Positive peritoneal cytology in early stage endometrial cancer does not influence the prognosis

PM Tebeu[1,5], GY Popowski[2], HM Verkooijen[3], F Ludicke[4], M Usel[3], C Bouchardy[3], AL Major[1,4]

Departments of [1]Obstetrics and Gynaecology University Hospitals (UH) Geneva, UH [5] Yaounde, Cameroon,

[2]Radiation Oncology UH Geneva

[3] Geneva Cancer Registry,

[4] Fondation pour Recherches Medicales, Geneva

Epidemiology of endometrial cancer

- 15-20 new cases per 100 000 women
- Fourth cancer in women after breast, lung and colon
- First genital tract cancer in developed countries
- Third genital tract cancer in developing countries
- Cowles et al (1985): staging change in 30.4% at surgery
- Creasman, Morrow et al (1987): out of uterus 22%

  (grade and myoinvasion are factors of node invasion)

FIGO 1971

Stage I:	Ia (less than 8 cm)
	Ib (8 cm and more)
Stage II:	Corpus + cervix
Stage III:	Outside uterus
Stage IV:	IVa (bladder / rectal mucosa)
	IVb : distal

Against FIGO 1971 clinical staging

- Musumesi et al (1980): lymph nodes 9.9% at surgery
- Aalders et al (1980): Survival 91% Vs 72% if ICG3
- Creasman al (1981): recurred 10% Vs 34% ìf cytology
- Kadar et al (1982): Stage II 3 cases Vs 18 at surgery
- Cowles et al (1985): staging change in 30.4% at surgery
- Creasman, Morrow et al (1987): out of uterus 22%

(grade and myoinvasion are factors of node invasion)

1988 FIGO

Stage I:	Ia (epithelial invasion only)
	Ib (myometrial invasion <50%)
	Ic (myometrial invasion >=50%)
Stage II:	corpus + cervix
	IIa (glands)
	IIb (stroma)
Stage III:	IIIa (serosa, adnexa, peritoneal cytology)
	IIIb (vagina)
	IIIc (nodes)
Stage IV:	IVa (bladder / rectal mucosa),
	IVb distal

Negative Impact of positive peritoneal cytology on survival

1. Harouny et al (1988): (5-year disease specific survival)

   stage I+II: cytology negative / positive (99% Vs 83%)

2. Morrow et al (1991): (5-year disease specific survival)

   stage I+II: cytology negative / positive (93% Vs 56%)

3. Obermair et al (2002): (3-year disease free survival)

   stage I+II: cytology negative / positive (96% Vs 67%)

No negative impact of peritoneal cytology

1.	Grimshaw et al (1990):	I cyto- Vs I cyto+	(NS)
2.	Kadar et al (1992):	I&II cyto- Vs I&II cyto+	(NS)
3.	Kasamatsu et al (2003):	I&II cyto- Vs I&II cyto+	(NS)
4.	Preyer et al (2002):	I cyto+ Vs IIIa histologic	(S)

