CIRCULATING HPV CELL-FREE DNA IN CERVICAL CANCER

Introduction/Background Human papillomavirus (HPV) related cervical cancer is the fourth most frequent cancer in women worldwide. Currently patient follow-up and therapy monitoring is solely based on clinical examination and cross-sectional imaging. Liquid biopsies for cell-free circulating tumor DNA in cancer are a novel biomarker to detect treatment response, residual disease, and relapse. The aim of this study was to investigate the potential use of cell-free circulating HPV-DNA (cfHPV-DNA) in plasma samples of patients with cervical cancer.

Methodology In this proof-of-concept study cfHPV-DNA levels were measured using a highly sensitive Next-Generation-Sequencing-based approach targeting a panel of 13 high-risk HPV-types. For nine patients cfHPV-DNA sequencing was compared to HPV testing in corresponding paraffin embedded tumor sample. Sequential plasma samples were taken from four patients receiving primary chemoradiation.

Results A total of 70 blood samples was collected from n=35 patients. cfHPV-DNA was successfully detected in 25/35 (71%) patients; of them, 8 patients had some surgical pretreatment when the sample was collected. A significant correlation between tumor burden and cfHPV-DNA detection was observed: while cfHPV-DNA was detectable in most patients (20/22) with locally advanced or metastatic disease (FIGO IB3 – IVB), detection was successful in only 5/13 patients with early-stage disease (FIGO IA – IVA). Pre-treatment laparoscopic staging surgery plays an important role in the treatment and the decision of the radiation field. Although imaging modalities are improving, the current gold standard for determining lymph node status is surgical sampling mainly in developing countries with difficult access to PET-CT.

Conclusion In this proof-of-concept study we were able to detect cfHPV-DNA in plasma samples of patients with primary and recurrent cervical cancer. Our findings may hold potential to develop a powerful and easily accessible tool in cervical cancer management.

INTRODUCTION

Anaemia in patients with cervical cancer undergoing chemoradiation was a strong prognostic factor for local control and survival. The pre-brachytherapy Hb level had the strongest impact indicating the benefit from correcting the anaemia before treatment and maintaining the Hb level above 120 g/L during the treatment.

SANCTUARY CIRCULATING HPV CELL-FREE DNA IN CERVICAL CANCER

CERVICAL CANCER

RETROPERITONEAL PARAOARTIC LYMPH NODE STAGING IN ADVANCED CERVICAL CANCER: TUNISIAN EXPERIENCE


Int J Gynecol Cancer: first published as 10.1136/ijgc-2022-ESGO.85 on 20 October 2022. Downloaded from http://ijgc.bmj.com/ on September 15, 2023 by guest. Protected by copyright.