

**Three Dimensional Conformal versus Volumetric Arc Therapy in Gynecological Cancer:
A Retrospective Study Evaluating Therapeutic Effect and Toxicity**

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Abstract

Introduction: Technological advances in the field of radiation therapy have established modern techniques like Volumetric Modulated Arc Therapy (VMAT) as the radiation treatment of choice for nearly all malignancies. Unfortunately, due to many reasons that are not in the scope of this paper, even nowadays not all patients have access to these modern techniques and are managed with the “older” Three-Dimensional Conformal Radiation Therapy (3DCRT).

Methods: In this retrospective study, we performed a comparison of VMAT to 3DCRT by terms of five (5) year overall survival (OS), disease-free survival (DFS), and toxicity in patients treated for endometrial and cervical cancer. A total of 173 gynecological cancer patients treated with either VMAT or 3D-CRT technique were included in this study: 73 patients (Group A) were treated with VMAT, and 100 patients (Group B) were managed with 3D-CRT technique. The endpoints of this trial were: disease free survival (DFS), overall survival (OS), and toxicity of treatment. Results: Our results showed significant 5-year DFS advantage for the patients in group A, while OS had no significant difference between the two groups.

Conclusion: Reduced toxicity was demonstrated in group A compared to group B, regarding mostly gastrointestinal (GI) toxicity.

Keywords: volumetric-modulated arc therapy, intensity-modulated radiation therapy, three-dimensional conformal radiotherapy, gynecological cancer