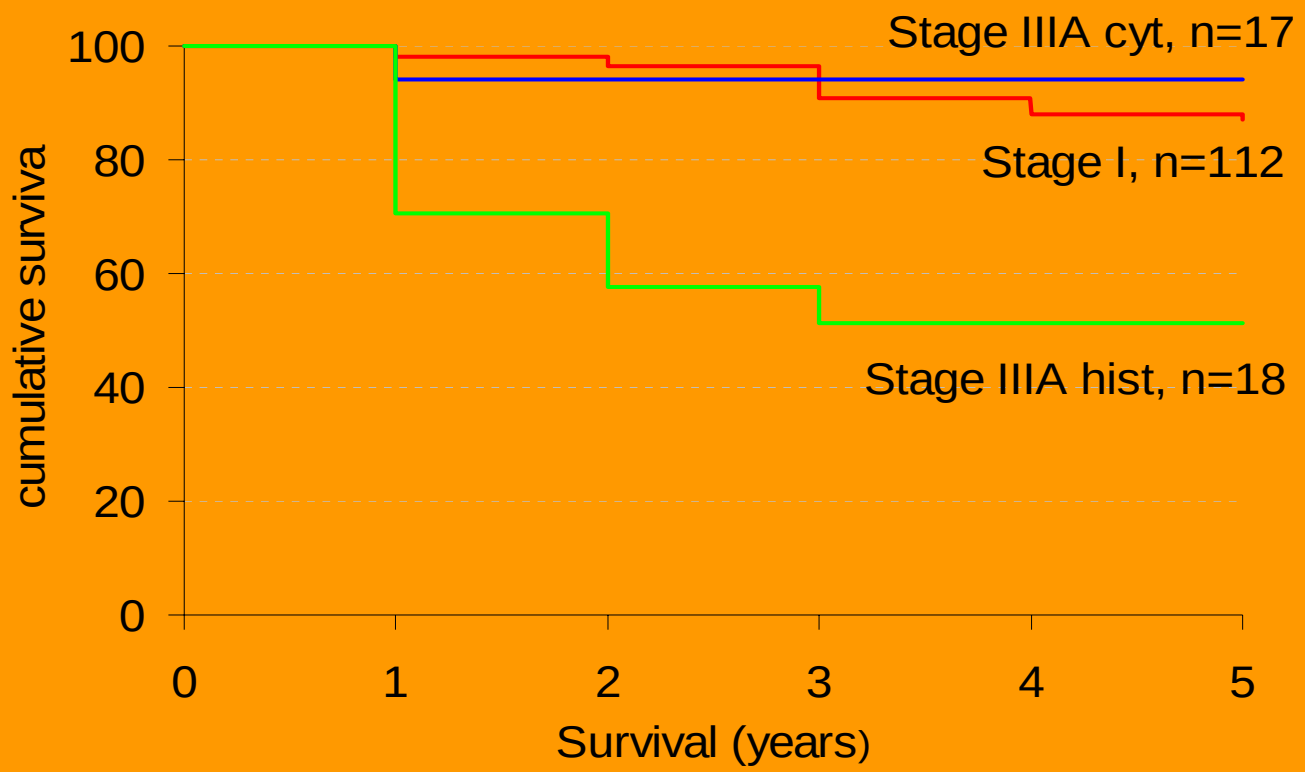
Shortcomings

	Staging	Stage	RT
Harouny et al (1988)	clinical	I & II	some
Morrow et al (1991)	clinical	I & II	some
Obermair et al (2002)	clinical	I & II	some
Kadar et al (1992)	surgical	I & II	some
Preyer et al (2002)	surgical	I & II	some
Kasamatsu et al (2003)	surgical	I & II	some
Grimshaw et al (1990)	surgical	I	some

Tebeu et al. 2003
« Impact of peritoneal cytology on survival of endometrial cancer patients with surgery and radiotherapy »

- Surgical staging
- No cervical invasion
- All with radiotherapy
- I Vs IIIa cytologic
- IIIa cytologic Vs IIIa histologic

Disease specific survival after endometrial cancer stages I, cytological IIIa and histological IIIa



Tebeu PM et al, Br J Cancer. 2003 Dec 1 ; 89 (11) : 2023-6.

Survival & risk of death from cancer

Hazard ratios's to die from cancer

(adjusted on age, grade and type of radiation)

Stage	Survival(%)	Adjusted HR	(95% CI)
I	88	1	
IIIa cyto.	94	0.3	(0.3 - 2.0)
IIIa histo.	51	2.7	(1.0 - 7.7)

No impact of peritoneal cytology in stage I endometrial cancer: Effect of Radiotherapy?

- Possible effect of adjuvant radiotherapy !!!
- So question still opened
- We need further investigations (next...)

Objective

What is the actual impact of positive peritoneal cytology on the survival of patients with endometrial cancer localised in the uterine corpus ?

Type of study

- Population based study
- Retrospective cohort study (Geneva tumour registry) : all incident cases followed up until death.
- All cases reviewed and re-staged

Patients inclusion

- Period of diagnosis 1980 - 1996
- Area: Swiss Canton of Geneva
- Identification: Geneva Tumour Registry
- Variables: sociodemographic factors, diagnosis, stage, ATCD, treatment within 6 months, survival

Patients selection

- Total of patients: 731
- Absence of surgical staging: 87
- Sarcomas: 24
- Other tumours: 74 (5 years before - 6 months after)
- Missing information on staging / histology: 7
- Stage I & II but no cytology assessment: 139
- Final inclusion: 400

