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**ANNUAL REPORT ON
THE ACTIVITIES OF THE REGIONAL CANCER CENTRE
TRIVANDRUM**

(From September 1981 To March 1982)

REGIONAL CANCER CENTRE
Medical College Campus,
Trivandrum-695 011, Kerala.

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PART I

Introduction

The establishment of the Regional Cancer Centre, Trivandrum forms an integral part of the National programme for cancer control, of the Government of India. According to this programme which is included in the Sixth Plan, the Central Government desires to establish six regional Centres for Cancer Research and Treatment apart from the three Centres that already exist in Bombay, Calcutta and Madras. The places for the establishment of the Regional Centres are so chosen that they will ultimately be responsible for Cancer control, research and treatment in that area (Government of India letter No. T. 20012/5/79/R dated October 1980). Government of India have further stipulated that these centres should be autonomous (letter No. T. 20012/5/79-R dated 31 Jan 1981), and should be governed by a Governing Body consisting of Government of India representatives and State Government representatives.

On the basis of the above Government of India letters, Kerala Government decided to set up a Regional Cancer Centre Society as per G. O. (MS) No. 217/81/HD (Health 'J' Department) dated 27 July 1981 and to hand over the existing buildings and equipment of the Cancer Institute, Medical College, Trivandrum to this Society for further development of the same as a Regional Cancer Centre. The Society was registered as per T. C. Literary, Scientific and Charitable Societies Registration Act XII of 1955 as ordered in the G. O. dated 27th July 1981 (Register No. 567/81.)

In the first Governing Body meeting held on 8th January 1982, it was decided that the funds for the Society will be granted by the Government of India at a rate of Rs. 20 lakhs per annum and by the State Government at a rate of Rs. 30 lakhs per annum to start with. Accordingly, Government of India have already sanctioned Rs. 20 lakhs towards this project (Government of India letter No. G. 20011/27/81-R (I) dated 10 Feb 1982).

The Technical Director of the Regional Cancer Centre has prepared a development programme for the Regional Cancer Centre covering the period 1982-83.

The development programme as envisaged in the Technical Report consists mainly of three components :-

- i. Construction of an additional building as the existing premises are totally inadequate for future development.
- ii. Purchase of more sophisticated equipment for treatment, research and early detection; and
- iii. Appointment of additional staff for Cancer Research, diagnosis and treatment.

PART II

(a) List of Governing Body Members :-

1. Minister of Health, Kerala State	—	Chairman
2. Secretary, Department of Health Kerala State	—	Vice-Chairman
3. Secretary, Department of Finance, Kerala State	—	Member
4. Secretary, Department of Planning, Kerala State	—	Member
5. Joint Secretary (Financial Adviser) Ministry of Health & Family Welfare, Government of India	—	Member
6. Joint Secretary, Ministry of Health & Family Welfare, Government of India	—	Member
7. Additional Director-General (Medical) Directorate-General of Health Services, Government of India	—	Member
8. Principal, Medical College, Trivandrum	—	Member
9. Senior-most Pathologist in the Medical College Service of the Kerala Government	—	Member
10. The Technical Director, Regional Cancer Centre, Trivandrum	—	Convener

(b) List of Executive Committee Members :

1. Secretary, Department of Health, Govt. of Kerala	—	Chairman
2. Secretary, Department of Finance, Govt. of Kerala	—	Member
3. Secretary, Department of Planning, Government of Kerala	—	Member
4. Principal, Medical College, Trivandrum	—	Member
5. Technical Director, Regional Cancer Centre, Trivandrum.	—	Convener

(c) List of Scientific Committee Members :

1. Dr. C. V. Korah, Principal, Medical College, Trivandrum	Chairman
2. Dr. S. Krishnamoorthy, Scientific Director Cancer Institute, Adayar	} Alternate Chairman
3. Dr. D.J. Jussawalla, Professor of oncology, Tata Memorial Hospital, Parel, Bombay	
4. Dr. (Mrs) Usha K. Luthra, Senior Deputy Director General, ICMR, New Delhi 29	
5. Dr. V. Shanta, Director & Scientific Director, Cancer Institute, Madras 20	
6. Dr. G. P. Talwar, Director, National Institute of Immunology, All India Institute of Medical Sciences, New Delhi 29	
7. Dr. M. Balaraman Nair, Principal, Medical College, Calicut-8.	
8. Dr. D. B. Bisht, Addl. Director General of Health Service (M) Nirman Bhavan, New Delhi	
9. Dr. S. Santhakumari, Director & Professor of Pharmacology, Medical College, Trivandrum	
10. Dr. K. V. Krishna Das, Director & Professor of Medicine, Medical College, Trivandrum	-do-
11. Dr. M. Krishna Bhargava, Director, Kidwai Memorial Institute of Oncology, Hosur Road Bangalore 29	-do-
12. Dr. M. Krishnan Nair, Technical Director, Regional Cancer Centre, Trivandrum-11	-do-

