DICHIARAZIONE

Relatore: Dr.ssa LORENA DRAGHINI

Come da nuova regolamentazione della Commissione Nazionale per la Formazione Continua del Ministero della Salute, è richiesta la trasparenza delle fonti di finanziamento e dei rapporti con soggetti portatori di interessi commerciali in campo sanitario.

- Posizione di dipendente in aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE)**
- Consulenza ad aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE)**
- Fondi per la ricerca da aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE)**
- Partecipazione ad Advisory Board **(NIENTE DA DICHIARARE)**
- Titolarietà di brevetti in compartecipazione ad aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE)**
- Partecipazioni azionarie in aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE)**
- Altro

DEFINITIVE THREE DIMENSIONAL HIGH-DOSE RATE BRACHYTHERAPY (HDR-BRT) FOR INOPERABLE ENDOMETRIAL CANCER PATIENTS

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March 2005 -April 2016

443 endometrial cancer patients referred to our institution

426 (96%) surgery and adjuvant RT based on individual risk factors

DEFINITIVE RADIOTHERAPY INOPERABLE FOR AGE OR COMORBIDITIES

14 (3%) definitive HDR-BRT

3 (1%) HDR-BRT after EBRT

METHODS

- Median AGE 79 years (range, 60-95)
- Median KPS 90% (range, 60-100)

- HISTOLOGY: **G1-2 endometrial adenocarcinoma** in 9 (53%), **LOW-RISK HISTOLOGY**
  G3 endometrial adenocarcinoma in 5 (29%)
  non-endometrial carcinoma in 3 (18%) patients **HIGH-RISK HISTOLOGY**
  (i.e. siero-papillar carcinoma in 1, clear cell carcinoma

- FIGO clinical stage I in 15 (88%)
  III in 2 (12%)

- STAGING: CT- endometrial biopsy, 2 patients also MRI
- 3D HDR-BRT (Fletcher system)
- FOLLOW-UP: physical examination, cervical cytology and CT or MRI wherever feasible
- LOCAL CONTROL : interruption of vaginal bleeding
- LOCAL RELAPSE: recurrent bleeding or imaging progression & confirmatory endometrial biopsy

TREATMENT CHARACTERISTICS

Table 1. Administered doses

HDR-BRT	N° of patients (%)	EQD2 (α/β10)
2 x 7 Gy*	1 (6)	20 Gy
3 x 5 Gy*	1 (6)	19 Gy
3 x 6 Gy*	1 (6)	24 Gy
3 x 6 Gy	1 (6)	24 Gy
3 x 7 Gy	2 (12)	42 Gy
3 x 8 Gy	3 (18)	36 Gy
4 x 7 Gy	2 (12)	40 Gy
5 x 6 Gy	**5 (28)**	**40 Gy**
7 x 5 Gy	1 (6)	44 Gy
EBRT		
23 x 2 Gy*	1 (6)	46 Gy
25 x 2 Gy*	2 (12)	50 Gy

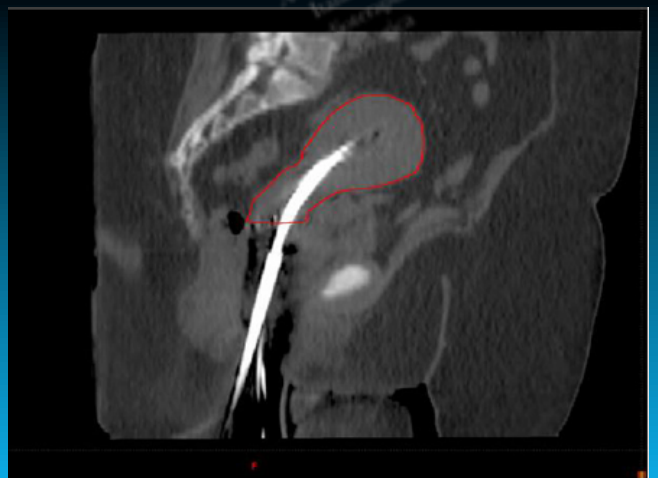
Legend: * patients submitted to external beam radiotherapy and brachytherapy