Patients: final inclusion

- Re-staging of 400 retained patients
- Patients considered: 331
- Stage I: 278 (no radiation: 149, radiation: 129)
- Stage IIIa cytologic: 33 (no radiation: 6, radiation: 27)
- Stage IIIa histologic: 20 (no radiation: 5, radiation: 15)

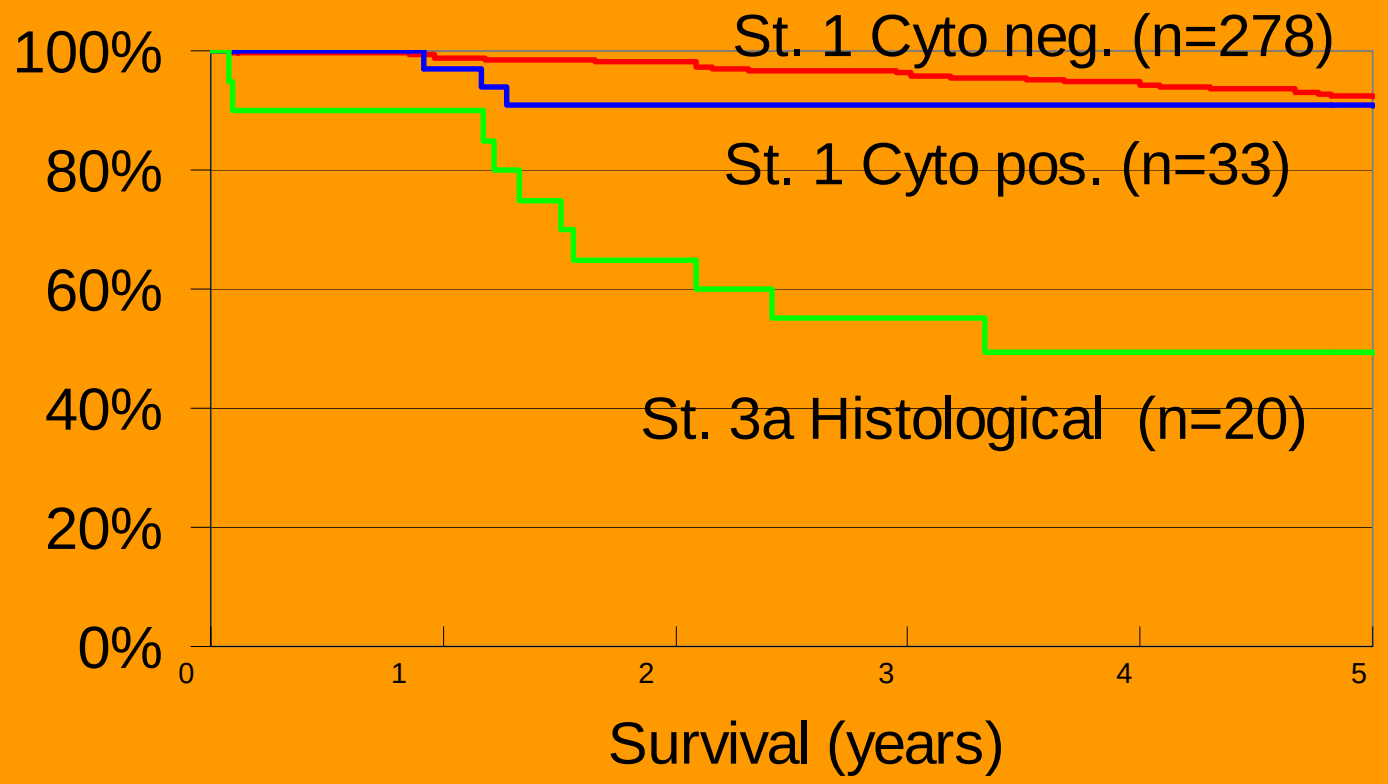
Statistical analysis

- 5-year specific survival
- SPSS software
- Kaplan-Meier method
- Log-rank test
- Cytology impact and mortality: Cox modelling

