



FOURTH MEETING OF THE REGIONAL
ADVISORY PANEL ON CANCER

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INDEXED

A - PROPOSAL FOR A REGIONAL REFERENCE CENTRE
FOR LIVER CANCER

by

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Liver diseases are a common clinical problem in Pakistan, carcinoma being of striking importance. In an initial survey from 1969-1975, 127 cases of primary liver cancer were studied by Zuberi *et al.* In a multicentre study undertaken by the Pakistan Medical Research Centre (PMRC) (January 1974 - September 1975), out of total of 9 224 malignant tumours recorded, liver cancer comprised 2.2 per cent of all malignant tumours seen. Another study done in the Department of Pathology, Jinnah Postgraduate Medical Centre reviewed 2 422 liver biopsies received over a period of ten years (1966-1977). In this series 167 cases of hepatocellular carcinoma were seen. A high rate of liver malignancy has created interest in different groups in Pakistan, the most active being the Research Cell of PMRC located in JPMC, the others being the Departments of Radiotherapy and Pathology, JPMC. There has been an international collaboration to some extent wherein Dr S.J. Zuberi, in charge of the Research Cell, is now a member of the Asian Pacific Association for the study of the liver and is collaborating with the liver carcinoma data collection of that association. The present writer participated in the WHO Seminar on the Management of Liver Cancer in Developing Countries held in Brazil in September 1978. In addition, the Pakistan Science Foundation is holding a meeting in Karachi for conducting multicentre studies on aflatoxins.

Proposed studies

1. Case-control studies of all suspected liver carcinoma cases will be done; a proforma has already been prepared on this and is attached. Special emphasis will be laid on the following factors:
 - (a) dietary habits of individuals;
 - (b) history of infectious hepatitis and detection of Hbs Ag, Hba Ag, Hbc Ag, Hbe Ag and antibodies in cases, controls and samples of population by radio-immunoassays. Elisa techniques will be used as and when these become available.
2. As aflatoxin has been associated with high rates of liver cancers, levels of the same will be measured in various commonly used food items, both in their raw state and in the prepared form (off the plate), in urine and in milk.
3. Laparoscopy will be done in the majority of cases.
4. Morphology of liver tumours will be studied by:
 - (a) light microscope for classification of tumours;
 - (b) electron microscopy for ultra-structural details;
 - (c) immunofluorescence for Hbs Ag, Hbc Ag and Hbe Ag.

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5. The role of adriamycin as a single chemotherapeutic agent for liver cancer management will be studied.
6. Follow-up of liver cancer cases will be carried out.
7. Prospective study of high risk individuals - cirrhotics and those with persistent Hbs antigen - will be done.

The following facilities are available in the Centre:

1. Histopathological and cytological studies will be done in the Department of Pathology.
2. An electron microscopy will be done in the Department of Anatomy, JPMC.
3. Liver scan will be done in the Isotope Centre of JPMC.
4. Aflatoxin estimation will be done at the Pakistan Medical Research Centre of JPMC and in the Pakistan Council of Scientific and Industrial Research Laboratories, Karachi.
5. Immunofluorescence work will be done in the Department of Pathology, JPMC and AFIP, Rawalpindi.
6. Radioimmunoassay will be done in the Medical Radioisotope Centre of JPMC.
7. Pakistan Medical Research Centre of JPMC has been doing liver studies for more than ten years and has a good liaison with the departments of Medicine, Radiotherapy and Pathology. They have a good record system and a sera bank of liver cases. The above studies will be jointly done by all the departments concerned.

Requirements

Staff

- | | | |
|---------------------------|-------|---|
| 1. Medical Officer: | One | (for case-control studies) |
| 2. Record clerk: | One | |
| 3. Follow-up worker: | One | |
| 4. Medical technologists: | Three | one for electron microscopy
one for immunofluorescence
one for aflatoxin immunoassays, etc. |

Equipment

Motorcycle for follow-up worker Rs. 15000/-

Supplies

- | | |
|---|----------------------|
| 1. Printing office supplies, etc. | Rs. 10000/- per year |
| 2. Petrol and running expenditure for motorcycle | Rs. 5000/- per year |
| 3. Chemicals, etc. | Rs. 5000/- per year |
| 4. Antigen and sera | Rs. 10000/- per year |
| 5. For electron microscopy embedding material, grids, photographic papers, etc. | Rs. 10.000/-per year |
| 6. Cost of data processing | Rs. 5.000/-per year |

Location of the proposed research cell will be at the Department and Institute of Radiotherapy, JPMC, utilizing the co-operation and facilities of the Departments of Pathology, Medicine, Anatomy, JPMC and PMRC research cell at JPMC.

