retrospective review, alk phosphatase was found elevated in 32% of patients bone metastases, but less tha of tests performed routinely a 10-year period were abnor One prospective study foll levels of alkaline phosphata gamma glutamyltranspept Survival was not altered b addition of these tests t intensive surveillance prog

Chest Roentgenography

Guideline : The data is insuff to suggest the routine use of radiographs.

Level of evidence : I

Grade of recommendation

Chest roentgenography inc a posterior/anterior and l view of the chest.

A review of retrospective st of chest roentgenography method of detecting recur of breast cancer noted tha recurrence was detected by means in 2.7% of cases (r 0.0% to 5.1%). In one study patients who developed recu disease, only 17 (19.5%) asymptomatic and only patient who was asympto had an abnormality on a roentgenogram[6]. Chest pulmonary recurrences

significant morbidities and often are rapidly fatal; therefore, better means of detection are warranted. The routine use of chest radiograph is of unproven value and therefore is not recommended.

Bone Scan

Guideline : The data is insufficient to suggest the routine use of bone scans.

Level of evidence : I

Grade of recommendation : A

Bone scanning involves radioisotope evaluation of the entire skeleton.

Postoperative bone scans have been abnormal in 1.5% to 9.0% of patients with stage I and II breast cancer. The false-positive results in one study were 22.0%. The lack of specificity of the bone scan was evaluated using a decision matrix to determine the sensitivity and specificity. Predictive value in patients with stage I and II disease was 11.9%. In other words, only one in nine patients who have abnormal bone scans will be found to have bone metastases.

The use of bone scan surveillance to detect recurrence has been fruitful in asymptomatic patients. In the National Surgical Adjuvant Breast and Bowel Project, only 52 (0.65%) of 7,984 bone scans detected bone metastases in asymptomatic patients. The Ludwig Breast Cancer Study Group noted that the use of a bone scan detected bone metastases as a first site of recurrence in 19 (1.2%) of 1,601 patients with node-positive breast cancer. These investigators did not address what percentage of patients who developed bone metastases were asymptomatic; however, other studies have shown that the majority of patients are symptomatic at diagnosis.

Ultrasound of the Liver

Guideline : The data are insufficient to suggest the routine use of liver ultrasounds.

Level of evidence : I

Grade of recommendation : A

A prospective study that included liver echography in an intensive surveillance program failed to show a survival benefit when compared with minimal surveillance.

Computed Tomography

Guideline : The data is insufficient to suggest the routine use of computed tomography.

Level of evidence : V, and Expert Consensus

Grade of recommendation : D

Computed tomography would include evaluation of the chest, abdomen, and pelvis. No retrospective or prospective studies have addressed the use of computed tomography in the surveillance of breast cancer patients. Less sensitive methods of evaluation, such as chest roentgenography and liver echography, have not been found to be of value. The Panel believed that there were insufficient data to support the routine use of computed tomography for breast cancer surveillance.

Breast Cancer Tumor Marker CA 15-3

Guideline : The routine use of the CA 15-3 tumor marker for breast cancer surveillance is not recommended.

Although an increasing CA-15-3 level can detect recurrence after primary treatment, the clinical benefit is not established; therefore, it cannot be recommended[38].

Breast Cancer Tumor Marker CEA

Guideline : The routine use of the tumor marker carcinoembryonic antigen (CEA) for breast cancer surveillance is not recommended.

Level of evidence : III

Grade of recommendation : Not given.

Definition : CEA belongs to a family of cell-surface glycoproteins with increased expression found in a variety of malignancies, including breast cancer.

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Acknowledgement :

Internet Search by
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SURGICAL ONCOLOGY ? - DEBATE CONTINUES

PROF. H.S. SHUKLA - Ex President - IASO

Excerpts of lecture delivered by Professor HS Shukla, Professor of Surgery (Oncology), Institute of Medical Sciences, Banaras Hindu University, Varanasi India, at the **SSO 51st Annual Cancer Symposium** and **WFSOS 1st World Congress of Surgical Oncology** at San Diego, California on 29 March 1998.

"The future of surgical oncology development : Current status and future vision in third world countries."

Professor J Guimaraes Santos, MD Portugal and Professor Fausto Badellino MD, Italy in the chair.

Dr. Santos, Badellino, ladies and gentlemen, the third world countries have the privilege to house the larger proportion of world population but have acute shortage of health care system including the surgical oncologist. India is a representative of third world country, a developing country. The present status and future vision of surgical oncology in India may be true for all the countries of third world. In India there are approximately 5 surgeons per 100 thousand population. The WHO recommends upto 16 surgeons per 100 thousand population. In this state the contribution of the general surgeon in the care of the cancer patient is very important. The training of the general surgeon in general cancer care is the immediate goal.

India's, as well as of other countries of the third world, 80% population of 950 million people lives in villages. The literacy rate is low. The main health problems are infectious diseases, protein caloric malnutrition, low birth weight and high infant mortality rate. More than 60% patients of cancer present in locally advanced stage of the disease demonstrating the unfulfilled leadership role of the surgical oncologist in treatment of cancer. In this seemingly primitive and hopeless scenario it is heartening to realize that there is a very strong undercurrent for control and expert treatment of cancer.

When we look in the history of surgical oncology training and care in India, we find that Sushruta, in 500 BC, recommended that surgeon who deals with 'arbuda' i.e. cancer, should have received training, watched the procedures from close range, be clean and without addictions.

Modern medicine was established in India in the 18th century. In a period spanning 125 years to 1947, 10 medical colleges were established. Thus in 1947, at the time of Indian independence there were about 10 medical colleges. In the next 50 years, in 1997, the number of the medical colleges has grown to 142. This rapid growth in medical education underlines peoples resolve to provide an efficient and easily available health care system to all. During this period all the specialities of surgery have grown, albeit the surgical oncology has grown less than others have.

Whereas as in 1947 there were cancer hospitals sponsored by philanthropist bodies, the participation of the State and the Universities was not significant. Compassion for the cancer patients caused mutation in many surgeons to take the specialty of surgical oncology. In cancer hospitals the optimisation of cancer treatment was achieved which influenced development of surgical oncology separate from other surgical subspecialities. The process of this crystallization is ongoing. In 1950 leadership in surgical oncology was achieved with publication of epidemiological studies in breast cancer in Parsi women, demonstration of clear association of tobacco and oral cancer and evolution of surgical oncologists in many centers in India. These centers are the torchbearer of surgical oncology development in India today.

Gradually 4 types of surgical oncologist have evolved : (1) General surgeon interested in surgical oncology, (2) Subspecialist of surgical oncology, (3) Superspecialist of surgical oncology and (4) Organ specific surgical oncologist. The training opportunity for the surgical oncologists is as follows :

1. Three-year degree course in surgical oncology for MCh degree after full training and obtaining of MS degree.

2. Six months to 3 years training in a cancer hospital for the general surgeon.

3. Two months to 6 rotation in a surgical o unit in medical colleges general surgeon in train

4. 1- 4 years residency for the general surgeo cancer hospital.

The development of radia medical oncology preda development of s oncology. The radiation medical oncologist, unl surgical oncologist of ye had full time vocat medical or radiation or respectively. However at the demand for the s oncologist has increase market forces are drivin surgeons to take su oncology as full time Surgical oncology has dev in the academic institut part of general surgery kn division of surgical onco as independent departm surgical oncology which fluencing the future develo of surgical oncology.

University participation development of su oncology has ensured a h future progress for su oncology. At present, ho there are only three Pro and about 20 lecturers of cal Oncology. There are te cer institutes and 12 re cancer centers. This n strength has not yet estab the leadership position of cal oncology, only one ou directors of the cancer ins is a surgical oncologist.

MCh course in surgical onc has been developed at pa

similar courses in other subspecialities of surgery e.g. urology, Plastic, Cardiothoracic and Neurosurgery. The basic requirement for admission to MCh in Surgical Oncology is MS in General Surgery. There are approximately 1200 new MS general surgery postgraduates passing out every year. One to 300 hundred vie in a competitive examination for the few seats of surgical oncology training available today. The MCh course takes three years to complete.

A number of cancer hospitals, other hospitals with division or departments of surgical oncology, regional cancer centers, and fast developing private cancer hospitals provide ample opportunities for the employment of the MCh degree holder cancer specialist. Nevertheless the general surgeon continues to hold the major share of cancer treatment. He is doing this as a surgical oncologist. This has led to better cooperation between the general surgeon and the surgical oncologist. This cooperation is very important for the populous third world where demands for other basic health matters are great. The surgical oncologist has to go out in the villages where 80% of the population lives.

In India an evolutionary process has started for the development of surgical oncology. There are three well-recognized factors, which will insure its healthy growth in the future :

1. There is much scope for growth of surgical oncology. National registry for cancer, gene research, primary and secondary preventive strategy and palliative care have not developed yet.

2. The market forces have escalated the value of the surgical oncologist at par with the medical and radiation oncologist. The consumer forum demanding specialist treatment for cancer also affects this phenomenon.

3. Considering the density of population and proportion of cancer cases there will never be enough surgical oncologists to treat cancer. Prospects for the general surgeon trained in surgical oncology with his declared interest in surgical oncology is very good in the third world countries.

The future prospects for the surgical oncology in third world countries appear bright. The developed countries of the Western Hemisphere must continue to support the surgical oncology training ambition of the Third World Countries both individually and institutionally.

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LYMPH NODE MAPPING

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ABSTRACT :

There is a resurgence of interest in lymph node mapping because of attention to sentinel node concept. The availability of surgical gamma probe, that can be used in the operating room to localize radiolabelled sentinel node has made it all the more easier and user friendly. For tumours like melanoma, the conventional surgical management has been altered for intermediate thickness tumours such that lymphnode dissection is carried out only if the sentinel node is tumour positive on histological examination after gamma probe directed excision. This approach is cost effective saving about 80% of the cost and morbidity of unnecessary elective lymphnode dissection. This concept has been used in breast cancer successfully, however, it has not yet been incorporated in management strategy. Lymph node mapping has also been tried in colorectal and ovarian cancers, for staging in lymphomas and in head and neck cancers.

Key words : Lymph node mapping, lymphoscintigraphy, staging, gallium, gamma probe.

INTRODUCTION :

Lymphatic imaging using radiographic contrast and nuclear medicine technique is almost three decade old. However, there is a renewed interest and enthusiasm for **lymphoscintigraphy**. This was primarily caused by i) the recent validation of the sentinel node concept in patients with cutaneous melanoma, ii) the availability of intraoperative gamma probe and positive response from surgeons who have used it and iii) cost effectiveness of rational modifications of conventional surgical management based on lymphatic mapping and sentinel node localization and biopsy [1].