13. Dr. R. S. Mani, Head, Radiopharmaceuticals Sec. BARC, Trombay, Bombay 400 085 -do-
14. Dr. M. S. Valiathan, Director, Sree Chitra Tirunal Institute of Medical Sciences & Technology, Trivandrum-11 -do-
15. Dr. D. M. Vasudevan, Head, Research Division, Regional Cancer Centre, Trivandrum-11 } Conveners
16. Dr. T. K. Padmanabhan, Professor of Radiotherapy, Medical College, Trivandrum-11 }

PART III

Activities

(a) Hospital Statistics:

1. Number of new-patients	...	3,347
2. Number of in-patients	...	4,193
3. Number of Radiotherapy cases	...	3,423
4. Number of Chemotherapy cases	...	25 per day
5. Number of Brachytherapy cases	...	377
6. Number of Nuclear Medicine cases	...	1,040
7. Number of Teletherapy cases	...	3,046

(b) Teaching & Training Programmes:

1. M. D. in Radiotherapy
2. Ph. D. in all branches of Oncology
3. D.M.R.T.
4. C.R.A. (certified Radiological Assistants Course)
5. Technician Training Programme in Cytology (Refresher course)
6. Radiotherapy Technician Programme tailored to meet requirements of other centres like Institute of Medical Sciences, Shrinagar
7. Physicists' Clinical Orientation Programme to assist Bhabha Atomic Research Centre, Bombay
8. Inservice Training for Medical Officers and Paramedical persons on Cancer Detection

(c) Services:

- | | |
|-------------------------------|--|
| 1. Radiotherapy | 7. Tumour Registry |
| 2. Cancer Chemotherapy | 8. Early detection |
| 3. Radiation Medicine Imaging | 9. Immunotherapy |
| 4. Radioisotope therapy | 10. Clinico-pathological laboratory services |
| 5. Cancer Surgery | 11. Inpatient beds |
| 6. Cancer Cytology | 12. Out patient services & |
| | 13. Radioimmunoassay. |

i. Radiotherapy

During this year three new Radiotherapy Equipments were commissioned. These are Theratron 780 Cobalt Unit, Selectron after loading equipment and Radiotherapy simulator. Before the commissioning of these equipments the two hundred and twenty patients who used to receive Radiotherapy were treated in the two Cobalt Units which were the only available one in the department. This lead to a lot of overcrowding and hence proper Radiotherapy was not possible on a number of occasions. With the commissioning of the

theratron cobalt unit a number of patients requiring radical treatment could be diverted to this equipment. This equipment has a high intensity source of 12,000 curies which enable quick treatment of persons because of the high out put. Further modern techniques of radiotherapy could be made available to Cancer patients in this Centre because of the manoeuvr-ability of this equipment.

Selectron remote after loading equipment is the most modern computerized equipment available for the treatment of cancer of the cervix. The Regional Cancer Centre, Trivandrum, is the first Institution in India to acquire this modern piece of equipment. With acquisition of this equipment it has become possible to protect Doctors, Nurses and Technicians from exposure to radiation; treatment times could be drastically reduced from one week to almost sixteen hours adding to the comfort of the patient; complication due to prolonged treatment and immobilisation could be totally avoided. This particular equipment replaced completely intra cavitory treatment using radium in treatment of cervix cancer in this hospital. Thus, the cancer cervix treatment could be made more acceptable to the patients thereby reducing the discomforts during treatment which used to happened with radium treatment.

The commissioning of Radiotherapy simulator has enabled accurate direction of the beam to the tumour bearing area.

