High-risk human papillomavirus in anal squamous cell carcinoma: a 'conservative' leading role

Anal squamous cell carcinoma (ASCC) is a rare malignancy in the general population. Nonetheless, its incidence has risen around the world over the past three decades. High risk-HPV infection is recognized as the main causative agent of ASCC: incorporation of viral DNA into the host cell genome results in expression of the viral oncoproteins E6 and E7, which disrupt the p53 and retinoblastoma tumor suppressor genes, respectively, to promote oncogenesis [1]. HPV is detected in more than 80% of all ASCC cases, with HPV-16 being the most prevalent subtype [2]. Detection and genotyping of HPV is usually performed at diagnosis on the primary tumor tissue but the presence or absence of the virus in metastatic lesions is essentially unknown.

We report the case of a 51-year-old woman referred to our hospital in March 2014 for the diagnosis of a stage IIIB moderately differentiated, non-keratinizing ASCC. The anal tumor tissue was positive for the presence of HPV-16. From 23 April 2014 to 16 June 2014, the patient received external-beam radiotherapy concomitant to systemic chemotherapy with cisplatin and capecitabine. The first follow-up evaluation, 8 weeks after the completion of CT-RT, revealed a complete remission of disease. In February 2015, a computed tomography scan showed a single suspected 38 mm diameter liver lesion at the VII segment. A biopsy confirmed the nodule as a liver metastasis of ASCC which once again proved positive for the presence of HPV-16. After three cycles of chemotherapy with carboplatin and taxol, a shrinkage of the known liver nodule was achieved and, consequently, the patient underwent atypical resection of the VII liver segment in July 2015. At the subsequent clinical and laboratory assessment, the patient appeared to be free of disease. Regular follow-up is ongoing.

To our knowledge, this is the first report demonstrating the presence of the same HPV genotype detected in the primary ASCC and in its metachronous metastasis. This is an important finding, pointing to the pervasive biological characteristic of HPV-infection in the development of ASCC and subsequently in promoting and maintaining the process of tumor growth and spreading over time. This concept, now clearly proved, has significant implications at different levels: in improving our understanding of the HPV-related carcinogenesis and metastasization, in addressing the best treatment and in guiding future research in this field. Over the last four decades, only limited research progress has been made in ASCC. Therefore, there remains an urgent need to identify novel personalized treatments and high-activity drugs in order to offer an improved chance of cure for ASCC patients.

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The role of *AR* polyQ tract in male breast carcinoma: lesson from an SBMA case

Spinal and bulbar muscular atrophy (SBMA), also known as Kennedy's disease (KD), is a rare, X-linked neuromuscular disease affecting adult male patients. It is characterized by lower motor neuron degeneration, leading to slow progressive limb weakness and bulbar symptoms. The disease is caused by an over-38 CAG triplet expansion encoding a polyQ tract in the androgen receptor (*AR*) gene [1]. The expanded polyQ tract confers a cytotoxic function to the AR, underlying the neuromuscular phenotype, or a loss of its physiological function, mainly manifesting as partial androgen resistance. Male breast carcinoma (MBC) is an uncommon disease, accounting for less than 1% of all cases of breast carcinoma [2]. Although the role of androgens in MBC pathogenesis is poorly understood, the expression of AR by breast cancers seems to act as a protective mechanism [3].

We report the case of a 55-year-old male who was referred to our tertiary-level Neuromuscular Center after receiving a diagnosis of SBMA elsewhere. A confirmatory genetic test was repeated and an expanded 55 CAG repeat tract in the *AR* gene was verified. Being a common feature of the disease, the patient had suffered