Two prospective randomized trials in past showed no benefit in survival for patients with melanoma having elective node dissection compared to patients managed with observation and therapeutic lymphadenectomy on developing palpable nodes [2,3]. Furthermore, indiscriminate application of elective node dissection to all patients with melanoma leads to dissection in majority who do not have lymph node involvement and are unnecessary operated upon [4]. Lymph node mapping and sentinel node biopsy can identify patients with positive nodes who may benefit from dissection and provides staging information which is useful in determining prognosis, frequency of follow up visits and adjuvant therapy [4].

THE SENTINEL NODE CONCEPT :

The sentinel node is the first node to receive lymphatic drainage from the tumour site and will show tumour if there has been any lymphatic spread, and hence, is the best tissue for histological examination. The concept was initially proposed by Cabanas in 1977 for the management of patients with penile carcinoma [5]. He reported that the lymphatic system of the penis drains to one or a group of lymphnodes the "sentinel lymphnode" which was dominant site of tumour spread from penile carcinoma [6]. Using contrast lymphangiography he found that sentinel lymph node corresponded to lymph nodes associated with superficial epigastric vein in the superficial inguinal area. In his series of 43 penile carcinoma, 31 patients with negative sentinel node who could be followed up had a 5 year survival of 90% [6]. Other authors too found similar sensitivity for sentinel node biopsy for penile carcinoma [7].

At that time no imaging, radiolabelling or intraoperative localization maneuvers were performed. The sentinel node was found by surgical manual exploration of the expected superficial epigastric vein location.

Researches from MD Anderson Cancer Centre reported a review of 20 patients who underwent extended sentinel node dissection for penile squamous cell carcinoma between 1985 and 1994. They observed a 25% false negative rate [8]. Morton et al [9] introduced the application of the sentinel node concept to cutaneous melanoma, using vital blue dye injected in the operating room at the tumour site to delineate the lymphatic drainage pathway and sentinel lymphnode. In their article published in 1992 they reported sentinel node localisation in 194 of 237 stage I melanoma. Meta detected in 40 (21 nodal specimen [10

The credit of validati node concept goes [11]. He demonstrate progression of noda in melanoma which different from o malignancies. By absence of skip node he presented a stron supporting the progression of ly metastasis in melano planting the eviden usefulness of sent concept [11].

INTRAOPER LOCALIZATION SENTINEL NODE :

Earlier authors wo sentinel node in penile used a blind surgical ex to dissect and remove th node. Later authors us blue dye (isosulfan blue intradermally at four primary melanoma. Ski was made 10 to 20 min in regional lymph drain where the sentenal blue nodes were identified. Th was of vital importance sentinel node has to be id before other non sentin has time to turn blue [12

Alex and Krag introduced of technetium 99m sulphur colloid in intradermally around prim followed by imaging, de and localisation of sentin intraoperatively [13,14].

compared this with vital blue and found that both techniques were equally sensitive. They then applied the radiotracer, intraoperative probe methodology using lymphoscintigraphy for localization in 10 patients with malignant melanoma and concluded that it reliably localizes sentinel lymphonode. They also concluded that the procedure is simple and can be performed under local anaesthesia [15].

Over the past decade a vast amount of literature is reported and varieties of radiotracers have been developed. Majority of this work has been carried out in melanoma, breast cancer and in lymphomas. Berman et al in 1992 reported their experience with 135 patients of malignant melanoma of head, neck, shoulder and trunk. They found a discordance rate of 41% between what a surgeon thought would be the draining area and where it actually drained. This was found to be highest for head (64%) and neck(73%) region [15]. They further reported that surgical management had to be changed due to discordance [15] in 33% patients. Same year Morton et al reported that sentinel node was correctly identified in 194/237 (82%) of their patients [10] and it was positive in 21%. They reported that chance of finding a metastatic deposit in nodes other than sentinel node was 1%, the further reported an intra operator variability in identifying lymph nodes which varied from 61-81% initially and 72-96% later [10]. Identification rates also varied from site to site being highest in groin 89% and lowest 78% in axilla [10].

Uren et al (1993) reported on 209 cases of cutaneous melanoma of the trunk. They found the sensitivity rates of lymphoscintigraphy to be 94%, in detecting lymph nodes with metastasis. Most of their patients had lymphatic drainage to 1-2 lymph node group while 10% had drainage to 3 lymph node groups. They did not use gamma probe but marked the channels and nodes preoperatively [16].

TECHNIQUES OF INTRAOPERATIVE LOCALIZATION :

LOCALIZATION USING DYE :

Localization using dye can be carried out by using Isosulfan blue (lymphazurin R) on four sites around the lesion. A total of 3-4ml of dye is injected intradermally. The primary site was raised higher than expected lymph node basin for 5 minutes. Incision is made as for nodal dissection but slightly shorter. As one enters the lymphatic area the blue stained lymphatics are identified and traced to the nodal group it drains. Nodal group is identified and excised [4].

LOCALIZATION USING GAMMA CAMERA [1] :

The procedure begins with injecting 400 iCi ^{99m}Tc sulfur colloid intraderally at four points (0.1ml each) around the primary tumour. This is followed by dynamic imaging at 10 seconds per frame for 10 minutes (128 x 128 matrix) following by static images every 5 minutes (256 x 256 matrix) for 30-40 minutes. Sometimes multiple projections may be required to image all draining bed. The late imaging should be carried out for a maximum of 2 hours and a minimum of 1 hour.

A flood source (cobalt 57, 10 mCi or 370 Mbq) is placed in a way so that patient is between camera and source to obtain transmission images, this technique provide superior imaging and localization. The lymph node is identified and skin is marked for biopsy. The patient is thereafter shifted to theatre.

In the operating room the gamma probe is placed over marked skin surface for 10 seconds to obtain a reading. After the incision is made the probe placed in sterile surgical glove is placed in open wound to localize the lymph node again. Once excision is complete the readings of the excised bed and the specimen are taken to check that correct lymph node has been excised [13].

RADIO PHARMACEUTICALS FOR LYMPHOSCINTIGRAPHY :

The rate of colloid transport and movement through lymphatics is related to particle size of colloid [1]. Usually particles greater than 0.004 or 0.005 im are preferred as smaller particles may penetrate the capillary membranes and may be unavailable to lymphatic channels. However, larger particles (500 im) show a slower rate of clearance through the lymphatics. Lymphoscintigraphy is usually performed using gold 198 and ^{99m}Tc-labelled colloids and albumin agents.

Gold 198 has a half life of 2.7 day and emits a 412 KeV gamma photon and beta particles. This agent have a uniform particle size of 3-5im. The major limitation is that it delivers a high dose of radiation at site of injection and 412 KeV photon is not desirable for imaging [17-18]. Because of this after availability of TC^{99m} its sulfer colloid became the most popular agent.

The initial radiopharmaceutical developed for lymphoscintigraphy was ^{99m}Tc antimony trisulphide colloid. The particle size of this depends on the size of antimony trisulphide colloid and it does not change after tacking with Tc^{99m}, and it ranges from 0.003-0.03µm. This compound was never approved by USFDA for routine use. Other Tc containing colloid is Tc^{99m} nanocolloid. This is a labelled human albumin colloid. 95% of this colloid have particle size less than 0.08 µm.

For clinical use in lymphoscintigraphy the currently available agents are Tc^{99m} human serum albumin and Tc^{99m} sulpher colloid. Human albumin Tc^{99m} has a good flow however, have poor retention in lymphnodes, due to this the gamma probe directed dissection may miss sentinel node. On the other hand for preparation of ^{99m}Tc sulpher colloid sodium thiosulphate is used as source of sulpher with variety of stabilizing agents. The particle size range differently with different stabilizing agents. At present there is only one manufacturer of sulpher colloid in USA (CIS-US, Bedford, MA).

SUMMARY AND CONCLUSIONS :

Universal and indiscriminate application of elective nodal dissection to all patients have the problem, that many of these will not have metastatic deposits in lymphnode and will be unnecessarily operated upon. This led scientist to search for a method which can 1) identify patients with histologically positive node, who may benefit from lymphnode dissections and 2) to obtain staging information which may be used to determine prognosis, frequency of follow-up visits and advisability of adjuvant treatment.

With the development of small

hand held gamma probe and developments in field of Nuclear Medicine revised the interest of the scientists in sentinel node. With the use of newer labelling agents and hand held probe it is now possible to identify and excise the sentinel node. A procedure which can be carried out as an out patient procedure and help the surgeons to choose patients for elective lymph node dissections cost effectively. This has already been included in the standard management protocol of surgical management of cutaneous melanomas and is under experimentation in Breast, ovary, colorectal cancer and lymphoma. The pilot studies have shown good results with correct identification of sentinel node in 85-100% patients. So far the technique is used only in couple of hundred patients however the experience and interest is growing day by day. The day is not far when radio lymphoscintigraphy will become the part of management strategy for all cancers with preponderance to lymphatic spread.

