

S29. The IARC-Commitment to Tumor Prevention: The Example of Cervical Cancer

S. Franceschi

International Agency for Research on Cancer, Unit of Field and Intervention Studies, Lyon, France

Every year approximately half a million women world-wide develop cervical cancer of whom 80% live in poor countries where population-based screening programmes are virtually non-existent. The role of sexually transmitted agents in the aetiology of cervical cancer has been suspected for more than a century, but knowledge in this field has rapidly expanded only in the last 20 years, after major improvements were made in detection methods for human papillomavirus (HPV). A dozen types of human papillomavirus (HPV) have been identified in 99% of biopsy specimens from cervical cancer world-wide and the relative risk (RR) estimates for HPV in case-control studies of cervical cancer are in the 50 to 100 range. There is no effective medical treatment for HPV, but a prophylactic vaccine, based on late (L) 1 HPV 16 proteins, has been shown to be safe, highly immunogenic (with anti-HPV IgG titers many times higher than those that follow natural infection). It has also proved to be efficacious in preventing persistent HPV infections in a trial of 1523 HPV 16-naïve young women in the United States. A multivalent vaccine against the

most common oncogenic HPV types may thus ultimately represent the most effective way to prevent cervical cancer worldwide alone or in combination with screening. It may, however, take several years before this approach becomes a reality. Thus, early detection of cervical cancer precursor lesions by screening and their treatment will remain the most important measures for the control of cervical cancer for the foreseeable future. IARC has contributed substantially to progress in the HPV field through international collaborative studies: case-series where the range of HPV types in cancer specimens can be identified; case-control studies, where RR for HPV and other risk factors can be computed; population-based surveys where the prevalence of, and risk factors for, HPV in women with different cytological findings can be studied; trials and implementation of new modalities of cervical cancer screening in developing countries. These studies will be reviewed with a special focus on those which are essential to translate our knowledge on HPV into successful vaccination and screening programs.