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Elemene-induced apoptosis of SMMC-7721 cells of human hepatocellular carcinoma

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Abstract Objcetive: To determine whether elemene can induce apoptosis of SMMC-7721 cells *in vitro* and to analyze the potential role of Bcl-2, C-myc and P53 proteins in the regulation of the cellular apoptosis. Methods: SMMC-7721 cells were determined with MTT assay. Flow cytometry (FCM) analysis was carried out to quantify cellular apoptosis and the changes of cell cycle. Expression of Bcl-2, C-myc and P53 proteins was detected with immunocytochemical technique and FCM. Results: Exposure of SMMC-7721 cells to elemene resulted in an inhibition of cell growth. The IC_{50} value of elemene for SMMC-7721 cells was 37.4μg/ml. The inhibition of elemene on the proliferation of SMMC-7721 cells consisted of cell cycle arrest in the transition from G_0/G_1 to S phase to induce apoptosis of the cells, which was confirmed by characteristic ultrastructural changes and by apo hypodipoid DNA peak on FCM. After 24 hours of exposure to elemene, FCM revealed that bcl-2 and c-myc were significantly downregulated while p53 up-regulated. Conclusion: Elemene might exert effects on SMMC-7721 cel line of human hepatocellular carcinoma through an inhibition on cell-proliferation to induce apoptosis. The mechanism might be related to the combination of down-regulation of bcl-2 and c-myc and an up-regulation of p53.

Key words elemene; apoptosis; hepatocellular carcinoma

1例血管免疫母细胞性淋巴结病的影像诊断

Imging diagnosis of 1 case of angio-immunoblastic lymphadenopathy

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患者女性, 61岁。反复发热,淋巴结肿大 2月伴皮疹入院。查体: 轻度贫血貌,双下肢出现对称密布的鲜红色点状皮疹。双侧颈后、腋窝及腹股沟处可扪及数个 2 cm× 2 cm大小的淋巴结,呈串珠状排列、质韧、活动,有触痛。取右颈后淋巴结活检,病理诊断: 血管免疫母细胞性淋巴结病。

胸部正侧位片示右上纵隔增宽,双肺门影增大模糊,中纵隔气管旁淋巴结肿大。双肺野满布斑点斑片状模糊阴影,以双肺野内中带为重。心影轻度增大,左侧肋膈角及左膈面掩盖。CT扫描: 主肺动脉窗及左肺门区多个肿大的淋巴结,与左肺门血管分界不清,大者 1.8 cm× 1.4 cm,左侧胸腔可见少量积液。

讨论

血管免疫母细胞性淋巴结病是 1974年 Fri-zzera等首先报道的[1]。它是一种不明原因的 T细胞抑制减少, B细胞增生引起的全身性疾病。主要临床表现为全身淋巴结肿大伴皮疹。

该病的胸部影像学特点为:① 肺门双侧增大和/或伴有纵隔增宽;② 双肺间质性炎症改变,甚至演变为斑片状或大片状渗出性炎症;③ 胸腔少至中量积液;④ CT或 MRI检查可清楚显示肿大的淋巴结主要位于双肺门及气管旁中纵隔区[1]。腹部影像学表现为腹腔淋巴结肿大及肝脾肿大[2]。

本例 3次胸片示肺部病变由双下肺间质性改变演变为全肺实质性表现,误诊为一般肺炎。但抗炎治疗病变逐渐加重,可能与长期应用激素及免疫抑制剂治疗,机体抵抗力降低,伴发霉菌感染有关。同时对本病临床特点及 X线、CT表现认识不足亦是导致误诊的原因。总之,血管免疫母细胞性淋巴结病影像学定性诊断较困难,确诊需靠淋巴结活检。文献 [2]报道国内 100多例该类病变多依据淋巴结活检证实。因此,对疑有该病者应尽早取浅表淋巴结活检,以期早期诊断、早期治疗。

关键词 血管免疫母细胞性淋巴结病; 放射摄影术; 断层摄影; X线计算机

中图法分类号 R816.4

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