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KHAJURAHO NATCON'98

INDIAN ASSOCIATION OF SURGICAL ONCOLOGY

NATIONAL CONFERENCE 1998 (NATCON - IASO'98) KHAJURAHO, JHANSI

Friday 30th, Saturday 31st, October'98 & Sunday 1st, November'98

SCIENTIFIC PROGRAMME

Friday, the 30th December 1998		
Registration		Time : 08.00 am onwards
Invited Lectures		Time : 09.30 am - 10.45 am
Chairpersons : RC Arora; Jhansi / **RP Kala**; Jhansi		
Non-endocrine Pancreatic tumours	25 mins	**MC Misra**; New Delhi
Primary Tumours of liver in children	25 mins	**SN Kureel**; Lucknow
GI Malignancies in transplant recipients	20 mins	**Ajay Sharma**; Chandigarh
COFFEE		Time : 10.45 am - 11.00 am
Session I : Symposium : Carcinoma Oesophagus		Time : 11.00 am - 1.00 pm
Convenor : L Sarangi, Varanasi		
Invited Comments : PB Desai; Mumbai / **IMS Narula**; Udaipur		
Epidemiology, Surgical Pathology and Prognostic Factors	10 mins	**Gyanendra Mohan**; Varanasi
Pre-treatment Evaluation and Staging	10 mins	**A Bhatnagar**; Varanasi
Operable Oesophageal Ca - Rationale of Transthoracic Approach	15 mins	**S Sharma**; Mumbai
Operable Oesophageal Ca - Rationale of Transhiatal Approach	15 mins	**GK Pandey**; New Delhi
Radiotherapy in Esophageal Ca - Effect on Dysphagia & Survival	15 mins	**NR Dutta**; Lucknow
Multi-disciplinary Therapy	15 mins	**Kiran Kothari**; Ahmedabad
Current Palliative Modalities	15 mins	**PJ Haldar**; Mumbai
Discussion	20 mins	
LUNCH		Time : 1.00 pm - 2.00 pm
Free Papers - I		Time : 02.00 - 03.00 pm
Chairpersons : P Subhas, Pune/**Anurag Srivastava**, Delhi		
Sentinel Node Biopsy in Carcinoma Breast .	7 mins	**K Kumar, Sanjeev Jha, SP Sahoo, Mohan Kumar, HS Shukla**; Varanasi
Neo-adjuvant Chemotherapy (NACT) as Part of Multimodality Treatment for Locally Advanced Breast Cancer (LABC) : An Indian Perspective	7 mins	**O Coshic, A Srivastava, Parshad, A Kumar, V Seenu, PK Julka, MC Misra**; New Delhi
Serum Carcinoembryonic Antigen (CEA) Levels in Patients with Carcinoma Breast	7 mins	**JC Dhall, S Marwaha, Mohinder Garg**; Rohtak
Intraoperative Diagnosis of Breast Lesions by Imprint Cytology	7 mins	**S Marwah, Rohit Sharma, Rajinder Sharma**; Rohtak
Ex-vivo and In-vitro Dimensional Proton Nuclear Magnetic Resonance (IHNMR) Spectroscopic Studies in Normal Breast and Cacinoma Breast	7 mins	**Mohit Goel, Raja Roy, MM Goel, S Kumar**; Lucknow
Early Breast Cancer : A Reason for Hope	7 mins	**B Fathome, S Rajan, VP Singh**; Mumbai
Endoformalintherapy for Gill rad proctitis	7 mins	**SVS Deo, NK Shukla, BK Mohanti, GK Rath**; New Delhi.
Adrenal Insufficiency in Cancer Patients.	7 mins	**SM Bose, Rajesh Gupta, GR Reddy, G Singh, R Dash, S Suri**; Chandigarh.

COFFEE		Time : 03.00 pm - 03.15 pm
Session II : Symposium : Hepatobiliary Cancer		Time : 03.15 pm - 05.15 pm
Convenor : P Jagannath; Mumbai		
Surgical Anatomy of Biliary Tract	15 mins	**P Jagannath**; Mumbai
Imaging in Biliary Cancers	15 mins	**Vipur Parikh**; Mumbai
Surgery of Hilar Cholangio Carcinoma	15 mins	**H Ramesh**; Cochin
Role of Endoscopy in Management of Cholangio Carcinoma	15 mins	**Amit Maydeo**
Non Surgical management in Biliary Cancer	15 mins	**V Someshwar**; Mumbai
Advances in Management of Cholangio - Carcinoma	15 mins	**P Jagannath**; Mumbai
Discussion	30 mins	
INAUGURATION / DINNER		Time : 06.30 pm
Saturday, the 31st October 1998		
Session III : Symposium : Colorectal Cancer		Time : 08.30 - 10.30 am
Convenor : Ravi Kant, New Delhi.		
Introduction :	2 mins	**Ravi Kant**, New Delhi
Aetiology of Colorectal Cancer	10 mins	**VP Singh**, AMC; Mumbai
Diet & Colorectal Cancer	10 mins	**T Gunasagran**; Chennai
Photo Dynamic Therapy	10 mins	**Bina Ravi**; New Delhi
Role of Surgery	10 mins	**AK Khanna**; Varanasi
Sphincter Saving Surgery	10 mins	**Kiran Kothari**; Ahmedabad
Is there a Role for Radiotherapy?	10 mins	**PN Agarwal**; New Delhi
Is there a Role for Chemotherapy?	10 mins	**R Karwasara**; Rohtak
Practical Guidelines	10 mins	**P Jagannath**; Mumbai
Invited Comments	04 mins	**V K Kapoor**, Lucknow
Discussion	20 mins	
COFFEE		Time : 10.30 am - 10.45 am
Invited Lecture		Time : 10.45 am - 11.15 pm
Chairpersons : RG Sharma;Udaipur/**SK Misra**; Lucknow		
Molecular Genetics of Colorectal Cancer	30 mins	**AN Srivastava**; Lucknow
IASO Moti Bhai Patel Oration		Time : 11.15 am - 12.00 noon
Chairpersons : SP Kharey; Mumbai		
Salivary Gland Tumours	40 mins	**SK Shukla**; Indore
Invited Lecture		Time : 12.00 noon - 12.45 pm
Chairpersons : CK Gupta, Agra		
Endocrine Pancreatic Tumours	40 mins	**Jonas Rastad**; Uppsala University
LUNCH		Time : 12.45 pm - 02.00 pm
Free Papers-II		Time : 02.00 pm - 03.00 pm
Chairpersons : T Gunasagran; Chennai/ **Bina Ravi**; Delhi		
Cystectomy for Urinary Bladder - Our Experience of 17 cases	7 mins	**Vivek Agarwal, Sundeep Jain**; New Delhi
Distal Stomach Ca Alongwith Small Bowel Neoplasm :- A Review of 20 cases	7 mins	**Rajib Majumdar**; Faridabad
Testicular Tumours - 13 years Experience	7 mins	**Manmoy Ganguly**; Pune
Recurrence of Spindle Cell Sarcoma Between Flap Bases - Implantation or Seeding? - Case Report of a Unique Instance	7 mins	**M Koshy Cherian, I Ahmad, Manoj Pande** Trivandrum
Acute Abdominal Emergencies in Patients Receiving Chemotherapy	7 mins	**Manoj Pandey, A Mathew, Geetha, MK Na** Trivandrum
Spectrum of Malignancy in Jaipur Region	7 mins	**RG Sharma, P Chaturvedi, M Rajan, S Agarwal, N Rawat**; Jaipur

A Locally advanced breast cancer - A retrospective study	7 mins	**Satyajeet Verma, Amrat Kumar Singh, SK Kohli, Naveen Jain, SP Yadav, Bijendra Singh**; Jhansi
REIKI	10 mins	**AV Singh**, Kanpur
COFFEE		Time : 03.30 pm - 03.15 pm
Session IV : Symposium : Laparoscopic Intervention in GI Malignancies		Time : 03.15 pm - 04.45 pm
Convenor : Rajiv Sinha, Jhansi		
Introduction	10 mins	**Rajiv Sinha**; Jhansi
Endoscopic Intervention as Palliative Cure in GI Malignancies	30 mins	**B Krishna Rau**; Chennai
Role of Laproscopy in GI Malignancies and Mystery of **"Malignant Port-deposits"**	30 mins	**Pradeep Chowbey**; New Delhi
Status of Lap Intervention in Gastric and Colorectal Cancers	10 mins	**Rajiv Sinha**; Jhansi
Discussion	20 mins	
Invited Lecture		Time 04.45 - 5.15 pm
Chairpersons : Arunabha Sen Gupta; Calcutta **Jacob Kurien**; Manipal		
Radio-guided Surgery	30 mins	**Sanjay Saha**; Ohio, USA
Free Papers - III		Time : 05.15 pm - 6.15 pm
Chairpersons : VB Bhatnagar; Meerut **Vinod Malik**; New Delhi		
A case of Once-Hernia	7 mins	**BKC Mohan Prasad**; Madurai
DNA flow-cytometry in carcinoma : Breast : Clinical correlation and biological significance of ploidy and S. Phase Fraction	7 mins	**Rajesh Gupta, SM Bose, Prashant Gondane, Shoba Sehgal**; Chandigarh
Evaluation of Fibronectin in patients of breast cancer	7 mins	**SM Bose, Rajesh Gupta, G Singh, Mohsin K Mathana, NK Ganguly**; PGI Chandigarh
Experience of breast conservation therapy	7 mins	**SM Bose, Alok Mazumdar, SC Sharma**; PGI, Chandigarh
Comparative study of Diagnostic Value of F.N.A.B.C. in soft tissue tumours with or without sonological aids.	7 mins	**Arun K Chaubey, Alok Ahuja, Upma Gupta, SK Khanduri**; Dehradun
Surgical Management of Functioning Adrenal tumours	7 mins	**Mukta Baxi**; Lucknow
Lateral approach for completion : Thyroidectomy for differentiated thyroid cancer	7 mins	**SK Mishra, A Agarwal, G Agarwal, A Mishra**; Lucknow
Mustard oil, an etiolgical factor in CaGB	7 mins	**Puneet Shukla, Kamal Sahni**; Kanpur
CULTURAL EVENING, DINNER		Time : 08.30 pm
Sunday, the 1st November 1998		
Free Papers - IV		Time 08.00 - 09.00 am
Chairpersons : SN Kureel; Lucknow **N Sharma**; Jhansi		
Paragangliomas in Pediatric Age Group	7 mins	**V Bhatnagar, S Agarwal, R Lal, MK Singh, AK Gupta, DK Mitra**; New Delhi
Management of Pancreatoblastomas in Children	7 mins	**S Agarwala, V Bharnagar, DK Mitra**; New Delhi
Results of Cisplatinum based Regime in Treatment of Paediatric Germ Cell Tumours	7 mins	**S Agarwala, V Bharnagar, M Bajpai, DK Gupta, DK Mitra**; New Delhi
Somatic & Renal Growth & Renal Functions in Survivors of Children with Wilms Tumours	7 mins	**S Agarwala, M Srinivas, AK Gupta, AK Padhy, M Bajpai, V Bhatnagar, DK Gupta, DK Mitra**; New Delhi
Pattern of Surgical Malignancies and their management in Rural Hospital of Central India	7 mins	**BC Bakane, D Sharma, SR Johrapurkar**; Wardha