The most commonly seen Malignant condition in this hospital continued to be cancer of the head and neck in the male and cancer of the cervix in the female. The various kinds of cancers on the basis of their hospital frequencies are indicated in the annexure. (Annexure 1)

To improve treatment results in cancer it was decided to treat all curable cases of cancer only after proper treatment planning.

A combined modality clinic consisting of E.N.T. Surgeons, Plastic Surgeons, Oral Surgeons, and Radiotherapists was organised. This clinic meets once in a week to plan the total management of curable cancer patients. Beam directed radiotherapy (BDXRT) is a usual radiotherapeutic technique which started in this hospital using plaster of paris shells and wedge filters. The Indian Council of Medical Research is also involved in this particular study.

(ii) Cancer Chemotherapy

All the modern anti-Cancer drugs were available freely in the hospital during this year. This hospital employes all the modern combination chemotherapy protocols employed in solid tumour management except the high dose Methoterexate-Citravorum rescue schedule and the protocols used in leukemia are the same as used —mostly in the haematology department. The common chemotherapy protocols employed in the Centre are:—

- | | |
|----------------------|------------------|
| 1. C M F | 5. B A C O P |
| 2. V A C | 6. M I F A |
| 3. M O P P | 7. A C F U C Y |
| 4. C O P and C H O P | 8. A D M F U C Y |

The availability of haematology laboratory and biochemistry service on our own premises as part of the research laboratory has enabled use of chemotherapy in a widespread fashion with proper controls.

(iii) Radiation Medicine

This division acquired a whole body scintillation counter last year. This is capable of doing scans of all the major organs. This equipment has colour scan and photo scan

facilities which enables detailed analysis of the images. Apart from the introduction of this equipment, this division continued to discharge its responsibilities in imaging various organs making use of the equipments such as the whole body counter, renograph and thyroid probe.

Radioimmunoassay studies were undertaken for estimation of T3 and T4 in disease. Radioisotope division of the Atomic Energy Commission is contemplating to set up a major radioimmunoassay laboratory in this nuclear medicine department.

Types of the investigations

A. Diagnostic

a. In vivo

i. Thyroid uptake measurements:	No. of cases	...	555
ii. Thyroid scanning:	No. of cases	...	764
iii. Liver scanning:	No. of cases	...	38

b. In vitro:

T3 Radioimmunoassay	432
T4 Radioimmunoassay	480

(iv) Cancer Cytology

Population screening for uterine cancer continued in Thrikkadavoor Panchayat of Quilon District. A similar study was also conducted in the Corporation of Trivandrum. In the first programme twenty thousand women have already been screened and the study showed a prevalence rate of 84.66/1000 for dysplasia, 3.1/1000 for malignant disorders and 340/1000 for inflammatory lesions. A definite relationship was observed between the number of pregnancies and deliveries and the incidence of cancer cervix.

The other activity of this division was clinical service provided to the Regional Cancer Centre, S. A. T. Hospital, Medical College Hospital, Chest Disease Hospital, General Hospital and Hospitals in and around Trivandrum. This includes (1) routine cervical scanner test for 5690 out patients who attend the S. A. T. Hospital (2) hormonal status determination for antenatal cases to assess the term and women with bad obstructive history: (3) Hormone studies directed towards selection of hormone in cancer breast and hormonal evaluation for cases of primary and secondary amenorrhoea in 3739 cases.

The new equipments purchased during the current year for patient services and research is given in Annexure II and the staff position is appended as Annexure III.

The audited statement of Finance and Accounts of the Regional Cancer Centre Society is appended as Annexure IV.

V. Tumour Registry

Associated with the National Tumour Registry Programme of the Indian Council of Medical Research, a Hospital Tumour Registry was started in the Regional Cancer Centre from March 1, 1982. The following activities were undertaken by the Registry staff:

- i. Registration of all cancer cases attending the Medical College Hospital, Sri Avittom Thirunal Hospital and Dental College, Clinics. (From Clinics, wards, pathology and laboratory records etc. etc.).

At present, apart from medical information regarding the disease and treatment, information on life styles of patients suitable for epidemiologic studies are being uniformly obtained from all patients.

- ii. Re-organisation of the Department of Medical Records & Statistics of the Regional Cancer Centre.
- in the medical records department, new proformae suitable for uniform case work up have been introduced;
 - the medical case papers have been redesigned for more efficient patient services;
 - the appointment system for follow-up visits have been introduced; and
 - the patients who miss the appointment for follow-up examinations are being contacted by post & timely follow-up check-up ensured.