REFERENCE CENTRE FOR GALL BLADDER CANCER

A study of 118 newly diagnosed patients with gall bladder disease during a two year period showed that the frequency of gall bladder cancer was 8.4 per cent and cholelithiasis played a significant role in its etiology. No remarkable differences were observed in the clinical and biochemical findings between the benign and malignant disease of gall bladder (Zuberi et al).

In the same study it has been observed that the age of onset was lower than the other reported series. In 482 specimens of surgically removed gall bladder seen at the Department of Pathology, JPMC (1970-1975), 76.2 per cent had adenocarcinoma, 14.2 per cent squamous cell carcinoma and 0.9 per cent undifferentiated carcinoma (Jafarey '76).

In view of this background information, it is proposed that a reference centre for gall bladder cancer may be set up in Pakistan.

Proposed study

1. Case-control studies.
2. Evaluation of methods of early detection.
3. Evaluation of methods for prevention by:
 - (a) early surgery for gall bladder disease;
 - (b) prevention of gall bladder stone formation.
4. Evaluation of treatment methods.

Staff and equipment

The staff proposed for the Regional Reference Centre for Liver Cancer will be utilized for this study as well. No additional equipment will be required.

LIVER RESEARCH PROJECT (JPMC)

ANNEX

Name: _____ Serial No. _____

Age: _____ Sex: _____ M. F. _____ SMWD _____

I.D. Card No.: _____

Address: _____

Occupation: _____

Residence History Childhood Interim Present

District _____
Length of residence _____

Mother tongue:

- Punjabi:
- Sindhi:
- Baluchi:
- Pushto:
- Urdu:
- Saraiki:
- Katchi:
- Other:

Habits: _____ Yes. _____ No. _____

- Smoking:
- Tobacco chewing:
- Charas:
- Opium:
- Other intoxicants:

Family history	Parents	Siblings	Offspring	Uncle	aunts
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Cancer _____

Diabetes _____

Liver disease

Past history H/O Jaundice No. of Episodes

Approximate date of last episode

Other Drugs

Blood transfusion

History of contact (within 6 months with cases of jaundice/liver disease)	Yes.	No.
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If yes where -
- Family/Household
- Neighbours
- Place of work.

Clinical history:

	<u>Yes</u>	<u>No</u>	<u>Duration</u>
Abdominal pain			
Abdominal mass			
Haematemesis			
Melaena			
Jaundice			
Ascites			
Oedema			
Other			

Clinical examination:

Jaundice	Yes	No	<u>Liver enlargement</u>
Ascites			1. Not enlarged
Oedema			2. Just palpable
Spleen enlargement (cms)			3. 2-5 cm
Other stigmata of liver disease			4. 5-10 cm
			5. Above 10cm
			6. Smooth - Nodular

Investigations

Hb. (Cynmeth haemoglobin method)
WBC
Differential
Platelets
Prothrombin time (Quick's)
Bilirubin.
Total (mg%)
Conj. (mg%)
Unconj. (mg%)
Alk. Phos. (I.U.)
Total prot. (G%)
Alb/Glob (G%)
SGOT (F.U.)
SGPT (F.U.)
HBsAg
Other

Splenic Pressure:

Splenoportogram

If cold area, location:			
Liver scan (No cold area)	R. lob	L. Lobe	Multiple

Liver biopsy Histopath. No.

Cytology Histopath. No.

Endoscopy	Laparoscopy
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Optional Investigations

Alphafetoprotein

Aflatoxin

HBsAg (RIA)

HBsAb (RIA)

HBeAg (RIA)

Autoantibodies

Antinuclear

Antismooth muscle

Antimitochondrial

Antithyroid

Antiparietal cell

Other.