Primary Primitive Neuroectodermal Tumour of Kidney	7 mins	**B Ravi, M Andley, P Chibber, S Mohan** New Delhi
Aggressive Biological Behaviour of Parathyroid Tumor in India : Does vitamin deficiency play a role	7 mins	**Gaurav Agarwal**; Lucknow
Surgical Treatment of Invasive thymomas in myasthenics	7 mins	**Rajeev Agarwal**: New Delhi
Invited Lectures		Time : 09.00am - 10.30 am
Chairpersons : NC Misra, Lucknow; **M Pandey**; Trivandrum		
The Paramount Role of Surgical Oncology in Providing Effective Cancer Care	30 mins	**LE Hughes**; Cardiff
Perceptions on Surgical Oncology - 2000 & beyond	30 mins	**PB Desai**; Mumbai
Present Status and Future Vision of Surgical Oncology in India	30 mins	**HS Shukla**; Varanasi
Free Papers : V		Time 10.30 am - 11.30 am
Chairpersons : ID Sharma, D Pratap; Jhansi		
Role of Medroxyprogesetron Acetate (MPA) in Cancer Cachexia	7 mins	**RK Karwasra, V Yadav**; Rohtak
Bilateral Synchronous Male Breast Cancer	7 mins	**NA Wani, A Rashid, A Shafie, MA Kam G Ali**; Srinagar
Post Radio Therapy Radical Neck Dissection - Our Experience	7 mins	**RK Karwasra, V Malik, JC Dhall**; Rohta
Diagnostic Value of Bone Marrow Examination in Distant Metastasis of Carcinoma Breast	7 mins	**D Gupta, R Narang, RK Batra, SM Sha** Wardha
Breast Malignancy - A 10 Year Retrospective Study	7 mins	**R Narang, D Gupta, RK Batra**; Wardha
Transhiatal Esophagectomy (THE) Vs Trans Thoracic Oesophagectomy (TTE) for Carcinoma Esophagus	7 mins	**Ashok Kumar, S Ahmed, SS Sikora, R Sa VK Kapoor**; Lucknow
Comparative Value of Different Methods of Investigation in Differentiation Between Benign Prostatic Hypertrophy And Carcinoma	7 mins	**Ashok Kumar Singh**; Mahoba
Carcinoma Recto Sigmoid Experience from Tertiary Teaching Hospital	7 mins	**Mahendra Narwaria, A Kumar, SS Sikor R Saxena, VK Kapoor**: Lucknow
Valedictory Function		Time 11.30 am - 12.30 pm

PHOTODYNAMIC THERAPY OF COLORECTAL CANCER

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Colorectal cancer is one of the most common internal malignancies in Western countries. It exhibits some difficult therapeutic problems. Primary treatment is surgical excision. Adjuvant modalitites have been studied extensively in recent years because the natural history of disease dictates a high incidence of recurrent disease[1]. Local recurrence in colorectal cancer is frequently a most devastating problem in terms of symptoms that are difficult to treat. The symptoms of pain, obstruction and bleeding related to local recurrences have stimulated many investigators to examine novel methods of palliation, particularly in surgery and radiation failed patients.

PDT - Photodynamic therapy is a way of producing localised tissue damage with light, that is different from thermal damage as produced with Nd-YAG laser, after the prior administration of a photosensitiser. Necrosis is produced in tissues containing adequate concentrations of sensitiser and molecular oxygen, upon exposure to light at an appropriate wavelength and dose by the sensitised generation of the highly cytotoxic singlet oxygen species[2].

PHOTOSENSITISER AND LIGHT

The photosensitiser in PDT and its efficiency depends on 1) its ability to be concentrated by the tissue, 2) the penetration of light in the tissue, 3) the quantum yield of generation of the triplet state of the photosensitiser, 4) the presence of oxygen in the surrounding tissue, 5) the quantum yield of generation of singlet oxygen and 6) the intracellular localisation of the photosensitiser. The penetration of light into the tissue depends on the wavelength of light and the nature of the tissue. The red lights (wavelength 630 nm.) penetrates all tissues to a greater depth than violet light (wavelength 410 nm.).

Photosensitisers that are mainly used are hematoporphyrin derivatives (HpD), a mixture of different porphyrins, and dihematoporphyrin ether (DHE), a purified form of Hp marketed as Photofrin II, AIS_2Pc (disulphonated aluminium Phthalocyanine), 5-ALA (amino-laevulinic acid), m-THPC (mesotetra hydroxyphenyle chlorin), Rhodamine.

THE BEGINNING AND THERE AFTER.....

The initial interest in PDT was based on detection and treatment of colo-rectal cancers by Gregorie et al. in 1968[3]. He treated five rectal adenocarcinomas (and other malignant tumors) which selectively retained HpD and when irradiated with light could be easily distinguished from adjacent normal tissue by their selective fluorescence. It was not until 1982, Klingstein and May[4] performed experimental study on DMH induced rat colon cancers and showed the fluorescence and used it for recognising dysplastic colonic mucosa on colonoscopy in patients of ulcerative colitis.

Subsequently it was found that the tumor to normal tissue ratio of sensitiser should be high i.e. (4:1-8.1) after 72 hrs of Hp injection[5,6], in addition it was seen that CIS contained significantly more HpD than adjacent normal colon. Attempts were made to improve the concentration of sensitiser in experimental cancers by incorporating liposomes, but it was not a success.

Studies have shown that most important parameters are 1) delivered light energy, 2) the administrated dose of sensitiser, 3) time from administration of the sensitiser to light exposure. The area of PDT damage increases as the threshold total photodynamic dose is given.

Total photodynamic dose = Tissue conc. of photosensitiser X light energy.

ADVANTAGES OF PDT

1) If full thickness necrosis is produced there is no risk of perforation as PDT does not damage the collagen which gives mechanical strength[7].

2) PDT lesions heal with much less scarring and with judicious manipulation of treatment parameters.

3) Truly selective necrosis is possible in small tumours.

Taking all these factors into consideration, PDT is likely to be most useful for treating small tumors (single or multiple) where it is important to ensure that adjacent normal areas maintain their functional and mechanical integrity at all stages of healing. Suitable lesions might include-

a) Small tumors of rectum and colon in which it is important to ensure that tumor penetrating the muscle wall is treated.

b) Small anastomotic recurrences.

c) Field change conditions such as dysplasia and carcinoma in situ and in chronic ulcerative colitis.

While (a) and (b), where tumor can be located endoscopically would best be treated with standard dose of sensitiser while (c) would be more appropriate for low dose, where true selectivity is essential.

d) In addition, PDT might have a useful supplement to other methods if it can be used to eliminate small residual areas of tumors left after the main bulk has been removed by other means e.g. it may be possible to eliminate micrometastases in the pelvic cavity after surgery of rectal cancer, or, to treat the base of a polypoid tumor that has been debulked endoscopically with Nd-YAG Laser.

EXPERIMENTAL PDT

In early experimental studies Barr (1987)[7], compared colonic injury due to thermal laser and PDT in normal colon, and was of opinion that the collagen in the submucosa serves as a protective layer, which is preserved in PDT, but not in thermal laser therapy.

Subsequently, a number of experimental studies by Bedwell (1992)[8] who used 5-ALA in rat colonic tumour model showed promising results with PDT. Abulafi (1997)[9] used m-THPC and photofrin in mouse model of local recurrence of colorectal cancer and found, both sensitisers to be equally effective but treatment time with m-THPC was far less (25 sec.) as compared with photofrin (11 min.).

CLINICAL PDT

There have been sporadic reports of PDT for Palliative treatment of Colorectal carcinoma. Spinelli and associates[10] treated 3 patients with advanced colorectal cancer and demonstrated a 40% to 60% reduction in tumor bulk. Herrera and colleagues[11], Douglas and co-workers[12] have also treated similar patients with variable success.

Barr (1990)[13] et al treated 10 patients of colorectal cancer, unsuitable for surgery with endoscopic PDT using HpD. They concluded that it is good for small tumors which were recurrence free at the end of 28 months. Similar results have been reported by Patrice (1990)[14]. Allerdice (1994)[15] demonstrated that intraoperative adjuvant PDT may be effective in reducing the recurrences in five patients. Regula (1995)[16] in a pilot study of human colon cancer had used 5 ALA in eight patients and was of the opinion that only superficial mucosal necrosis was seen after PDT.

VILLOUS ADENOMAS

Loh and Bown (1994)[17] after endoscopic thermal Laser ablation of Villous adenomas of colon and rectum found a high recurrence rate due to incomplete tumor ablation as over treatment carries a risk of perforation. PDT in this group has shown to be promising in the treatment of small malignant tumors and benign adenomas. Eight patients have been treated with PDT using photofrin in this study. One was a recurrent, while rest 7 were eradicated (Follow up 56 mths) as judged by Endoscopy and biopsies. PDT holds promise in non surgical management of these tumors after initial debulking with Nd-YAG laser.

CONCLUSIONS :

Although surgery will remain the treatment of choice for colorectal cancers for many years to come, for cases at the end of spectrum where surgery is not feasible or considered to carry a high risk, laser therapy or PDT still has a role.

Photodynamic therapy is an evolving method of laser therapy with potential for endoscopic, intraoperative treatment of colorectal cancers. At present most studies are experimental, although clinical trials with new sensitisers have also been reported, still its precise place has yet to be decided. The most interesting findings has been the biological advantages of PDT in sparing colonic collagen, compared with thermal methods and the possibility of true selective destruction of recurrent tumors, early dysplasias and CIS. The early clinical trials have shown PDT to be a safe and potentially important technique for destruction of colorectal cancers. Still there are many problems with the photo sensitiser drugs, the light delivery systems and indeed our understanding of the basic biology involved.

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AHMEDABAD PROGRAMME ASICON'98

INDIAN ASSOCIATION OF SURGICAL ONCOLOGY

58th Annual Conference, 28th - 30st DECEMBER'98,

SECTIONAL PROGRAMME

Monday, the 28th December 1998

Session I : Lymph Node Mapping — Time 11.30 am - 01.30 p.m.

