EP150 / #325

EPOSTER VIEWING: AS04 ENDOMETRIAL/UTERINE CORPUS CANCERS

ENDOMETRIAL CANCER: AGREEMENT BETWEEN P53 IMMUNOHISTOCHEMISTRY AND TP53 MUTATIONAL ANALYSIS ?

Alixe Salmon[1], Adriane Dheur[2], Vincent Bours[3], Katty Delbecque[4], Élodie Gonne[1], Clémence Pleyers[5], Marjolein De Cuypere[2], Frédéric Goffin[2], Pierre Lovinfosse[6], Athanasios Kakkos[2], Frédéric Kridelka[2], Christine Gennigens[1]
[1]Centre Hospitalier Universitaire (CHU), Medical Oncology, Liège, Belgium, [2]Centre Hospitalier Universitaire (CHU), Gynaecology And Obstretrics, Liège, Belgium, [3]Centre Hospitalier Universitaire (CHU), Genetics, Liège, Belgium, [4]Centre Hospitalier Universitaire (CHU), Pathology, Liège, Belgium, [5]Centre Hospitalier Universitaire (CHU), Radiotherapy, Liège, Belgium, [6]Centre Hospitalier Universitaire (CHU), Nuclear Medicine, Liège, Belgium

Objectives: Endometrial carcinoma (EC) is the most common cancer of the female genital tract in developed countries. TP53 mutation is the most significant predictive biomarker for poor prognosis in EC patients. In immunohistochemistry (IHC), overexpression and complete absence of p53 protein are interpreted as mutation-type. We aimed to compare the agreement between the results of p53 in IHC and TP53 mutational analysis.

Methods: Between January 2019 and December 2021, we conducted a monocentric retrospective study of 166 patients treated for EC (all stages) at the CHU of Liège. Sixty-two patients were excluded. The remaining 104 patients had both p53 IHC and mutational analysis. McNemar's test and Kappa of Cohen coefficient were used to evaluate the agreement between the 2 methods.

Results: The McNemar's test demonstrated 28.9% and 23.1% of p53 mutation-type in IHC and mutational analysis, respectively (p=0.16). There were twelve tumours with false-positive staining p53 IHC and no TP53 mutation detected (specificity of 75.0%). Moreover, there were six tumours with false-negative IHC but TP53 mutation detected (sensitivity of 85.0%). The agreement between p53 IHC and TP53 mutation analysis was 86/104 (82.7%) patients. The Kappa of Cohen coefficient was 0.55 (IC95%: 0.37-0.73), confirming the similarity between both techniques.

Conclusions: Abnormal expression of p53 in IHC can be considered as a reliable surrogate test for TP53 mutation. Moreover, p53 IHC is quicker, easier to perform and less expensive. Nevertheless, based on a 25% rate of false positivity, consideration should be given to confirm TP53 status for all patients with abnormal p53 IHC.