The number of patients registered during the first five months i.e. 1st January to 31st May 1982 were as follows:-

Regional Cancer Centre	1351
Other clinics	146
Total	1497

**Organwise Distribution of Cancer Cases Recorded by the Tumour Registry
During First January to 31st May 1982**

Group of sites	Number of cases			
	Male	Female	Total	Percentage
1	2	3	4	5
Oral Cavity, Oropharynx, Hypopharynx, Nasopharynx & Larynx	332	139	471	31.46
Digestive organs	138	55	193	12.89
Lung, Bronchus, trachea	91	8	99	6.61
Breast	..	121	121	8.08
Cervix & female Genital	..	232	232	15.50
Male Genital	22	..	22	1.47
Urinary organs	15	8	23	1.54
Eye	5	1	6	0.40
Thyroid	12	25	37	2.47
Skin	17	6	23	1.54
Connective tissue	15	13	28	1.87
Nervous system	27	11	38	2.54
Bone	21	9	30	2.00
Lymphomas	49	10	59	3.94
Leukaemias & M. Myeloma	29	10	39	2.61
Met. Ca., other & unspecified	51	25	76	5.08
Total	824	673	1497	100.00

VI. Clinical Laboratory Service:

1. Biochemistry:

Number of patients investigated	815
Number of investigations	1117

2. Haematology:

Number of patients investigated	1150
Number of investigations	2000

3. Immunology:

Number of investigations	455
Number of patients investigated	150

Investigations undertaken by Immunology Division are T & B Cell Count, T cell sub population, T cell functions, immunoglobulins, complex and electrophoresis.

PART IV

Distinguished Visitors

1. Mrs Jyothi Vencatachellum, Her Excellency the Governor of Kerala.
2. Mr. R. Sundaresan Nair, Hon'ble Minister for Health, Kerala.
3. Dr. R.D. Ganatra, Director, Radiation Medicine Centre, Bombay.
4. Dr. Krishna Bhargava, Director, Kidwai Memorial Institute, of Oncology, Bangalore.
5. Dr. R.S. Mani, Head, Radiopharmaceutical Division, BARC, Bombay.
6. Dr. K.B. Pillai, Physicist, University of Southern California, San Francisco.
7. Dr. Widroe, Prof. of Radiation Physics, Switzerland.
8. Dr. J. P. Concannon, Prof. of Radiology, University of Pittsburgh, U.S.A.
9. Dr. Sheila Hodgson, Prof. of Radiation Oncology, State University of Ohio, U.S.A.
10. Dr. Tonny Forrester, Head of Biochemistry, Chester Beatty Cancer Centre, London, U.K.
11. A.U. Ablashi, Coordinator of Viral Oncogenesis, National Cancer Institute, Bethesda, Maryland, U.S.A.
12. Dr. Suzanne Eccles, Department of Tumour Biology, Cancer Institute, Sutton, England.
13. Mr. K. Sreenivasan, IAS, Special Secretary to Government, Health Department, Kerala State.

PART V

Publications

1. Inter-relation between maternal and cord blood constituents with birth weight. Ind. J. Biochem. Biophys 78; 48, 1981.
2. Altered surface characteristics of Lymphocytes from patients having carcinoma of oral cavity Ind. J. Cancer 18, 278; 1981.
3. Age of SRBC as an important variable in spontaneous rosette formation. Ind. Med. Gazette (Accepted)
4. Assessment of Immunological Status in oral cancer patients Ind. J. Rad (Accepted).
5. Renal involvement in Leprosy. Lepr. India 53, 163-178; 1981.
6. Demonstration of a tumour associated antigen in human oral cancers. Ind. J. Med. Res. 74; 428-432; 1981.
7. Glycosaminoglycan composition of human oral cancer tissue Ind. J. Cancer 18; 258-161; 1981.
8. An overview of immunology of malignant melanoma in recent concepts in dermatology, venereology and leprology. IADVL. publication pp. 40-49; 1981.
9. Anti oxident role of retinyl palmitate on carbon tetra chloride toxicity. Acta vitaminologica et. Enzymologica, 3, 214-218 1981.
10. Prevalence of antibodies against herpes simplex and adenoviruses in patients with cervical and oral cancer. A preliminary report. Ind. J. Med. Res. 75; 590-592, 1982.
11. An antigen from human oral cancer. An attempt for isolation. Kerala Medical Journal 23, 33-36; 1982.
12. Detection and quantitation of immunoglobulins associated with tumours of human oral cavity. Ind. J. Cancer March 1982.
13. Quantitation of F_c receptor bearing T lymphocytes (TG and TM) in oral cancer. Cancer (accepted.)
14. A statistical analysis of cancers registered at the Regional Cancer Centre, Trivandrum during 1977-80. Ind. J. Cancer (Accepted).