Convenor : Ravi Kant, New Delhi

Introduction : IMMUNOSCINTIGRAPHY	10 mins.	**Ravi Kant**; New Delhi
Recent advances in lymph node mapping	15 mins	**Ravi Kannan**; Chennai
Advantages of lymph node mapping	15 mins	**Sanjeev Misra**; Lucknow
Disadvantages of lymph node mapping	15 mins	**Manoj Pandey**; Thiruvananthapuram
How I do it?	15 mins	**HS Shukla**; Varanasi
Technique of lymph node mapping	15 mins	**S Bal**; New Delhi
Summary & Practical Guidelines	10 mins	**Vinod Malik**; New Delhi

Lunch — Time 01.30 pm - 02.30 pm

Session - II : Head and Neck Cancer — Time 02.30 pm - 03.30 pm

Chairpersons : Ashok Mehta; Mumbai/
Jayesh R Shah; Surat

An experience of 1500 cases of oral cancers epidemiology, treatment modalities and prognosis	12 mins	**TK Sarparajan**, BKC Mohan Prasad; Madurai
Hemi-mandibulectomy in rural India	12 mins	**SR Krishnamurty**; Coimbatore
Skull base tumor resection : Methods of approach	12 mins	**Hemen Jaju**, IT Jackson; Southfield, Michigan
Skull base tumour resection : Reconstruction and prevention of complications	12 mins	**Hemen Jaju**, IT Jackson; Southfield, Michigan
Tumours of parapharyngeal space - Preoperative evaluation, diagnosis and surgical approach	12 mins	**RK Karwasra**, V Malik, N Agarwal Rohtak

Session - III : KK Radha Devi Oration — Time 03.30 pm - 04.15 pm

Chairperson : SP Kharey; Mumbai

In search of molecular markers in carcinoma gall bladder	45 mins	**HS Shukla**; Varanasi

Executive Committee Meeting — Time 04.15 pm - 05.00 pm

Tuesday, the 29th December 1998		
Session IV : Gastro Intestinal and Colorectal Tumour		Time 11.15 pm - 12.15 pm
Chairpersons : RI Dave; Ahmedabad/ **BS Srinath**; Bangalore		
Sphincter preservation by combined modality treatment of squamous cell carcinomas of anal cancers	12 mins	**Manmoy Ganguly**; Pune
Emergency surgery for obstructing colorectal cancer	12 mins	**KK Maudar**, Maj Manjeet Gill; P
Sphincter preservation in anal carcinomas	12 mins	**VP Singh**, S Sambandam, MP Jaiprakash, S Mukherjee, HG Mukhopadhyay; Mumbai
Liver metastasis : Palliation with ultrasound guided absolute alchohol injection	12 mins	**Rahul Chandola**, Kundan Kumar Manoj Chaudhary, OP Sharma, HS Varanasi
Management of carcinoma of the gall bladder	12 mins	**P Subhas**; 155 Base Hospital
Session V : Special Lecture - I		Time 12.15 pm - 01.00 pm
Chairpersons : Kiran Kothari, Kaustubh Patel; Ahmedabad		
Nutritional status and intervention in cancer patients	40 mins	**Gurpreet Singh**; Chandigarh
Lunch		Time 01.00 pm - 02.00 pm
Session VI : Special Lecture - II and III		Time 12.15 pm - 03.20 pm
Chairpersons : DD Patel; Ahmedabad/ **Garima Mehta**; Udaipur		
Controversies in thyroid cancer	40 mins	**KD Varma**; Lucknow
Cancer Vaccines	40 mins	**Manoj Pandey**; Thiruvananthapura
Session VII : Special Lecture - IV and V		Time 03.20 pm - 04.40 pm
Chairpersons : JB Venkat Raju; Hyderabad/ **PM Trivedi**; Baroda		
Locally advanced breast cancer; a distinct entity	40 mins	**SM Bose**; Chandigarh
	40 mins	**Rushad T Udwadia**; Mumbai
General Body Meeting		Time 04.40 pm - 05.30 pm
Wednesday, the 30th December 1998		
Session VIII : Miscellaneous		Time 09.00 am - 10.00 am
Chairpersons : Anand Kumar; Varanasi/ **P Subhas**; AMC		
Four quardrant flap biopsy in carcinoma breast	12 mins	**Kundan Kumar**; S Jha, M Kumar, H Varanasi
Quality of life in cancer patients	12 mins	**Gurpreet Singh**, S Singh, A Awasthi, NM Gupta; Chandigarh
Spectrum of malignancy in Jaipur region	12 mins	**Raj Govind Sharma**, P Chaturvedi, S Agarwal, N Rawat; Jaipur
Unusual renal metastasis - Report of 2 cases	12 mins	**Rajeev Sharma**, P Lal, MS Sekhon; Chandigarh
Prostatic aspiration cytology using lumbar puncture needle	12 mins	**Pawanindra Lal**, A Gupta, VR Minoo New Delhi
Session IX : Special Lecture - VI		Time 10.00 am - 11.30 am
Chairpersons : T Gunasagran; Chennai/ **NK Keswani**; Allahabad		
Staging in Cancer	30 mins	**Shikha Gupta**; New Delhi

INDISCRIMINATE USE OF PESTICIDES IN INDIA A GRAVE THREAT

Sujata Kumar
Norwalk - CT (USA)

In India, the consumption of pesticides is expected to go up from 80,000 tonnes to 100,000 tonnes between 1990-95 due to increase in the area under cultivation from 90 to 100 million hectares. Rice and cotton production alone account for two-thirds of pesticides used in agriculture.

Today, pests damage farm produce worth roughly Rs. 6,000 crores a year, ranging between 10 and 20 per cent of what is produced.

However, the manner in which farmers, most of them illiterate, use pesticides is very different from the West. Few precautions are taken in applying the right doses and not exposing oneself to sprays. For example, when there is aerial spraying of crops, farmers and their families are unknowingly exposed to those hazardous chemicals.

The problem of course, is that pesticides are toxic and can trigger reactions which the manufactures do not always foresee or admit. Indeed, one of the original inspirations of the environmental movement in the West was the publication in 1962 of Dr. Rachel Carson's Silent Spring which showed how pesticides had entered the food chain of birds in the U.S. made by Dupont, have been responsible for babies being born without eyballs.

Attempts by developing countries to achieve self sufficiency in food have led to the increasing importance of insecticides-both, formulations and bulk. However, despite clear classifications made by the World Health Organisation (WHO) against the use of dangerous chemicals as pesticides, it is increasingly true that products which are banned or severely restricted in the developed countries are being exported to the third world countries.

The WHO has graded most of the pesticides used by Indian farmers as hazardous. However, in most developing countries, the major obstacle in going for an alternative for hazardous pesticides is the cost factor. It is estimated that the switching over from Malathion, a WHO Class II insecticide, to a more environment-friendly organic pesticide would lead to a cost escalation of as much as 60 times!

One of the most controversial, and yet most widely used chemical in Indian is DDT. Studies have shown that Indians have probably the highest concentrations of DDT in their bodies.

According to a nation-wide survey conducted by Indian Council of Medical Research (ICMR), surveyors found that as much as 87 per cent of the milk samples collected from 12 states contained residues of pesticides such as benzenehexachloride (BHC) and DDT.

A scientist of the IARI, when contacted, disclosed that contrary to the popular misconception that DDT and HCH are not all that harmful to the body in minute doses, these chemicals can in fact wreak havoc on the human constitution even in minute doses. A very small quantity of DDT, for instance, is enough to bring about vast changes in the human body including inhibition of an essential enzyme in the heart muscle and necrosis or disintegration of liver cells.

Women with the highest **exposure to the pesticide DDT had four times the breast cancer risk of women with the least exposure.**

Until a few years ago municipalities and civic agencies used to regularly spray large areas of the city with chemicals to control the mosquito population. But last September a deputy health officer who was charged with malaria control for the Municipal Corporation of Delhi, acknowledged to reporters that pesticides sprayed by the MCD were not helping to control the mosquitoes.

In fact, the most common malaria mosquito in the city's rural areas, Anopheles culicifacies, has shown its resistance to the three most popular insecticides in use; DDT (diphenyl diethyl trichloro-ethane), BHC (benzene hexa-chloride) and malathion. According to statistics provided by the National Malaria Eradication Programme, this mosquito has shown resistance to DDT in 286 of 476 districts nation-wide (at the time of the study). In 230 districts it has shown resistance to DDT and BHC, and in 71 it resisted the effects of DDT, BHC and malathion.

According to the WHO estimates, approximately 7500,000 people are taken ill every year world-wide with pesticide poisoning and upto 14,000 of these die in agony. Although the Third World uses one-sixth of the total pesticides production, atleast 375,000 people are poisoned yearly, 10,000 of them fatally. The use of highly hazardous pesticides had been banned in advanced countries, but multinational companies promote the sale of such chemicals in the developing countries.

"CANCER BURDEN OF KASHMIR"

Dr. Nisar Ahmad

Department of Surgery, Govt. Medical College Srinagar.

INTRODUCTION :

Cancer accounts for one quarter of all death in developed countries and it has become a major public health hazard in developing countries India being no exception to it. In developed and developing countries the age adjusted mortality of men and women aged 35-69 years is dominated by cardio-vascular disease and cancer[1, 2] : The link between economic development and higher rates of cancer and cardiovascular disease in the population in mediated by the acquisition of certain life style characteristics which suggest that the changes in the disease pattern are preventable. Cancer is humanity's scourage that no longer writes a death warrant-if you know what to eat.

PROBLEM :

The Indian council of Medical Research has estimated the annual incidence of cancer in India as 700,000 by the year 2000[3]. The crude cancer incidence rate in India has been estimated as 66/100,000 population and crude death rate due to cancer as 38/100,000 population[4]. The estimated population of J&K State by the turn of century (2000) is about 9571188. The crude incidence of career in J&K State is estimated at 6699 by 2000 and the crude mortality due to cancer (as per national standards) as 3637.

Kashmir is isolated from rest of India geographically. It has a different climatic and physical environment, different social and dietetary habits. The cancer pattern in Kashmir is absolutely different from rest of India. While cancer of stomach and oesophagus is most common cancer in both sexes in Kashmir. The cancer of oral cavity, pharynx is common in males and cancer of cervix-uteri and breast is common in females in rest of India. The incidence of cancer of breast in Kashmir is 1/2 to 1/3 of that rest of India[6]. Cancer of cervix uteri is very rare in Kashmir although in most of states of India it is the commonest female cancer. The cancer of digestive tract is the most common cancer in Kashmir (70.3% in males and 64.6% in females). In last 10 years (1985-1994) upper G.I. endoscopies have been performed on 10361 patients with complaints of dyspepsia and other related conditions. During the above period 1120 cases of cancer of stomach and about 818 cases of cancer of oesophagus have been diagnosed. It is pertinent to mention here that out of every 4 cases of dyspepsia investigated by Upper G.I. Endoscopy one proved to be a case of gastrooesophageal cancer.

The above facts and figures shows that some factors dietetary and enviornmental may be responsible for higher incidence of gastrointestinal cancer in Kashmir. Many factors like smoked fish, salted foods, pickles and Kashmir tea (noon-chia) have been incriminated as etiological factors but nothing has been proved beyond doubt. It needs population based and case controlled studies, screening programmes and indepth research.

