Progress in the use of immunotherapy to treat uterine cervical cancer

Beatriz Helena De Lorenzo, Marisa de Carvalho Ramos, Márcia Antoniazzi Michelin, and Eddie Fernando Candido Murta

Research Institute of Oncology (IPON), Discipline of Gynecology and Obstetrics, Universidade Federal do Triângulo Mineiro, Uberaba, Minas Gerais, Brasil

ABSTRACT

Cervical intraepithelial neoplasia has a high incidence in many of the world’s populations, and it has been hypothesized to be a precursor of uterine cervical cancer. Cervical intraepithelial neoplasia also shares similar pathological traits with human papillomavirus infections. Various surgical treatments have been proposed over the years for the treatment of cervical intraepithelial neoplasia, including conization, hysterectomy and, more recently, a loop electrosurgical excisional procedure. However, a higher recurrence rate of the disease has been observed after these procedures. Therefore, immunotherapy has been proposed as a potential treatment to be used in conjunction with surgery, or independently, as treatment for cervical intraepithelial neoplasia. Currently, immunotherapy includes the application of recombinant viral proteins, vaccines, or antibody- and dendritic cell-based therapies. In this review, we summarize the development and testing of these immunotherapy approaches, particularly in regard to their application for the treatment of cervical intraepithelial neoplasia.

Key words: cancer, cellular therapy, human papillomavirus, immunotherapy, interferon, uterine cervical cancer.

Acknowledgments: The authors thank Research and Projects Financing (FINEP), the Support Research Foundation of State of Minas Gerais (FAPEMIG), and the National Council for Scientific and Technological Development (CNPq) for financial support.

Correspondence to: Eddie Fernando Candido Murta, MD, PhD, Research Institute of Oncology (IPON), Discipline of Gynecology and Obstetrics, Av Getúlio Gvarita 130, Bairro Abadia 38025-440, Uberaba, Minas Gerais, Brasil.
Tel 55-34-3318-5326; e-mail eddiemurta@mednet.com.br or eddiemurta@pq.cnpq.br

Received April 16, 2008; accepted July 29, 2008.