15. Serum copper levels in patients with carcinoma of the oral cavity. Ind. Med. Gazette (accepted).
16. Measurement of leakage and scatter radiation outside the radio-therapy beam from a Linear accelerator (submitted for publication in B. J. R.)
17. Acceptance tests of a radiotherapy simulator (presented in the Fifth National Conference of Association of Medical Physicists of India.

B. Papers Presented at Conferences

1. Quantitation of T. lymphocyte subset and assessment of cell mediated immune response in oral cancer. Annual meeting of Indian Society of Gastroenterologists, Trivandrum, Sept. 1981.
2. An overview of tumour immunology (invited lecture). Association of Physiologists and Pharmacologists of India, Bangalore October 1981.
3. Anti-tumour immunity in oral cancer patients as assessed by leukocyte Adherence, Inhibition Assay. Annual meeting of Indian Immunology society, Bombay November 1981.
4. Tumour associated antigens (Invited lecture) Annual meeting of Indian Immunology Society, Bombay November 1981.
5. In vitro maintenance of sensitized lymphocytes from oral cancer patients. Annual meeting of Indian Immunology Society, Bombay November 1981.
6. Screening programme for detection of hypothyroidism in Kerala-our initial experience.
7. Lingual thyroid—study of 20 cases
8. Thyrotoxicosis —a study of 100 cases
9. Radiation associated thyroid carcinoma—case reports
10. Problem of loco Regional disease in cancer breast—IRA conference, Calcutta Jan 1982.
11. Carcinogenesis due to radiation IRA Conference, Calcutta January 1982.
12. Role of Immunological tests in Clinical practice—IRA Conference, Calcutta Jan 1982.

PART VI

RESEARCH—Research Division

1. Association of Herpes virus with oral cancer :

Our sero epidemiological studies in the last year have shown that there is a statistically increased frequency in the antiherpes antibody level in the oral cancer group. Further studies in this year, by means of fluorescent antibody technique have shown that out of 50 cancer tissues examined, 38 were positive. These findings indicate the possible correlation of HSV-I with oral cancer.

2. Cytotoxic lymphocytes in oral cancer :

An ongoing programme on the effect of levamisole on the immune status of cancer patients is being continued. The cytotoxic response of autologous lymphocytes on cancer cells was very high when compared with normal lymphocytes. However, lymphocytes from advanced stages of cancer showed a lower degree of cytotoxicity. This cytotoxic effect was shown to be T-cell mediated and the autologous serum inhibited this response. Sera showing this blocking effect had high concentration of circulating immune complexes.

3. Oral Cancer antigen :

During last year, we have demonstrated the presence of a specific antigen in oral cancer tissues which is not seen in normal counterparts. Further work is in progress to

characterise this antigen. We are also successful in producing specific antiserum against this antigen.

4. Tissue specific plant Lectins :

We have isolated lectins from the seeds of ascarpus, Thevetia and cicer. Further characterisations of these proteins are in progress. Their tissue specificity has been studied by peroxidase-staining method. Thevetia lectin was found to be attached specific to mast cells while ascarpus lectin was specific to epithelial cells.

5. Association of Hepatitis virus in certain cancers :

Sera from 55% of oral cancer patients and 65% of cervical cancer patients showed positive reactions to hepatitis B surface antigen while only 12% of normals showed the sera. In untreated oral cancer patients, 22% showed a positive reaction, while in the treated group it was 66%. In carcinoma of the cervix, these figures were 33% and 77% respectively.

CLINICAL RESEARCH

Clinical Departments

1. Epidemiological aspects of cancer in Kerala :

Research directed towards identifying the changing pattern of cancer incidence in Kerala. Early findings are that there is a decline in the incidence of cervical cancer and that the oral cancer patients present for treatment in rather early stages.