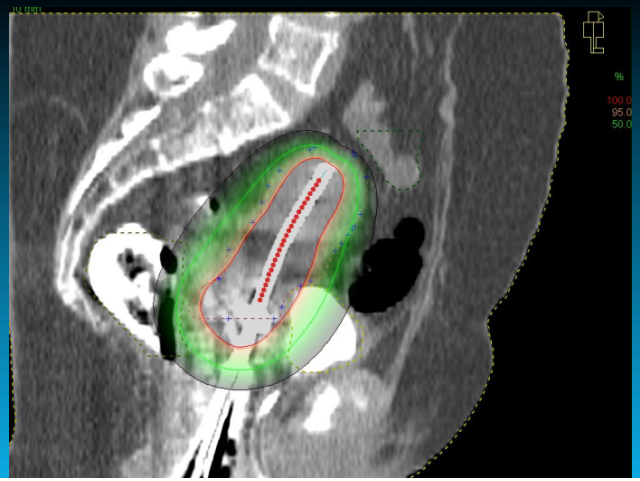
EQD2: Equivalent dose of 2 Gy per fraction calculated using the equation EQD2=([d+α/β]/[2Gy+α/β]) derived from linear quadratic model.

RESULTS

- Median follow-up 36 months (range, 6-131)
- **LC** rates at 3 and 6 years were **86%** and **69%**, respectively
- **CSS** at 1, 2 and 7 years was **93%, 85%, 63%**, respectively

- **Acute toxicity** was registered in **2 (12%)** patients: G2 nausea and G2 proctitis in 1 patient (6%), G2 diarrhea,G2 anemia and G2 proctitis in 1(6%) patient.
- Two patients **(12%)** had G1 **late rectal bleeding**.





RESULTS

UNIVARIATE ANALISYS

Age, stage, dose and **type of radiotherapy** **NO** significant prognostic factors for LC and CSS

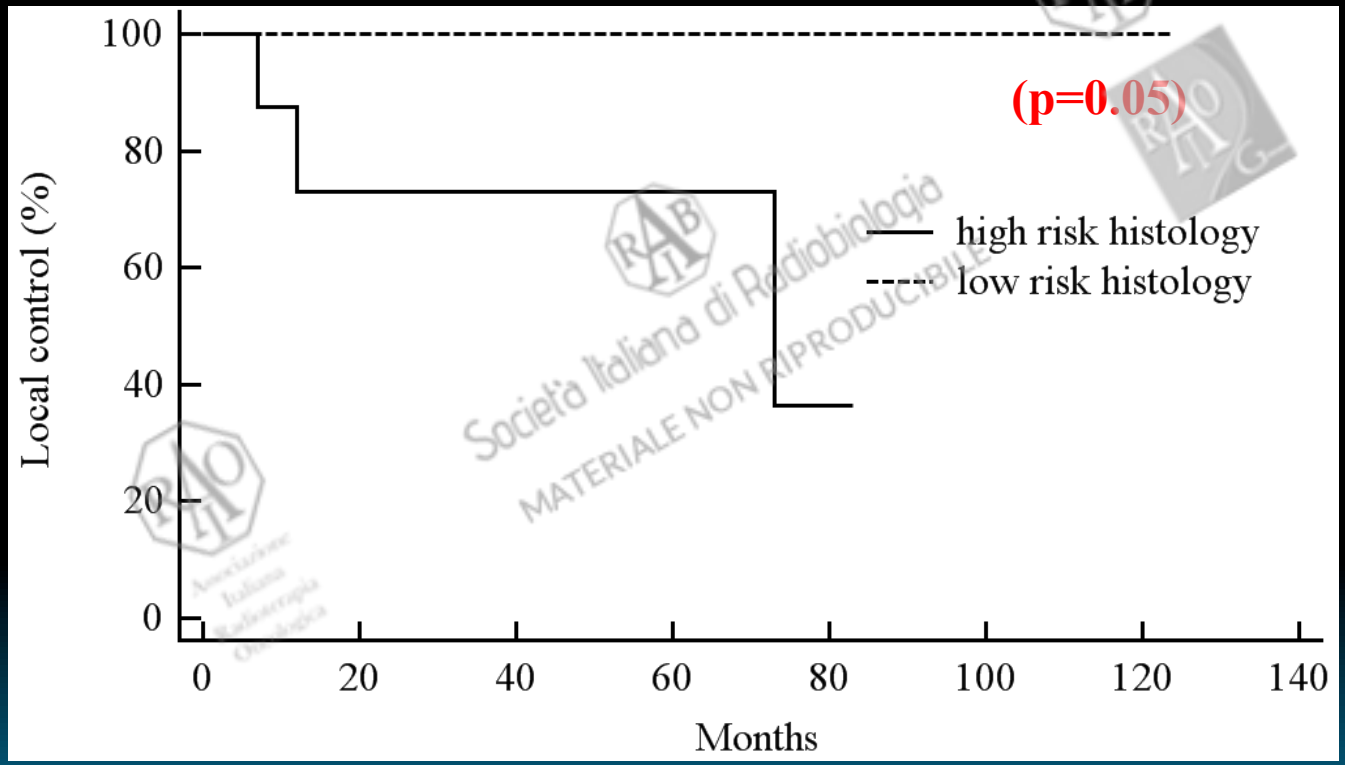
LC at 1 year: **50% for stage III** and **91% for stage I**, **BUT** ***(p = 0.06)***