With an expected cancer load of 6699 cases by the year 2000, there are hardly any facilities available to tackle the grave situation. 70% of cancer patients need surgery as the primary modality of treatment but in the whole of Jammu and Kashmir state there is no surgical oncology department in any of the teaching or non-teaching hospitals. It has been estimated that the life expectancy is 33% more when surgery is performed by trained Surgeon Oncologist then by a general surgeon. It is pertinent to mention here that there are separate cancer hospitals or surgical oncology departments functioning in almost all major cities and states of India except in J&K state. To name a few Tata Memorial Hospital Bombay, Kidwai Memorial Institute Hyderabad, Rajiv Gandhi Cancer Hospital at New Delhi, OSWAL CANCER INSTITUTE, Punjab, There are a few beds available in SK Institute of Medical Sciences Srinagar for medical and radiation oncology which are also insufficient but not department of surgical encology exists in the prestigious institute. Most of the cancer patients of our state have to go to Bombay and Madras for treatment where they have to spent large sums of money others who can-not afford are left to perish. Although trained and experienced available here in J&K for non-availability of

REMEDY :

To save the suffering people from this disease which inflicts psychological and socia to the patients and his n dears and which causes life of a earning mer family, the following m are suggested :

1) Establishment of a cancer hospital for diagnosis, treatment rehabilitation at Srinag Jammu respectively.

2) For the time being a department of On (cancer) consisting of s medical and radiation on units carved out of e trained staff working Government Medical Co Health Services at Srinag Jammu respectively.

3) Health education reg dietetary habits e.g. consumption of pickles, s fish, Kashmiri tea and sn of cigarettes and Hoka.

4) Establishment of scre programmes for vulnerabl risk population rega oesophageal and gastric which forms 65.3% of load in Kashmir.

5) Establishment of c registers at all major citi Jammu and Kashmir Sta Srinagar, Jammu, Udhar Anantnag and Baramulla.

TABLE -I
(NATIONAL FIGURES)

Crude Cancer incidence in India	Crude Cancer Mortality in India	Annual incidence of cancer pat. in India by 2000
66/ 100,000	38/100,000	70,0000

TABLE-II

Estimated annual incidence of cancer in Jammu and Kashmir by 2000 as per national average	Estimated crude cancer mortality in J&K by 2000	Annual incidence of cancer in Kashmir
6699	3637	3480

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NEWS FROM THE WORLD

Complied by : **Dr. Bina Ravi,**
Lady Harding Medical College, New Delhi.

Conservative treatment for breast cancer with a central localization : tumorectomy with resection of the areolar plaque

O. Multon, D. Bourgeois, P. Validire et al. Presse Med 1997; 26 : 988-94

Objectives : In breast cancer, retroareolar tumors are observed in 5 to 20% of cases; mastectomy is the conventional treatment. Conservative surgery was used in this series of 36 patients with retroareolar cancer situated less than 2 cm from the areola.

Patients and methods : Tumorectomy with resection of the areolar plaque was followed by radiotherapy. Six patients had Paget's disease of the nipple, 64% were in stage T0 or T1 and 36% in T2. Chemotherapy or radiotherapy was given for tumor reduction prior to surgery in 8 patients. Wide tumorectomy with resection of the areolar plaque and breast remodelling was performed in all patients. Three plastic surgery techniques were used. Mean tumor size was 17.3 mm (8 to 33 mm). The areola was invaded in 16 patients (44%) and the dermis or retroareolar ducts in 26 (72%).

Results : The mean distance between the tumor and skin surface was 3.8 mm. All patients had either pre-operative (n=4) or post-operative (n=32) radiotherapy. Secondary reconstruction of the nipple was performed in 14 patients.

Conclusion : Histology findings and aesthetic results suggested that this conservative approach can be proposed when the tumor is located close to the areola, as confirmed by our series and results from other teams using the same technique.

Alan A Meicher, Ignacio Garcia-Ribas, richard G Vile. "Gene therapy for cancer-managing expectations"; BMJ; Volume 315, December 1997; pages 1604-1607.

The authors from the Royal Postgraduate Medical School, Hammersmith Hospital, London, suggest that as yet gene therapy has no fulfilled its early promises in the field of cancer therapy. There has yet been no dramatic clinical successes despite the new molecular technology which can be used to target tumour cells in a variety of ways. The replacement of tumour suppressor genes which are usually lost in the malignant cells or inactivation of the oncogene is one of the primary aims of gene therapy.

When the patient present with cancer, the option in the treatment is the choice between the radical treatments and palliation. But with current delivery systems, the gene therapy is not able to clear large scale disease and is not likely to become a definitive radical treatment the authors feel.

Gene therpay will probably be most effective as adjuvant radical treatment through the "bystander killing effect" and by those mediated by the immune system. The immunomodulatory gene therapy can eradicate the disseminated metastases which are still similar antigenically to the primary tumour and do not yet exert an inhibitory immunosuppressive effect.

The very fact gene therapy has fewer side effects than conventional treatments, it may prove as effective as a palliative treatment or as a radical combination treatment with radiotherapy or chemotherapy. Palliative gene therapy probably has a role in specific clinical problems like disseminated disease which is resistant to chemotherapy like melanoma or renal cell carcinoma.

The authors in conclusion feel that gene therapy should not be abandoned prematurely and further trials targeted towards current treatment strategies should still allow it to prove its worth.

Stephen J Russell. "Gene therapy" : BMJ ; Volume 315, November 1997; pages 1289-1292.

Stephen J Russell looks at the current status of genetherapy research in this article and also discusses the key problems that must be overcome to realise the enormous potential of gene therapy to treat not only single gene disorders but also arthritis, cancer, hypertension, atherosclerosis, diabetes and asthma.

The author says that the two main approaches in therapy-in vivo gene the in which genes are deli directly to target cells i body, and ex vivo gene the in which target cells genetically modified ou the body and then reimpla The key technologies invo in genetherapy are the met by which cellular genes c be isolated (clon manipulated (engineered) transferred into human c The efficient transfer expression of therapeutic g in human cells is accomplis by inserting them into vect The author elaborates that function of the vector is protect the therapeutic ge and to transport them saf into the nuclei of the tar cells, where they can finally expressed to produce therapeutic protein. T vectors can be viral synthetic.

The author says that at the st of 1997, more than 21 patients have received ge therapy. The diseases mo often treated are cancer (68% AIDS (18%) and cystic fibros (8%). The treatment of seve combined immune deficienc secondary to adenosin deaminase deficiency b reinfusing geneticall corrected autologous T cells i a child which led to a full an sustained recovery was the hig point of genetic therap according to the author.

The author concludes that the scope for clinical benefit from gene therapy is enormous. The limitation at present from the poor performance of currently available vector systems will

change in the future. He says that it is inevitable that with adequate resources, useful gene therapy products will be available in the not too distant future.

Bill O'Nelli, Marie Fallon. "Principles of palliative care and pain control"; BMJ; Volume 315, September 1997; pages 801-804

In this clinical review article, the authors ouline the principles of palliative care and pain control in cancer. The WHO definition of palliative care is "the active total care of patients not responsive to curative treatment...the goal of palliative care is achievement of the best quality of life for patients and their families.

The article traces back the development of modern palliative care to Dame Cecily Saunders starting the St. Christopher's Hospice in London in 1967. The essential components of palliative care are symptom control, effective communication, rehabilitation, continuity of care, terminal care, support in bereavement, education and research. The role of specialists in this field is also discussed.

Managing pain is a major component of Palliative care and so the authors dwell in length on this topic. The WHO's three step ladder to use analgesic drugs starting with aspirin or paracetamol for mild pain, codeine and dextropropoxyphene for moderate pain and morphine for severe pain is explained. The opioid alternatives to morphine and alternative routes of administration is also discussed.

The authors outline the common adjuvant analgesics for cancer pain and will be addressing the issue of problems in difficult pain in the next article in the series.

Mark W kline, Russell B Van Dyke, Jane C Lindsey, Margaret Gwynne, Mary Culnane, Ross E McKinney Jr, Sharon Nichols, Wendy G Mitchell, Ram Yogev, Nancy Hutcheon, The AIDS Clinical Trials Group 240 Team. "a randomised comparative trial of Stavudine (d4T) versus Zidovudine (ZDV/AZT) in children with human immunodeficiency virus infection"; Pediatrics, Volume 101, 1998; pages 214-220.

The authors of this study from Houston, Texas, aimed to compare the safety and the tolerance of Stavudine (D4T) and Zidovudine (ZDV/AZT) in HIV positive children between 3 months and 6 years of age.

The initial part of the study was designed to a double-blind one in which 212 virus infected children who had not received not more than six weeks of previous antiretroviral therapy. These were randomised to receive either d4T (1m/Kg orally to a maximum of 40mg/Kg every 12 hours) or ZDV (180mg/sqm to a maximum of 200mg, orally every six hours). After a median followup period of 6.3 months, the study was unblinded and the study closure was done after a further followup of 17.3 months.

The study population had a baseline CD4+ lymphocyte count of 965 cells/mcl. It was seen that the neutropenia occurred significantly more among the ZDV recipients than among those receiving d4T. The d4T group also showed consistently greater positive changes from baseline in weight for age and gender Z scores.

But, as expected the CD4 counts reduced in both the treatment groups but smaller changes from the baseline were noted among d4T recipients. The authors thus conclude that among this study population, both drugs compare equally in terms of safety and tolerance. However, with d4T, the neutropenia was less and the weight gain and absolute CD4 counts were better maintained.

Charles R M Bangham, Rodney E Philips. "What is required of an HIV vaccine ; The lancet; Volume 350, 1997; pages 1617-1621.

This is a study from the Department of Immunology, Imperial College School of Medicine, St. Mary's Hospital, London, UK. The authors in this article aim to answer three major questions, viz, the nature of the immune response required to contain the infection, how this response fails and the how the vaccine can enhance the protective immunity in order to exceed the efficacy of this natural response.

The authors then go on to discuss the obstacles to the development of an ideal vaccine. They suggest the immune invasion is the mechanism by which the virus maintains the high virus load that leads to AIDS ultimately, with the race between the immune system and the organism detemining the severity of the infection. The virus is also known to evade both the immune system and anti-viral drugs by a combination of rapid replication and mutation.

The article then discusses the evidence for the immune system controlling HIV replication and the role of the cytotoxic T lymphocytes. The authors suggest that the immunity required to prevent uptake of a viral infection is likely to differ from the immune response needed to clear the virus already replicating in the host. The variations which have been detected throughout the genome proves to be the major obstacle for development of the vaccine.

The authors then debate as to what is the ideal response and ideal HIV-1 vaccine should elicit and what appear to be the alternatives to a live attenuated vaccine. In conclusion the authors feel that the absolute protection against HIV may prove to be difficult technically. They suggest that the combined use of the potent antiretroviral therapy can set the scene for the more favourable effects of passive methods of immune enhancement.