2. Multimodality approach in cancer of the head and neck. Use of Bleomycin along with radiotherapy has considerably improved the tumour control and two years rates.

3. Adjuvant chemotherapy in cancer breast — The impact of adjuvant chemotherapy in cancer breast on both recurrence/metastatic pattern and survival is being studied carefully in this Centre.

4. Remote afterloading in Radiotherapy: The Regional Cancer Centre being one of the Cancer Centres using Selectron, its impact in tumour control, survival, cost of patient treatment are being studied in great detail.

(Dr. N. KRISHNAN NAIR)

Technical Director, Regional Cancer Centre,
Trivandrum-11.

ANNEXURE I

Site distribution of Cancer cases seen during the Year 1981

Site	Number of cases
Lip, Oral cavity & Pharynx	1,017
Salivary Gland	19
Oesophagus	137
Stomach	72
Colon & Rectum	56
Liver	41
Pancreas	13
Maxilla	26
Nose, Nasal Cavity	3
Larynx	96
Bronchus, Lung	196
Pleura	2
Thymus	1
Leukaemia	47
Multiple Myeloma	20
Hodgkins disease	99
Non Hodgkins Lymphoma	26
Bone	50
Connective Tissue	59
Skin	27
Malignant Melanoma	19
Breast	258
Cervix	442
Uterus	36
Ovary	89
Vagina, Vulva	12
Kidney, Bladder	65
Prostate	11
Testis	12
Penis	24
Eye	13
Brain & CNS	116
Thyroid	67
Other & unknown primary	103
Total	3,274

ANNEXURE II

Equipments commissioned during the year 1981-82

Name of equipments :	Cost Rs.	Function
1. Theratron	19 lakhs	Imported cobalt unit for radiation treatment
2. Selectron	16 ..	Imported afterloading unit for intra-cavitary treatment of carcinoma cervix
3. High pressure liquid Chromatography	3.5 ..	Separation & purification of organic compounds and plant extracts.
4. Electric Precision balance	16,000 ..	Sensitive weighing
5. Remi Cooling Centrifuge	30,000 ..	Enzyme and Protein separation
6. Clinical Centrifuge (4 Nos)	3,000 ..	Separation of Serum
7. Haematocrit Centrifuge	2700 ..	Hb estimation
8. Deep Freeze	9,600 ..	For preserving tissues and serum samples
9. Micro Cell assembly	9,000 ..	Protein estimation
10. Laminar flow	5,700 ..	Tissue culture
11. Rat cages & Mouse cages	14,000 ..	For experimental animals
12. Blood cell counter	52,000 ..	For blood tests like WBC & RBC
13. Semi Microanalytical balance	23,000 ..	For analytical weighing
14. Electric Bunsen and water bath (2 Nos)	1,600 ..	For heating
15. Refrigerators (2 Nos)	16,300 ..	For keeping chemicals, drugs and reagents
16. Spectrometer	85,000 ..	For clinical biochemistry (for estimating compounds)
17. Vacuum forming machine	50,000 ..	For preparing perspex moulds for beam directed radiations
18. Randophantom	52,000 ..	A human model for measuring radiation dose
19. T.L.D. Reader (Imported) US	1,25,000	} For radiation dose measurements
20. T.L.D. Reader Rs.	19,000	
Total : Rs.	43,63,600 ..	

ANNEXURE III

Staff

1. Professors of Radiotherapy	—	2 Nos.
2. Associate Professor of Cytology	—	1 No.
3. Associate Professor of Basic Research	—	1 No.
4. Associate Professor of Radiation Physics	—	1 No.
5. Assistant Professor of Radiology (Therapy)	—	4 Nos.
6. Assistant Professor of Nuclear Medicine	—	1 No.
7. Assistant Professor of Radiation Physics	—	1 No.
8. Assistant Professor Cytology	—	1 No.
9. Assistant Professor of Cancer Surgery	—	1 No.
10. Assistant Professor of Gynae. Pathology	—	1 No.
11. Senior Scientific Officer	—	1 No.
12. Lecturer in Radiation Physics	—	1 No.
13. Cytologist	—	1 No.
14. Senior Research Officer	—	1 No.
15. Junior Research Officer	—	1 No.
16. Research Assistant	—	1 No.
17. Laboratory Technician Grade I	—	2 Nos.
18. Laboratory Technician Grade II	—	3 Nos.
19. Dental Hygienists	—	2 Nos. (1 vacant)
20. Tutor Radiographer	—	1 No.
21. Radiographer Grade II	—	4 Nos.
22. Radium Technician	—	5 Nos.
23. Nuclear Medicine Technician Gr. II	—	2 Nos. (1 vacant)
24. Medical Statistician	—	1 No.
25. Receptionist	—	1 No.