LC: for **high risk histology is 73% at 1 year and 36% at 6 years** with median duration of LC of 73 months

LC: for low risk histology is 100% at 1 and 6 years, ***(p=0.05)***

RESULTS

Figure 1. Local control probability according to histology

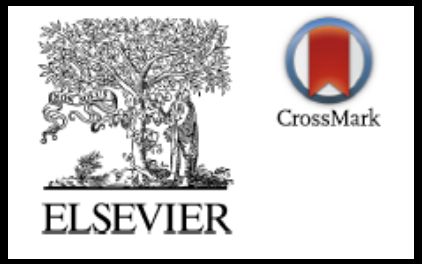


Legend: high risk histology is non-endometrial adenocarcinoma or G3 endometrial adenocarcinoma, low risk histology is G1-2 endometrial adenocarcinoma

Table 2. Article of the last 10 years about definitive radiotherapy treatment for endometrial cancer using 3D HDR-BRT with or without EBRT.

Author	Patient No.	Stage	Type Radiation	Median follow-up	Local control rates	Cancer specific survival	Toxicity (G3-4)
Weitmann et al. (2005)	13	I-II	BRT 5-7x6-7Gy	47 months	100% at 4 yy	100% at 5 yy	0%
Coon et al. (2008)*	35	I-III	EBRT 45Gy +BRT 5x4Gy	33 months	93% at 3 yy	93% at 3 yy 87% at 5 yy	13%
	14		BRT 5x7Gy				
Ohkubo et al. (2011)*	9	I-II	EBRT 30,6Gy+BRT 4x6Gy	52 months	100% at 5 yy	100% at 5 yy	0%
	1		BRT 4x6Gy				
Gill et al. (2014)	18	I	EBRT45Gy+BRT 4-5x5Gy	15 months	90.6% at 2 yy	100%	0%
	20		BRT 5-6x7Gy				
Acharya et al. (SEER) (2015)	260	I	EBRT	-	-	74% at 3 yy	-
	144		EBRT+BRT			82% at 3 yy	
	46		BRT				
Acharya et al. (2016)	15	I-III	EBRT48-50,4Gy+BRT 6x3,75Gy	29 months	80,1% at 12yy (18,9% inc. failures)	65,2% overall survival at 2 yy	4,6%
	28		BRT 6x6Gy				

*Some treatment plan with 2-D dosimetry



American Brachytherapy Society
2015

Brachytherapy 14 (2015) 587–599

Consensus statement for brachytherapy for the treatment of medically inoperable endometrial cancer

Julie K. Schwarz[1,*], Sushil Beriwal[2], Jacqueline Esthappan[1], Beth Erickson[3], Colleen Feltmate[4], Anthony Fyles[5], David Gaffney[6], Ellen Jones[7], Ann Klopp[8], William Small Jr.[9], Bruce Thomadsen[10], Catheryn Yashar[11], Akila Viswanathan[12]

CONCLUSIONS definitive HDR-BRT

1. Though number of patients is limited, definitive HDR-BRT for endometrial cancer could be an alternative option for inoperable patients (e.g., elderly ones).

2. Compliance is good and toxicity limited.

3. A good LC can be achieved particularly in patients with stage I & low risk histology endometrial cancer.

4. Clinical staging with MRI is advisable to properly evaluate local extension of disease.

5. The addition of EBRT to BRT could be considered based on prognostic factors as suggest by ABS.

THANKS FOR THE ATTENTION

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