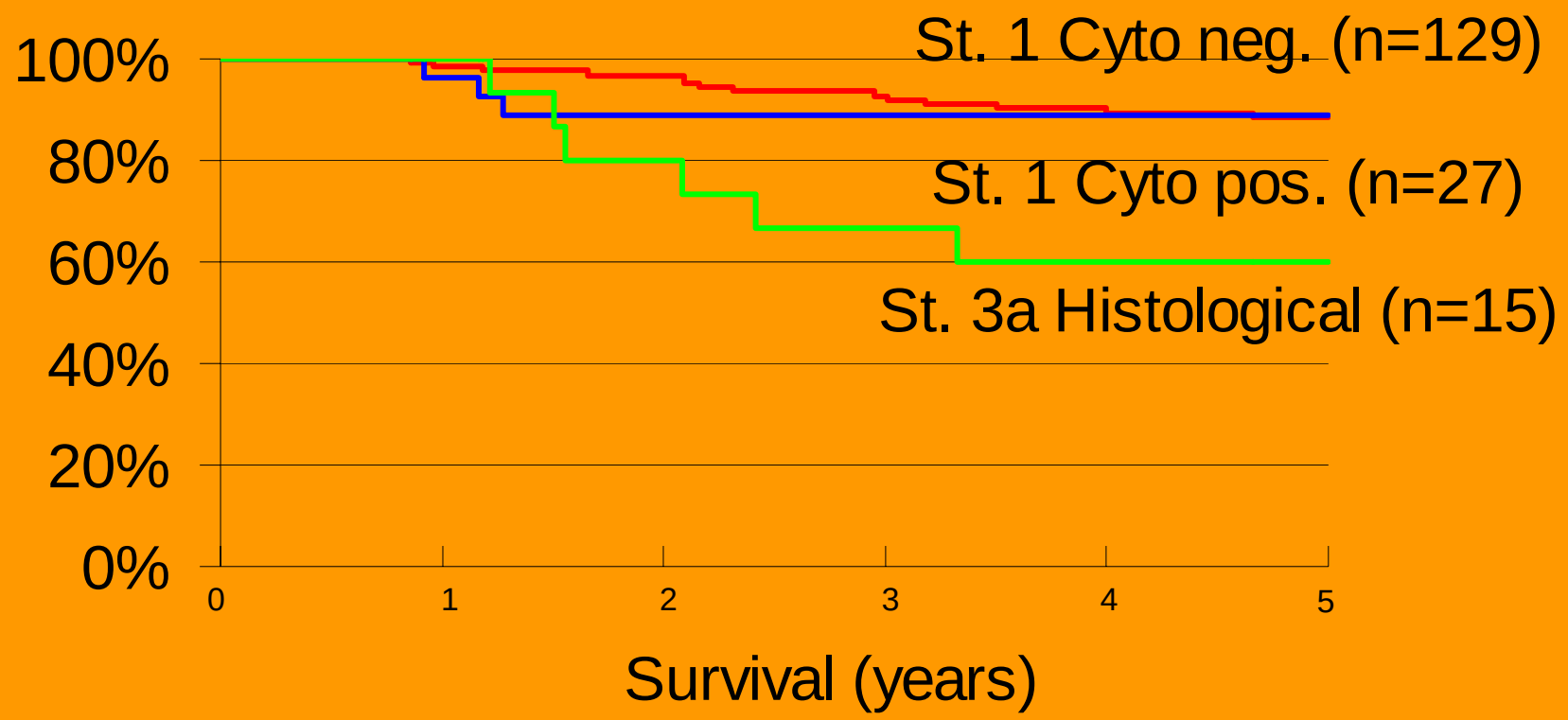
Results - 1

- 5-year survival for all patients
- Stage I / IIIa cytologic (92.3% Vs 90.9%)
- Stage IIIa cytologic / IIIa histologic (90.9% Vs 49.5%)
- Prognosis unchanged whether or not radiation
- Radiation improve prognosis of IIIa histo. (60.0% Vs 20.0%)