Office

1. Administrative Officer	—	1 No.
2. Financial Assistant	—	1 No.
3. Secretary & Conf. Assistant	—	1 No. (vacant)
4. Confidential Assistant Senior Grade	—	1 No.
5. Confidential Assistant Grade II	—	2 Nos.
6. Clerk-Typists	—	4 Nos. (1 Tumour Registry)
7. Driver	—	1 No. (1 Cytology)
8. Peon	—	1 No.

ANNEXURE IV

VARMA & VARMA
Chartered Accountants

Vazhuthacaud,
Trivandrum-1

16-8-1982

UTILISATION CERTIFICATE

Certified that the Regional Cancer Centre Society, Trivandrum has received a total grant of Rs. 5,00,000 (Rupees five lakhs only) from the Government of India, Ministry of Health and Family Welfare, New Delhi as per letter Nos. V. 22015/2/81-R dated 29-6-1981 for Rs. 1,65,000 and No. V. 22015/2/B-IR dated 10-12-1981 for Rs. 3,35,000 to meet the plan expenditure for the development of Regional Cancer Centre and the Society has utilised a sum of Rs. 3,37,127.33 (Rupees three lakhs thirty seven thousand one hundred and twenty seven and paise thirty three only) for the purpose for which the grant was sanctioned and there is an unspent balance of grant Rs. 1,62,872.67 (Rupees one lakh sixty two thousand eighty hundred and seventy two and paise sixty seven only) as on 31-3-1982.

Sd/-
Chartered Accountants

Regional Cancer Centre Society,

INCOME AND EXPENDITURE FOR

Trivandrum (Reg. No. 567/81)

THE PERIOD FROM 10-3-1981 to 31-3-1982

EXPENDITURE	Rs.	Ps.
To Purchase of Chemicals	68,688.49	
„ Salary to Administrative Officer	1,001.80	
„ Printing charges	3,040.14	
„ Servicing charges	165.00	
„ Travelling expenses	1,062.20	
„ Audit fee	750.00	
„ Expenses of Hospital Based National Tumour Registry Programme as per separate audited statement	11,800.55	
„ Depreciation w/off on fixed assets	1,67,821.77	
Total	2,54,329.95	

INCOME	Rs.	Ps.	Rs.	Ps.
By Grant from Govt. of India, Ministry of Health & Family Welfare :				
Ist instalment as per letter No. V22015/2/81-R dt. 29-6-81	1,65,000.00			
IInd instalment as per letter No. V22015/2/B-IR dt. 10-12-81	3,35,000.00			
Less: Amount utilised for purchase of equipments transferred to capital fund	5,00,000.00		2,62,419.70	
			<u>2,37,580.30</u>	
Less: Unutilised grant transferred to Balance Sheet	1,62,872.67			74,707.63
„ Interest from bank				9,442.90
„ Closing stock of Chemicals as taken, certified and valued at cost by the Technical Director				6,662.62
„ Amount utilised out of grant in aid received from Indian Council of Medical Research for National Tumour Registry Programme				11,800.55
„ Excess of expenditure over income for the period				1,51,716.25
Total				2,54,329.95

Regional Cancer Centre Society,

RECEIPTS AND PAYMENTS ACCOUNT FOR

RECEIPTS	Rs. Ps.	Rs. Ps.
To Grant received from Govt. of India, Ministry of Health & Family Welfare, New Delhi as per letter No. T-200012/8/80-R dt. 12-2-1981 for purchase of equipments		6,50,000.00
„ Grant from Govt. of India, Ministry of Health & Family Welfare:- 1st Instalment as per letter No. V-22015/2/81-R dt. 29-6-1981	1,65,000.00	
11nd instalment as per their letter No. V-22015/2/BI-R dt. 10-12-1981	3,35,000.00	5,00,000.00
„ Grant from Govt. of Kerala through the Principal Medical College, Trivandrum as per order No. C3-20163/81 dt. 9-7-'81		2,00,000.00
„ Grant received from Indian Council of Medical Research for Hospital based National Tumour Registry Programme		40,000.00
„ Interest from bank		9,442.90
Total		13,99,442.90

