Results: In all cases, the obtained dose following the TG186 method was lower than that obtained with the TG43 recommendations. Moreover, differences were found between the two described applicators (that had never been noticed with the TG43). The prescribed dose and the dose to 2cc of the bladder and rectum varied as follows (figure 1): between 0.4% and 2.7% for the prescribed dose, between 0.6% and 2.5% for the bladder and between 0.9% and 2.7% for the rectum.

Conclusion: Differences were found between the dosimetry plans obtained with the TG43 and our model based dose calculation algorithm following TG186 recommendations. A deeper knowledge of this new algorithm and its applications in a more accurate dose calculation will be the future of this work.

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Adjuvant brachytherapy as a part of a multimodal treatment for high-grade uterine sarcoma
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Purpose or Objective: To assess the loco-regional efficacy and toxicity of a multimodal strategy including brachytherapy (BT) as part of the adjuvant treatment of localized high-grade uterine sarcoma.

Material and Methods: A single center retrospective analysis of patients treated from 1985 to 2015 was conducted. 104 pts with high-grade uterine sarcoma were identified. 80 pts had leiomyosarcomas, 17 undifferentiated sarcomas, 3 rhabdomyosarcomas and 1 high grade adenosarcoma. 10 pts had a microscopic (n = 8) or macroscopic (n = 2) positive surgical margins.

Results: The median follow-up time was 5.4 years. 57 pts underwent perioperative chemotherapy. 102 pts underwent postoperative external beam radiation therapy (EBRT) followed by a BT boost, and 2 pts received BT without EBRT. The median pelvic EBRT dose was 45 Gy (range 25-50.4). 69 pts were treated with HDR BT (median dose = 10Gy), 33 with LDR (median dose = 15Gy), and 2 with PDR without EBRT (median dose = 60Gy). The 5-year local-regional failure-free survival and overall survival rates were 93% (CI 95% = 87-99%), and 73%(CI 95% = 0.63-0.84%) respectively. Only 5 vaginal recurrences were identified. 2 pts presented grade 3 late toxicity, all other side effects were grade 2 or less.

Conclusion: Adjuvant BT included in a multimodal treatment was associated with a high loco-regional control rate and acceptable acute and late toxicity in patient with localized high-grade uterine sarcoma.