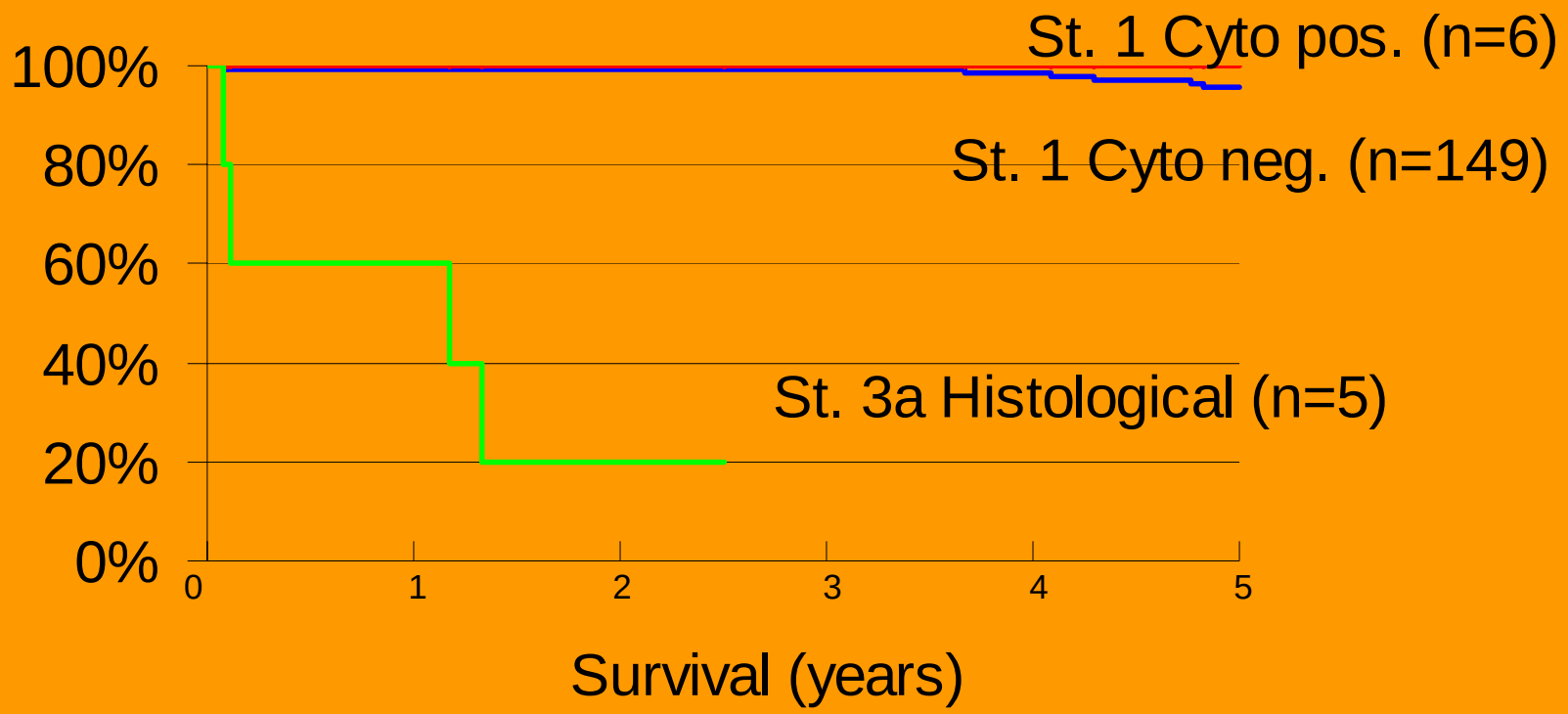
Results 2: Survival for all cases



Results 3: cases with radiotherapy



Results 4 : cases without radiotherapy



Results - 5

Hazard ratios's to die from cancer
(adjusted on age, grade, myometrial invasion, radiation)

Stage	survival(%)	adjusted HR	(95% CI)
I	92.3	1	
IIIa cytologic	90.9	0.74	(0.18-2.3)
IIIa histologic	49.5	4.18	(1.7-10.3)

Conclusions

- Study with few shortcomings
- Same survival for stage I and IIIa cytologic
- Different survival for stage IIIa cytologic and stage IIIa histologic
- For better validity and reliability, FIGO should consider reviewing the 1988 staging of endometrial cancer

Aknowledgements

- Departementst of Obstetric-Gynecology +HUG
- Departementst of Radiation Oncology HUG
- Geneva Tumour Registry - IMSP - University of Geneva
- Fondations pour Recherches Médicales, University of Geneva
- Geneva League Against Cancer
- Cameroon - Swiss Cooperation

END

- NICE WEEK-END