New Doctorial Cancer Research

Cervix Cancer in Mozambique: Role of Human Papillomavirus (HPV) in the Etiopathogenesis of Cervix Cancer and Evaluation of the Usefulness of Some Markers in the Diagnosis

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Cervix cancer is the most common cancer in Mozambican women, and this study was the first to evaluate the HPV viral types in both intraepithelial and invasive lesions. The present work studied the frequency and distribution of HPV types in cervical neoplastic lesions of Mozambican women. We showed that the high-risk types of HPV identified in Mozambican women coincide with those previously described in other sub-Saharian countries: HPV types 16, 18, 31, 33, 35, 45, and 58. When whole cervix cone specimens were evaluated, we showed that the frequency of HPV infection by multiple viral types was very high.

Since most cervix carcinomas are diagnosed at advanced stages and a screening program for preinvasive lesions in Mozambique is not feasible in the present situation of the country, we were further engaged in identifying relevant markers for "single observation" outcome prediction. This may allow us to take decisions in a single biopsy specimen without waiting for an improbable follow-up. We observed that loss of expression of the mucinlike Gp230 glycoprotein and of keratins 10 and 13, as well as increased expression of keratins 8 and 17, was related with the severity of intraepithelial lesions.

Comment by Jahn Nesland

The work for this thesis has been performed in IPATIMUP, University of Porto. It is a well performed piece of work, applying molecular pathology techniques on clinical material from Mozambique. It is an important study for several reasons. Cervical cancer is a major health problem in women in developing countries. In order to improve diagnosis and to explore mechanisms involved in carcinogenesis, the candidate and her supervisor mapped the occurrence of HPV subtypes and also the heterogeneity within one lesion. It was confirmed that the presence of multiple subtypes in primary lesions is common, an observation of importance for vaccine strategies. A question to be explored in the future is the relation between the primary tumors and related metastases. Do we find the same heterogeneity in the metastases as we do in the primary tumors?

In order to clarify mechanisms involved in cervical cancer development that can contribute to improve diagnostics and to identify potential targets for therapy, it is essential

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to start by establishing high-quality diagnostics. This is achieved with review of a series of cases, development of good quality control programs, and establishment of possibilities for doing special immunostainings when needed. The contact with a larger pathology laboratory, such as IPATIMUP, gives access to all special methods possible. The collaboration with a group like this in Mozambique is also very rewarding for IPATIMUP: It gives the possibility to obtain larger series of cases from another ethnic population. The stage of the disease is often more advanced compared with the local situation. Thus, it is a win-win situation, with excellent possibilities for exploring mechanisms involved in the cervix carcinogenesis process.