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Isolated pelvic perfusion with chemofiltration for advanced stage IVa and recurrent cervical cancer

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Introduction: In advanced or recurrent cervical cancers, radical resections with local irradiation may no longer be radical because of micro-invasion behind the resection margins. The more local tumor progression becomes evident, the more therapies are intensified until a point is reached where therapy-related toxicity may outweigh clinical benefit and quality of life.

Material & Methods: In order to include the entire pelvis with regional lymphnodes into an isolated perfusion circuit, the femoral artery and vein were cannulated with balloon catheters under general anesthesia. Both balloons were placed above the aortic and vena cava bifurcation. Both upper thighs were blocked with pneumatic cuffs. Because of tenfold increased cytotoxicity of Adriamycin and Mitomycin, and unaffected cytotoxicity of Cisplatin under hypoxia, the 15 minutes isolation perfusion of this three drug combination was performed under hypoxic conditions followed by 30–45 minutes of chemofiltration for systemic detoxification.

Results: In a patient with advanced stage IVa disease with tumor invasion of the bladder, lymphnodes and both parametria, after ineffective systemic chemotherapies, a histologically complete remission after hysterectomy was revealed after four courses of isolated pelvic perfusion. There was no significant systemic or local toxicity and the patient is in continuing complete remission after 11 years. In eight patients with advanced and pre-treated recurrent cervical cancers, after four isolated pelvic perfusions, the median progression-free survival was 202 days, the median overall survival time 245 days. Two patients actually survive recurrence-free for 20 and 36 months.

Conclusion: Isolated hypoxic pelvic perfusion with chemofiltration is a valuable method for therapy of advanced or recurrent cervical cancers, refractory to conventional therapies.

Biography

Karl Reinhard Aigner is Medical Director of the Department of Surgical Oncology in Medias Klinikum Burghausen (Bavaria) / Germany. He had his surgical training in cardiovascular surgery at Friedrich-Alexander University in Erlangen. At Justus-Liebig University Giessen he specialized in surgical oncology, focusing on vascular techniques of drug delivery such as Implantofix and Jet Port catheters, and in 1981 first performed a technique of isolated perfusion of the liver with heart-lung machine in man. Furtheron he developed various techniques of segmental vascular isolation of body segments and organs, and the stopflow technique with adequately designed catheters. In 1982, together with Prof. Stephens from Sydney, he initiated the biannual International Congress of Regional Cancer Treatment (ICRCT) and from 1987 to 1991 was president of the International Society for Regional Cancer Therapy. From 1985 to 1998 he was managing editor of the International Journal Regional Cancer Treatment. He is author of numerous publications and book chapters, lectured and performed teaching operations on vascular perfusion techniques and oncological surgery in Europe the United States and Asia.

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