Identification of Malignant Cells in Serous Fluids Using a Panel of Monoclonal Cytokeratin Antibodies, Epithelial Membrane Antigen(EMA) , Carcino Embryonic Antigen (CEA)

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Abstract

Background and Objective: Identification of malignant cells and the type of malignancy in Effusionsis very important. The main aim of this study was to differentiate between reactive mesothelial cells and malignant cells; and to determine the type of the tumor cells in effusions with the aid of tumor markers Creatine Kinase (CK), EMA and CEA.

Material and Methods: Forty serous fluid cytology samples delivered to pathology laboratory of Panje- Azar Hospital (15 were malignant and 25 were suspected for malignancy) were stained by immunocytochemistry technique with the aid of aforementioned tumor markers, CK, EMA and CEA.

Results: Of 15 malignancy cases, 13 were positive for three markers and the rest were negative just for CEA. In 25 of suspected to malignancy for EMA: 15 were strongly and 6 weakly positive and 4 were negative ; for CK : 10 were strongly and 5 weakly positive and 5 cases were negative; and for CEA : 5 were strongly and 5 weakly positive and 15 were negative.

Conclusion: Totally, % 87.5 of malignant fluid were positive for CK marker and %90 for EMA marker. EMA and CK were found to be the most reliable epithelial markers and very useful in differentiating carcinoma cells from reactive mesithelial cells. In Ten (40%) of the samples suspected to adenocarcinoma, CEA was positive and this indicate that CEA can be an important reference for identifying malignant effusions.

Keywords: Monoclonal Antibody; Cytokeratin; Epithelial Memberane Antigen; Carcinoemberyonic Antigen

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