Volume 36, Supplement A
August 2014

ISSN 0126-8635

THE MALAYSIAN JOURNAL OF

PATHOLOGY

Abstracts of Papers

2014 International Congress of Pathology and Laboratory Medicine and 48th Malaysia-Singapore Congress of Medicine

26th to 28th August 2014

Theme: "Personalised Diagnostics: From Bench to Bedside"

Venue: Shangri-La Hotel, Kuala Lumpur, Malaysia

PP 3413/6/2013 (032909)

P-AP20. Clear cell sarcoma of the kidney: 3 case reports

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Introduction: Clear Cell Sarcoma of the Kidney (CCSK) is an uncommon malignant renal neoplasm of childhood. However, it represents one of the most common tumors with "unfavorable histology" listed in the National Wilms Tumor Study Group (NWTSG) clinical protocol. It has a peak incidence in children aged 3-5 years, with a male:female ratio of 2:1. CCSK is extremely rare in infants younger than 6 months and in young adults. We report 3 cases of CCSK clinically diagnosed as Wilms tumour in Hospital Kuala Lumpur within a period of 5 years. *Case presentation:* Case 1: A 3 year-old Malay boy presented with a right abdominal mass and a right foot mass. The histological diagnosis was CCSK with soft tissue metastasis. Case 2: A 3 year-old Malay girl presented with left abdominal mass and underwent left nephrectomy with lymph node dissections. The histological diagnosis was CCSK. Case3: A 3 year-old Malay boy presented with right abdominal mass. He underwent right nephrectomy with para-aortic lymph nodes dissections. The histological diagnosis was CCSK with lymph nodes metastasis. *Discussion:* CCSK has distinctive histopathology features with propensity to bone metastasis (14%) and has poor clinical outcome. Most CCSKs have the classic histological pattern (90%) as in these case reports, typically monomorphic population of clear, round to polygonal cells separated by characteristic delicate vascular septa. It is important to recognise variant patterns of CCSK and distinguish them from other paediatric renal neoplasm because of the more aggressive clinical course and selection of therapy. CCSK is an uncommon malignant childhood neoplasm and can be misdiagnosed as other renal neoplasms. This further emphasises the major role of histopathologists in tissue diagnosis to ensure appropriate patient management and treatment.

P-AP21. Paraoxonase-1 (PON1): bridging the chronic organophosphate exposure to atherosclerosis

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Introduction: Organophosphate (OP) is hydrolyzed by paraoxonase (PON1), an antioxidant enzyme that prevent atherosclerosis by inhibiting oxidative modification of low density lipoprotein (LDL). Low PON1 activities have been observed among individuals chronically exposed to OP while their decreased activities were reported in individuals with atherosclerosis related disease. However, a relationship between chronic OP exposure, PON1 and the development of atherosclerosis has not yet been reported. *Objective:* The aim of this study was to investigate the effects of chronic OP exposure on the development of atherosclerosis in rat model. *Methods*: Twenty male Sprague-Dawley rats were divided into 3 groups; Group 1 did not receive any injection, both Group 2 and Group 3 received subcutaneous injection of vehicle and injection of 18.0 mg/kg of chlorpyrifos (CPF) respectively every other day for 180 days. Blood were analyzed for paraoxonase enzyme activities and ox-LDL. Aorta were harvested and stained for light and electron microscopic examination. *Results:* The paraoxonase activities, oxidized LDL and PON1: ox-LDL ratio were found to be significantly lower in OP exposed rats. The OP exposed rats also showed positive early atherosclerosis changes microscopically with VCAM-1 expression. The electron microscopic (EM) examination showed evidence of vascular damage with disruptions of the intimal layer of aorta, irregularly oriented and morphologically changed endothelial cells and numerous endothelial gaps with areas of deendothelialization. *Conclusion:* This study highlighted that chronic OP exposure leads to the development of atherosclerosis, which is confirmed microscopically

and further affirmed by positive VCAM-1 expression. The basis for the above observation could be explained by low PON1 activities and low PON1: ox-LDL ratio. In conclusion, chronic intermittent low dose of OP chlorpyrifos induced the development of early atherosclerosis, which could be explained by inability of the PON1 to hydrolyze oxidized-LDL.

P-AP22. CD24 expression in adenocarcinoma of colon

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Introduction: Colon cancer is the most frequent cancer in Malaysian men and second in women with 13.2% prevalence in 2006. CD24 is a mucin-like glycoprotein anchored to cell membrane by two chains of glycophosphatidylinositol (GPI). It directly binds to tyrosine kinases in intracellular signalling and acts as ligand to P-selectin. It forms tumour thrombi in lymphovascular vessels and assists in rolling and adhesion of cancer cells to vascular wall during cancer cell metastasis. *Objective:* This study aims to study the expression of CD24 in adenocarcinoma of colon. *Methods:* 176 adenocarcinoma of colon were included in this study. The paraffin embedded tissues were retrieved from the departmental archives. The tissues were cut at 4 mm thick and were immunohistochemically stained with CD24 monoclonal antibody (LabVision, USA). CD24 expression was indicated by cytoplasmic membrane staining and scored using H-score system. *Results:* There were 111 (63.1%) men and 65 (36.9%) women with median age of 63 years old. Ethnic Malays formed 71 (40.3%) cases; Chinese 75 (42.6%) cases and Indian 25 (14.2%) cases. Of 176 cases, there were 10 (5.7%) grade 1 cases, 161 (91.5%) grade 2 cases and five (2.8%) grade 3 cases. There were 27 (15.3%) stage I, 56 (31.8%) stage II, 90 (51.1%) stage III and 3 (1.7%) stage IV. 93 (52.8%) cases had lymph nodes metastases. 87 (49.4%) cases and 67 (38.1%) cases showed strong and weak CD24 expression respectively. There was significant difference in CD24 expression between tissues with lymph node metastases and those without. Significant correlation was seen between grade (p=0.036) with CD24 expression. However, no significant correlation seen between CD24 expression with adenocarcinoma stages and demographic factors. *Conclusion:* CD24 expression is prominently increased with grade and stage of adenocarcinoma. Significant positive associations can be explained by nature of CD24 in regulating cell-cell interaction and in assisting cancer cells metastases. Thus CD24 has a potential as future prognostic marker in adenocarcinoma of colon.

P-AP23. CD166 expressions in colon adenocarcinoma

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Introduction: Colon adenocarcinoma shows increasing trend worldwide, with the highest mortality rate being in elderly. CD166 is a type 1 transmembrane glycoprotein known as activated leukocyte cell adhesion molecule (ALCAM). It mediates homophilic (ALCAM-ALCAM) and heterophilic (ALCAM-CD6) cell-cell communication leading to cell clustering and migration. Pathophysiologically, aberrant CD166 expression inhibits clustering of tumor cells and alleviates them to migrate for tissue invasion. *Objectives:* We aim to study the expression of CD166 in colon adenocarcinoma. *Methods:* 176 colon adenocarcinomas were included in this study. The paraffin embedded tissues were retrieved from the departmental archives and immunohistochemically stained with CD166 monoclonal antibody (Abnova, UK). CD166 expression was indicated by cytoplasmic membrane staining and scored using H-score system. *Results:* There were 65 (36.9%) women and 111 (63.1%) men with median age of 63 years old. Ethnic Chinese proportionated 75 (42.6%) of cases while Malays and Indian were 71 (40.3%) and