Non-closure of peritoneum after abdominal hysterectomy for uterine carcinoma does not increase late intestinal radiation morbidity

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**ABSTRACT**

**Background/Aim:** To evaluate whether non-closure of the visceral peritoneum after total abdominal hysterectomy (TAH) and bilateral salpingo-oophorectomy (BSO) in patients with uterine corpus carcinoma influences the volume of the small intestine within the irradiated volume during adjuvant radiotherapy or late radiation intestinal toxicity.

**Materials and methods:** A total of 152 patients after TAH + BSO with adjuvant pelvic radiotherapy were studied. The state of peritonealization was retrospectively evaluated based on surgical protocols. The volume of irradiated bowels was calculated by CT-based delineation in a radiotherapy planning system. The influence of visceral peritonealization upon the volume of the small intestine within the irradiated volume and consequent late morbidity was analyzed.

**Results:** Visceral peritonealization was not performed in 70 (46%) of 152 studied patients. The state of peritonealization did not affect the volume of the irradiated small intestine ($p = 0.14$). Mean volume of bowels irradiated in patients with peritonealization was 488 cm$^3$ (range 200–840 cm$^3$, median 469 cm$^3$); mean volume of bowels irradiated in patients without peritonealization was 456 cm$^3$ (range 254–869 cm$^3$, median 428 cm$^3$). We did not prove any significant difference between both arms. Nor did we observe any influence of non-peritonealization upon late intestinal morbidity ($p = 0.34$).

**Conclusion:** Non-closure of the visceral peritoneum after hysterectomy for uterine corpus carcinoma does not increase the volume of the small intestine within the irradiated volume, with no consequent intestinal morbidity enhancement.

**Keywords:** Peritonealization, Hysterectomy, Intestine, Radiotherapy