

# FAMILIAL PRIMARY HEPATOCELLULAR CARCINOMA

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## SYNOPSIS

**Primary hepatocellular carcinoma is a disease prevalent in the Asia-Pacific Region. Although epidemiological studies suggest that Hepatitis B and other hepatocarcinogens play important aetiological roles, close cohabitation and genetically susceptible individuals may also be more prone to develop the disease. Most of the reports of familial hepatocellular carcinoma have been on related siblings. This report is to describe the presence of the disease in a father and his son — a finding not previously reported in the literature. It is suggested that screening programmes should also include close family members.**

## FAMILIAL PRIMARY HEPATOCELLULAR CARCINOMA

The occurrence of primary hepatocellular carcinoma within families is rare. Most of the reports have described its presence in siblings (Hedinger, 1915; Kaplan and Cole, 1965; Jarvik and Falek, 1962) and dizygotic twins (Johnson et al, 1978). We report the association of primary hepatoma in father and son, a finding not previously reported.

### History:

#### Father

65 yr. old China born, Hokkien, male presented in July 1976 with right hypochondrial pain, hepatic mass and secondary osteolytic lesions over the left lower ribs.

Investigations showed: Alphafoetoprotein 0, 0, 2, 8, 10 ng/ml (R.I.A.) over 4 months. SGPT 26 I.U./L, SGOT 49 I.U./L. alk. phosphatase 101 U/ml (normal less than 100 U.), total protein 6.6 Gm/DL, albumin 3.2 Gm/DL, Bilirubin 0.8 mg/DL. Glucose tolerance test at 0, 30, 60, 120 min. were 64, 138, 157 mg/DL. Screen alpha<sub>1</sub> antitrypsin 900 mg/DL (normal 150-310 mg/DL). Serum alpha<sub>1</sub> acid glycoprotein 250 mg/DL (normal 50-110

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mg/DL). Indium liver scan showed multiple filling defects. Selective hepatic angiography confirmed the grossly enlarged liver and the presence of an extensive hepatic malignancy. Percutaneous liver biopsy showed a well differentiated Hepatocellular carcinoma; orcein negative. Serum for Hepatitis B surface antigen was negative by counterimmuno-electrophoresis. serum Hepatoma-Liver antigen (Oon and Yo, 1977): positive.

**Son**

38 yr. old local born Chinese was the eldest son in the family of 5 children. He was seen in the Department in December 1977 with anorexia, right hypochondrial pain and weight loss of 4 weeks duration. There was a large hepatic mass, enlarged right cervical lymph nodes and ascites.

Cervical lymph node biopsy showed syncytial forms of hepatocellular carcinoma replacing normal lymphoid tissue. AFP (RIA) 216 ng/ml rose to 3,300 ng/ml over 5 days. Serum Hepatoma — liver antigen: positive. Serum Hepatitis B surface

antigen negative, SGPT 54 I.U./L, SGOT 58 I.U./L, alkaline phosphatase 287 U., Albumin 2.8 Gm/DL, Total Protein 6.8 Gm/DL, Alpha<sub>1</sub> antitrypsin 620 mg/DL (elevated), Alpha<sub>1</sub> acid glycoprotein 150 mg/DL (elevated).

Selective hepatic angiogram showed a very large avascular tumour in the right lobe with tumour circulation.

Hepatocellular carcinoma is prevalent in many Asian countries and there have been reports of its occurrence amongst siblings. Although environmental factors such as aflatoxin<sub>1</sub> and Hepatitis B play an important role in the development of these tumours, close cohabitation and possibly, genetically susceptible genes may also account for the increased findings in affected families. This study also showed that where the alphafoeto-protein level was low or negative; the simultaneous estimation of alpha<sub>1</sub> acid glycoprotein, alpha<sub>1</sub> antitrypsin level (Chio and Oon, 1978) and hepatoma-liver antigen levels were high or positive respectively. The genotype of the family is shown in the table.

Name	Sex/age	Relationship	Status	HL-A Haplotypes	HBs Ag	AFP Level
LHP	M/68	Father	Hepatoma	A2 BW46/A2 B40	Neg.	0 ng/ml
LSL	M/38	Son	Hepatoma	AW30 B13/A2 B40	Neg.	216 ng/ml
LCL	M/29	Son	Normal	AW30 B13/A2 B40	Neg.	1 ng/ml
LCP	M/28	Son	Normal	AW24 B13/A2 B40	Neg.	2 ng/ml
LCH	M/19	Son	Normal	AW24 B13/A2 B40	Neg.	12 ng/ml
LPT	M/36	Stepson	Normal	A11 B5/A2 BW46	Neg.	4 ng/ml

**ADDENDUM**

Since this report, another Chinese family with three other siblings involved with hepatocellular carcinoma have been found.

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