Zahoor Ahmed, Zahoor Mohyuddin. "Complications associated with different insertion techniques for Hickman's catheters"; Postgraduate Medical Journal; Volume 74, 1998; pages 104-107

The delivery of care to the cancer patients has become easier since the introduction of indwelling central venous catheters which are dependable central venous access modalities. The authors from the United Arab Emirates report that these are often complicated by accompanying pancytopenia of the haematological malignancies. The authors of this study aim to evaluate the effects of two different placements of the Hickman's Catheters.

117 Hickman's catheters were inserted into patients who were suffering from haematological malignancies. The first technique of insertion was tried in 112 patients where the catheters were placed percutaneously into the subclavian veins without prior tunnelling. The other 65 patients had the catheters introduced by previous tunnelling into the cephalic/ external jugular veins by using the cut down technique. The catheter remained in situ from 18 to 253 days.

When both the groups were compared, it was found that the tunnelling technique resulted in a greater incidence of excessive bleeding and haematoma formation, which resulted in more infective complications. The cut down group also had higher rates of catheter exit site infection, tunnel infection and septicaemia as compared to the non-tunnelling group. The authors felt that the method of insertion of the catheter had a great role to play as far as the early and late complications were concerned.

They thus concluded that the insertion technique required minimal dissection. The non-tunnelling technique of insertion of the Hickman's catheter is then more beneficial for the patient.

Arthur L Klatsky, Mary Anne Armstrong and Gary D Friedman. "Red Wine, White wine, Liquor, Beer, and risk for coronary artery disease hospitalization"; The American Journal of Cardiology; Volume 80, 1997; pages 416-420

Many case-control and populations studies have shown that lighter alcohol drinkers have a lower risk of coronary artery disease (CAD) compared with abstainers. It has also been suggested that wine may be more protective than beer or liquor. Researchers from Oakland, Californnia performed a prospective study to try to resolve the issue of the role of alcoholic beverage choice in coronary risk.

The researchers studied 128,934 adult members of a prepaid comprehensive health care program for coronary disease hospitalisations. The alcohol date was supplied at health examinations. They used the Cos proportional hazard models with nine covariates to analyse the roles of each major beverage type (wine, beer and liquor) and of drinking only table wine (red, white or both).

The results showed that generally the coronary risk traits were most favourable for wine drinkers and least favourable for liquor drinkers. It was seen that among 3,931 persons hospitalised for CAD, the total alcohol drinkers was related to risk in both sexes. The adjusted analyses, when controlled for total alcohol intake, only beer use in men remained significantly inversely related.

The researchers say that their major conclusions from this study was that all types of alcoholic beverages probably protect against CAD and that additional protection by specific beverages is minor. They also say that although beer and wine drinking carried somewhat more favourable CAD risks in the study population, red wine was not apparently more protective than other wine types.

S Bellentani, g Saccoccio, G Costa, C Tiribelli, F Manenti, M Sodde, L Saveria Croce', F Sasso, Pozzato, g Cristianini, G Brandi and the Dionysos study Group. "Drinking habits as cofactors of risk for alcohol induced liver damage"; GUT; Volume 41; 1997; pages 845-850.

This is a study from Italy and the authors reports a part of the Dionysos Study which was done to explore the prevalence of chronic liver disease in the entire adult population. This part of the study explores the relationships between daily amount of alcohol ingested by the participants in the Dionysos study, the type of alcoholic beverage, drinking pattern and the development of cirrhosis or non-cirrhotic chronic liver damage (NCLD) and hepatocellular carcinoma (HCC)

The study included 6534 subjects who did not have virus related chronic liver diseas
The authors recorded
complete medical history ar
physical examination alon
with blood tests, evaluated th
alcohol intake by an illustrate
dietary questionnaire.

On conducting the multivaria
analysis, the authors found tha
the risk threshold for th
development of either cirrhos
or NCLD was the consumptio
of more than 30g of alcoh
per day in both the sexes.
was found that 21% of th
population was at risk. 5.5% o
the at risk population showe
evidence of liver damage. 2.2%
of the at risk population showe
pure alcoholic cirrhosis with
male to female ratio of 9:
NCLD was seen in 3.3% of th
at risk population. It was also
seen that the cumulative risk
was definitely higher in those
individuals who drank alcoho
both with and without food than
for those who drank only a
mealtimes.

The authors thus report a cut
off value of 30g ethanol/day as
the risk threshold with the risk
increasing with a daily intake.
Drinking outside mealtimes
and taking multiple beverages
also increases the risk.

Thomas Ng. "Erythrocyte sedimentation rate, plasma viscosity and C-reactive protein in clinical practice"; British Journal of Hospital Medicine; Volume 58, number 10, 1997; pages 521-523.

Close observation of the pattern
of change of Erythrocyte
Sedimentation Rate (ESR),
plasma viscosity (PV) and C-
reactive protein (CRP) is useful
in disease management.
Although none of them are

diagnostic, these inflammatory indicators are being widely used in clinical practice. This review paper looks at the various characteristics and limitations of each indicator.

ESR, says the author, has been in use for 76 years. He says the routine use of ESR to screen asymptomatic patients is not recommended due to its low "pick up" rate and as its value is affected by multiple factors. The author says that PV is a better parameter for monitoring disease activity as it is much less influenced by physical and technical variables than ESR. PV is said to be particularly useful in evaluating cardiovascular morbidity, assessing paraproteinaemia and monitoring the treatment of hyperviscosity syndrome.

CRP has been especially beneficial in detecting and monitoring the treatment of infection in neonates, the elderly immunosuppressed and leukemic patients. In the diagnosis of temporal arteritis, no current studies show that PV or CRP is superior to ESR, according to the author.

The simplicity to perform and low cost make ESR still attractive to laboratories with limited resources. The introduction of automated ESR instruments has made this test more "user friendly". The author says that each test can increase its clinical benefit by its appropriate use. He also says that replacing ESR with PV or CRP in routine assessment and management of disease remains polemic.

Charlotted M Proby, Catherine A Harwood. "Role of human papillomaviruses in warts and cancer"; Hospital Medicine; Volume 59, number 1, January 1998; pages 33-366.

This is a review article from St. Bartholomew's and the Royal London School of Medicine and Dentistry, London and the authors present this review as to how the human papilloma virus (HPV) is responsible for the development of warts and cancer. The article begins with the description of this small double stranded DNA virus and the HPV genome.

The authors then go on to discuss the lifecycles of the organism, classification, detection and its links with the differentiation of the keratinocyte. The polymerase chain reaction has been able, to unmask a number of sequences which the authors feel may represent various types of the HPV genome.

The anogenital carcinomas are caused by HPV 16 and 18 as opposed to types 6 and 11 which although found in the genital mucosa rarely cause malignancy. The authors then describe the viral oncoprotein and the tumour suppressor protein interactions. Along with this the role of p^{53} and p^{Rb} are discussed. The condition called epidermodysplasia verruciformis, which is a genetic condition and its relationship to HPV is discussed. This EV-HPV is said to act only as co-carcinogens with UV light.

To close the discussion on the HPV and its role in the development of various anogenital cancers, the authors conclude that with the development of specific probes for the new cutaneous HPVs, the possibility to detect specific skin cancer associated HPVs still exists.

L C Verhoog, CTM Brekelmans, C Seynaeve, LMC van den Bosch, G Dahmen, A N Van Geel, MMA Tilanus-Linthorst, CCM Bartels, A Wagner, A ven den Ouweland, P Devilee, E J Meijers-Heijboer, J G M Klijn. "Survival and tumour characteristics of breast-cancer patients with germline mutations of BRCA1"; The Lancet;; Volume 351, January 1998; pages 316-321.

It is now known that hereditary breast cancer is associated with mutations in the BRCA1 and BRCA2 genes and the natural history is different from sporadic breast cancer. Researchers from Netherlands have investigated the disease free and overall survival for patients with a proven BRCA 1 alteration.

49 Dutch patients from 19 consecutive families with a proven speivif BRCA 1 mutation were compared with 196 patients with sporadic breast cancer for the clinical outcome as well as the various other data related to the tumour.

The researchers found that disease free survival for BRCA 1 and sporadic patients at 5 yeas was 49% and 51% and over all survival at 5 years was 63% and 69% respectively. They also found that the recurrence and death rates did not differ significantly between the groups. It was found that the BRCA 1 associated patients had twice as many progesterone receptor negative tumours and development of contralateral breast cancer was four to five times as frequent as in the sporadic group patients.

The researchers conclude that their findings that diseases free and overall survival were similar for sporadic and hereditary breast cancer inspite of different tumour characteristics could have implications on the screening and management of hereditary breast cancer.

Anders Ekbom, Goran Lundegardh, Joseph K McLaughlin, Olof Nyren. "Relation of vagotomy to subsequent risk of lung cancer : population based cohort study" ; BMJ; Volume 316, February 1998; pages 518-519.

Smoking according to the authors enhances the risk of peptic ulcer disease. The authors from the Department of Medical Epidemiology, Karolinska Institute, Stockholm, Sweden, analysed as to what extent such a relief from both surgical (vagotomy) and pharmacologial methods would affect the subsequent risk of lung cancer in patients, when compared in patients who did not have surgical treatment.

The authors included 67, 812 patients who were admitted to hospital for peptic ulcer disease but who did not undergo vagotomy. This was between 1965 and 1983. They were also able to identify 7198 patients between 1971 and 1979 who had undergone vagotomy. They also identified all new cases of lung cancer in both the cohorts until the end of 1989.

They found that the ratio of observed to expected cases upto the end of follow up was 2.20 with an increase in the ratio from 1.86 to 2.52. In the patient group that did not undergo vagotomy, the ratio of observed to expected cases was 1.56 with a reduction after the first five years.

The above finding suggests that the group which had not had vagotomy might have reduced their level of smoking as a result of persistent symptoms and antismoking counselling. The other group had an increased incidence of lung cancer since their group had an increased incidence of lung cancer since their level of smoking was higher after the surgery.

The authors thus stress on the importance of control of smoking in the treatment protocol for peptic ulcer disease so as to reduce in the incidence of lung cancer.

C P Barham, R L Jones, L R Biddlestone, R H Hardwick, N A Shepherd, H Barr. "Photothermal laser ablation of Barrett's oesophagus : endoscopic and histological evidence of squamous reepithelialisation"; GUT; Volume 41, 1997; pages 281-284.

The authors from the Gloucester Gastroenterology group, Gloucestor Royal and Cranfield University Institute of Medical Sciences report Barrett's oesophagus in approximaely 10-20% of columnar lined oesophagus (CLO) endoscopies done for reflux disease.