Trivandrum (REG. No. 567/81)

THE PERIOD FROM 10-3-1981 To 31-3-1982

PAYMENTS	Rs. Ps.	Rs. Ps.
By purchase of Equipments		10,94,699.00
„ Purchase of Chemicals		68,688.49
„ Survey charges for construction of building		6,500.00
„ Purchase of furniture & fixtures		17,720.70
„ Printing charges		3,040.14
„ Servicing charges		165.00
„ Travelling expenses		1,062.20
„ Payments of National Tumour Registry Programme as per Separate Statement		39,393.77
„ Closing balances: Cash in hand as certified by the Technical Director	200.00	
Balance in State Bank of Travancore S.B. A/CC 9610	<u>1,67,367.37</u>	<u>1,67,567.37</u>
Cash and bank balances of National Tumour Registry Programme		
Cash in hand as certified by the Technical Director	294.30	
Balance with State Bank of Travancore in S. B. a/c	311.93	606.23
Total		13,99,442.90

Regional Cancer Centre Society,

BALANCE SHEET AS AT

Trivandrum (Reg. No. 567/81)

31st MARCH, 1982

LIABILITIES	Rs.	Ps.	Rs.	Ps.
Capital Fund				
Amount utilised out of grants received for aquisition of equipments & furniture: Grant from Govt. of India, Ministry of Health & Family Welfare, New Delhi	9,12,419.70			
Grant from Govt. of Kerala through the Principal, Medical College, Trivandrum	2,00,000.00			
Grant from Indian Council of Medical Research for National Tumour Registry Programme	26,719.77		11,39,139.47	
Unspent balances of grants received: Out of grant from Govt. of India, Ministry of Health & Family Welfare	1,62,872.67			
Out of Grant from Indian Council of Medical Research for National Tumour Registry Programme	1,479.68		1,64,352.35	
Expense payable: Salary to staff	128.35			
Audit fee	750.00		878.35	
Total			13,04,370.17	

ASSETS	Rs.	Ps.	Rs.	Ps.
Building under construction				6,500.00
Furniture & fixtures at cost	31,040.70			
Less Depreciation w/off	3,104.70			27,936.00
Office equipments at cost	11,024.00			
Less Depreciation w/off	1,653.00			9,371.00
Hospital & Laboratory equipments at cost	10,87,096.07			
Less Depreciation w/off	1,63,064.07			9,24,032.00
Advances:				
For Purchase of equipments	9,478.70			
Travel advance to staff	500.00			9,978.70
Closing stock of Chemicals as taken Certified and valued at cost by the Technical Director				6,662.62
Cash & bank balances:				
Cash in hand as certified by the Technical Director	200.00			
Cash & bank balances: Cash in hand as certified by the Technical Director	294.00			
-do- (National Tumour Registry Programme)				
Balance with State Bank of Travancore in S.B. a/c.No. 10493	311.93			
-do in S.B.a/cNo. 9610	1,67,367.37			1,68,178.60
Income & Expenditure account Excess of expenditure over income tor the period	1,51,716.25			1,51,716.25
Total			13,04,370.17	

Rs.	Rs.	Rs.
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6,500.00	31,040.70	
53,988.00	3,104.70	
	11,024.00	
8,371.00	1,883.00	
	10,87,098.07	
24,032.00	1,63,084.07	

AUDITORS' REPORT

We have verified the foregoing Receipts and Payments account and the Income and Expenditure Account for the period from 10-3-1981 to 31-3-1982 and the Balance Sheet as at 31-3-1982 of Regional Cancer Centre Society, Trivandrum with the cashbook, vouchers and bank pass book produced before us and we certify the same to be correct as disclosed by these records.

Trivandrum
Dated: 16-8-1982

Sd/-
Chartered Accountants

204.00	311.93
1,87,367.37	
1,87,367.37	
1,51,716.25	

Total 13,04,370.17