20-112 DNA ANALYSIS OF HEPATOMA PATIENT BY FLOW CYTOMETRY

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Cell nuclear DNA ploidy was measured by flow cytometry in hepatocellular carcinoma(HCC) and paired non-tumor part of liver tissue. The DNA distribution pattern was classified into two types, DNA diploid and DNA aneuploid. Samples were collected from the operation room and stored at - 70° C until assay. Solid tissues were dispersed mechanically into single cell suspension which were then stained with propidium iodide. DNA analysis were performed with Epics Profile Flow Cytometer.

Of the 46 HCC specimens, 13 (28.3%) had a diploid DNA profile, and 33(71.7%) had aneuploid DNA profile. Of these 33 aneuploid specimens, only 3 (9.1%) had single cell population, 90.9% had more than one cell population (polyploid). In comparsion, all of the non-tumor part liver had diploid DNA pattern.

Results from this study showed that significant differences in DNA profile were found between hepatoma and adjacent liver tissues. It's relation to age, survive, pathological staging is discussed.

20-113 DIHYDROPTERIDINE REDUCTASE DEFICIENT PHENYLKETONURIA DETECTED BY NEONATAL SCREENING IN TAIWAN.

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Tetrahydrobiopterin (BH4) deficient phenylketonuria (PKU) was reported to be a rare variant form of PKU among Caucasian. A few cases of BH4 synthesis deficient PKU in Chinese have been found in Taiwan. From 1984.1 to 1989.6, six PKU were detected from 243,939 Chinese newborns screened. Among the 6 PKU detected, 3 classical forms, 2 BH4 synthesis deficiency, and one dihydropteridine reductase (DHPR) deficiency were diagnosed. Blood Phe was found to be 11.0 and 35.3 mg/dL in this DHPR case at day 3 and 7 after birth, respectively. Blood DHPR activity was not detectable in this patient and he only partially responded to oral BH4 loading test. Both biopterin (B) and neopterin (N) were elevated in the urine, but the total biopterin ratio (B/(B+N)=26%) was within the normal reference range (20-50%). Neurotransmitter replacement theray, BH4 supplementation and restricted Phe diet were started when the case was confirmed as DHPR deficiency at 14 days of age. His physical and mental developments are apparently normal at the present time (9 months old). According to our knowledge, this is the first DHPR deficient PKU case found in Chinese. The results show that the incidence of BH4 deficient PKU in Chinese is much higher than that in Caucasian and Japanese. Differential diagnosis between different forms of PKU is very important for the Chinese PKU patients.