The aim of this study was to try to destroy CLO by thermal ablation (in a setting of acid suppression) and induce squamous regeneration. 12 males and 4 females of median age of 63 years had a histologically confirmed > 3cm of dysplastic CLO. All the patients had been on a proton pump inhibitor.

Under intravenous sedation, the non-circumferential patches of glandular epithelium were ablated using multiple point burns of the KTP laser. Patients were started on 40mg omeprazole daily for acid suppression. The authors took multiple biopsy specimens for histological examination from the ablated areas.

The authors found that the ablation of all areas of glandular mucosa resulted in squamous regeneration, but the number of treatments depended on the length of the Barrett's segment. Nine patients showed squamous metaplasia within the Barrett's glands while in eleven patients there was evidence of squamous regeneration over the remaining Barrett's glands.

The thus conclude that the photoablation of Barrett's oesophagus may be an appropriate strategy for treating patients with dysplasia and even early adenocarcinoma who are not suitable for a major oesophageal surgery.

JE Dominguez-Munoz, a Leodolter, T Sauerbruch, P Malfertheiner. "A citric acid solution is an optimal test drink in the 13C-UBT for the diagnosis of Helicobacter pylori infection"; GUT; Volume 40, 1997; pages 459-462.

The 13 C urea breath (13C-UBT) is the noninvasive and simple test that reflects the hydrolysis of 13C labelled urea by H. Pylori urease. However the duration of the test, timing of breath sampling, and the accuracy of the method vary according to the test meal used.

The authors from the Department of Gastroenterology, University of Magdeburg, Germany aimed to identify the optimal test meal or drink for the rapid and accurate performance of the 13C-UBT for the detection of H. pylori infection. Using the rapid urease test, histological examination and culture, the authors identified 48 out of 80 patients with dyspeptic symptoms to be H.pylori positive.

The authors performed a 13C-UBT test after an overnight fast, on three consecutive days. They offered a different test meal on each day. The three choices were 0.1 N citric acid solution, a standard semi-liquid meal or a semiliquid fatty meal, and this was given ten minutes before giving 75 mg 13 C urea. Breath samples were collected at 0, 15, 30 45 and 60 minutes and analysed. Results were expressed as delta and considered as positive for H pylori if the highest delta value was greater than 4.0.

The authors found that the delta values obtained with the citric acid drink in the H. pylori subjects was significantly higher than that obtained with any of the semiliquid meals. It was also obtained earlier with the citric acid drink. The sensitivity of the 13 C UBT test with all the three options was 96-100%, but the highest sensitivity was obtained at 15 minutes with the citric acid drink, 45 minutes by taking the semiliquid fatty meal and at 60 minutes by giving the semiliquid standard meal. Citric acid was palatable and inexpensive to patients.

The authors thus conclude that the citric acid test drink in the 13C-UBT is practical and accurate for detecting H pylori infection.

I J Beckingham, J E J Krige, P C Bornman, J Terblanche. "Endoscopic management of pancreatic pseudocysts"; British Journal of surgery; Volume 84, 1997; pages 1638-1645.

Doctors from South Africa have reviewed the role of endoscopic drainage in the management of pancreatic pseudocysts.

All the articles and case reports quoted on Medline have been reviewed. The authors say that most of the series have combined the results of transpapillary (endoscopic cystgastrostomy-ECG and endoscopic cystoduodenostomy - ECD). Hence, they say, that evaluating each technique separately is difficult. They have reviewed the technical success, complications and recurrence rate associated with endoscopic drainage.

The results of their study showed that endoscopic drainage is technically feasible in around 50% of the pancreatic pseudocysts associated with

chronic pancreatitis. The drainage was successful in 82-89% of the patients. The major complication noticed was bleeding which required surgery in 5% of the procedures. The recurrence rates seen were between 6 to 18% in a 4 year followup period. It was also seen that as in open surgery, the recurrence was highest with drainage via the stomach.

The authors conclude that endoscopic drainage provides a minimally invasive approach to pseudocyst management and its success and recurrence rates are similar to those of open surgery but with lower morbidity and mortality. They also say that it should be the treatment of choice for pseudocysts less than one cm thick which bulge into the stomach or duodenum or those which communicate with the main pancreatic duct.

Federico Bozzetti, Ettore Marubini, Giuliano Bonfanti, Rosalba Miceli, Chiara Piano, Nadia Crose, and Leandro Gennari. The Italian Gastrointestinal Tumour Study Group. "Total versus subtotal gastrectomy. Surgical morbidity and mortality rates in a multicenter italian randomised trial" ; annals of Surgery; Volume 226, Number 5, 1997; pages 613-620.

This is a study from Milan, Italy, where the authors aimed to analyse postoperative morbidity and mortality of patients undergoing total or subtotal gastrectomy for gastric cancer. The study was conducted as a randomised trial including a total of 624 patients.

The patients had cancer in the distal half of the stomach and were randomised to undergo subtotal gastrectomy (320 patients) or total gastrectomy (304 patients), both associated with a second level assess the oncologic outcome after the two procedures. The major outcomes defined by the authors was the occurence of a postoperative event, complication or death and length of postoperative stay.

Death and nonfatal complications occured in both the procedures. These were seen in 1% and 9% of the subtotal gastrectomy patients and 2% and 13% of the total gastrectomy patients respectively. Splenectomy and resection of adjacent organs was associated with increased incidence of complications. The length of hospital stay was extended with extension of surgery and random procedure (13.8) days for subtotal and 15.4 days for total gastrectomy).

Thus the authors conclude that both the above mentioned procedures with second level lymphadenectomy have similar rates of mortality and to estimate the oncologic impact of surgery on long term survival in future studies.

Andrew M Lowy, Jeffrey E Lee, Peter W T Pisters, B Scott Davidosn, Claudia J Fenoglio, Pam Stanford, Rashida Jinnath, Douglas B Evans. "Prospective, randomised trial of octreotide to prevent pancreatic fistula after pancreaticoduodenectomy for malignant disease"; Annals of Surgery; Volume 226, number 3, 1997; pages 632-641.

This study comes from the Department of Surgical Oncology, University of Texas M.D. Anderson Cancer Center, Houston Texas. The authors aimed to determine whether the perioperative administrationn of octreotide reduces the incidence of pancreatic anastomotic leak after pancreaticoduodenectomy for malignancy.

The authors conducted a single-institution, prospective, randomised trial between 1991 and 1995 in which they included 120 patients. These were randomised to receive octreotide as a dose of 1500mcg subcutaneously every eight hours through postoperative day five, or were given no treatment after pancreaticoduodenectomy. The authors standardised the pancreaticojejunal anastomosis by creating the duct to mucosa or invagination technique.

The authors found that in the octreotide group, clinically significant pancreatic leak was seen in 12% of the patients and only in 6% of the control. Perioperative morbidity in the respective groups was 30 and 25%. It was found that patients was had received preoperative chemoradiation had a reduced incidence of pancreatic anastomotic leak. However, reoperation also showed an increased incidence of risk, thus suggesting that evidence of tumour resectibility is provided by radiographic methods.

The authors thus concluded that the administration of perioperative octreotide had no effect on the incidence of pancreatic anastomotic leak after pancreaticoduodenectomy was conducted for the purpose of malignancy management.

M I van Berge Henegouwen, The M van gulik, K M A Akkermans, J B M J Jansen, D J Gouma. "The effect of octreotide on gastric emptying at a dosage used to prevent complications after pancreatic surgery : a randomised, placebo controlled study in volunteers"; GUT; Volume 41, 1997; pages 758-762.

It is said that 30% of the patients undergoing pancreatico duodenectomy develop delayed gastric many centres to prevent complications after pancreatic surgery. A study was carried out in Netherlands to assess the effect of octreotide on gastric emptying in healthy volunteers.

A double blind, placebo controlled study was carried out in eight healthy male volunteers. The researchers gave 100 mcg of octreotide or placebo subcutaneously three times daily on Day 1. The gastric emptying, postprandial cholecystokinin (CCK) release and mouth to caecum transit time (MCTT) were measured on Day 2 after the fouth injection. This protocol was repeated after one week in a Crossover design. The gastric emptying measurements were performed with applied potential tomography. From the gastric emptying curves, lag time, 150 and post lag emptying rate were measured.

The results, reported by the authors showed that the lag time decreased from 29.6 to 12.2 minutes during octreotide treatment. MCTT increased

from 150 to 229 minutes. Postprandial CCK release was suppressed after Octreotide treatment. The delay in MCTT may be due to impairment of small bowel transit suggest the authors.

The study concludes that octreotide administration at the clinical dosage for pancreatic surgery accelerates gastric emptying mainly by shortening the lag time. The suppression of post prandial CCK release may be involved in this process say the authors. They feel that Octreotide may prevent the complication of delayed postoperative gastric emptying after pancreato-duodenectomy.

G C O'Sullivan, J K Collins, J Kelly, J Morgan, M Madden, F Shanathan. "Micrometastases: marker of metastatic potential or evidence of residual disease"; GUT; Volume 40, 1997; pages 512-515.

This is study from the Departments of Surgery and Medicine, National University of Ireland, Cork, Ireland. The authors suggest that micrometastases within the bone marrow probably indicate a poor prognosis in patients with epithelial tumours. However, whether micrometastases represent true residual disease or cell shedding or metastatic potential is not clear.

The author of this study aimed to determine whether the micrometastases represent residual disease. The study population consisted of carefully staged patients before or after (>6 months) curative resection of a primary gastrointestinal cancer. Bone marrow was taken and studied prospectively.

72 consecutive patients were studied with only those showing overt metastases being excluded. The micrometastatic cells were quantified per 10 raised to 5 marrow cells by flow cytometry after staining for concomitant cytokeratin-18 positive cells.

The authors found that micrometastases were detected preoperatively in 22% of all the patients. Of these, 23% were of colorectal cancer and 33% were of gastric adenocarcinoma and none belonged to the oesophageal cancer group. Fewer metastatic cells were detected in the postoperative group, with clearance being evident, but the persistence of micrometastases without recurrence was seen in 5/16 patients after resection. This the authors feel could represent residual disease.

The authors suggest that the presence of micrometastases in the postoperative period probably represents the development of overt metastases during the subsequent 12-18 months of follow up as compared to the patients who did not have micrometastases.

The authors thus conclude that the preoperative detection of micrometastases suggests either transient shedding of cells, metastatic potential or residual disease but the postoperative detection of micrometastases has the ominous label of residual disease. The importance of identification of these deposits is stressed upon since these patients do benefit from adjuvant therapy.

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