

## The St. Gallen Model of Cooperative Management of Ovarian Cancer Patients



Kantonsspital St.Gallen

Kantonsspital St.Gallen – ein Unternehmen, drei Spitäler. St.Gallen Rorschach Flawil

R. Hornung, St. Gallen





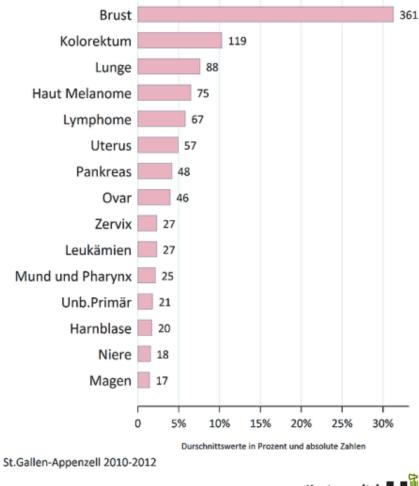
## Epidemiology

Ovarian cancer incidence:

Cancer Registry St. Gallen – Appenzell (2010-2012):

- 46 Ovarian cancers/ year
- ~2/3 stage III+IV (~ 30 pats)











## **Diagnostics**

Referring Gynecologist

- 1. Gynecologic examination
- 2. Transvaginal + transabdominal sonography
- 3. Suspicion for ovarian cancer → Admission to a tertiary hospital specialized for gynecologic oncology

## **Gynecologic Cancer Center**

- 1. General checkup
- 2. Laboratory: Routine hematology and blood chemistry, Ca 125, CEA (in special cases HCG, AFP and other markers)
- 3. CAT-scan abdomen (chest)
- 4. Colonoscopy (the day before surgery)



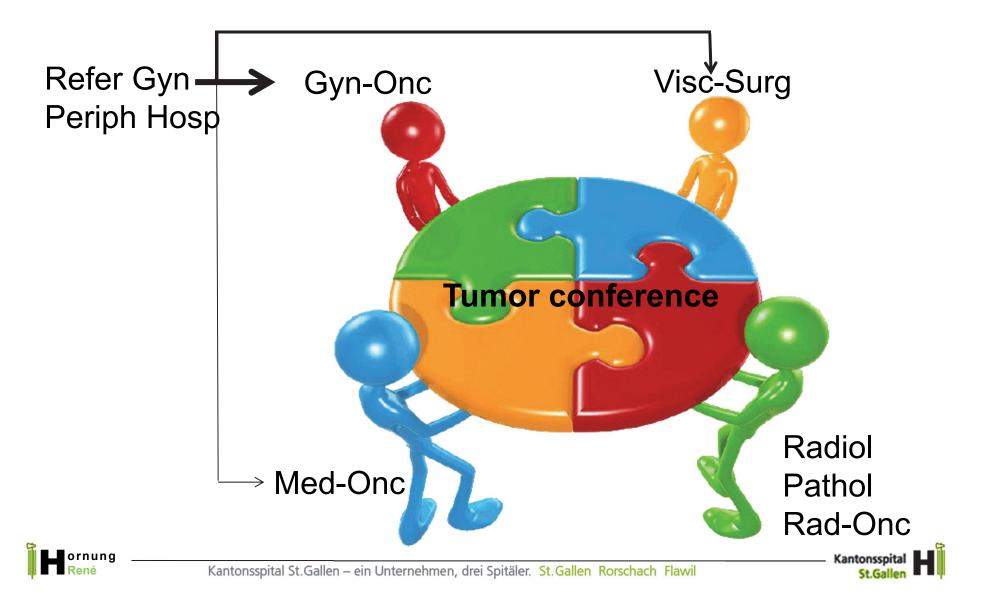




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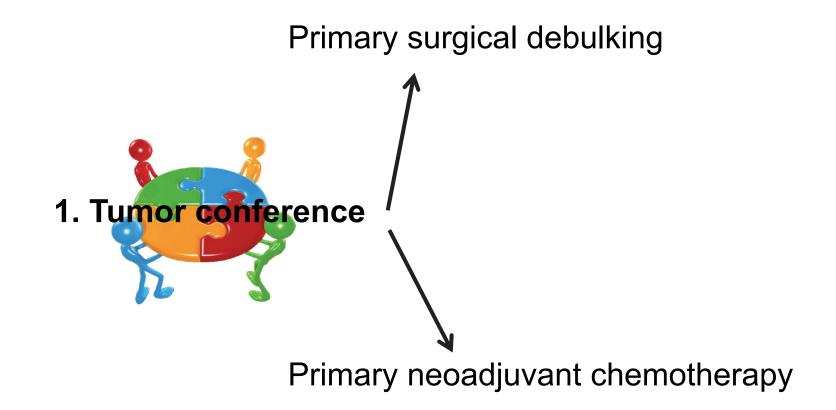


## Patient's path, decision making





## **Decision making**

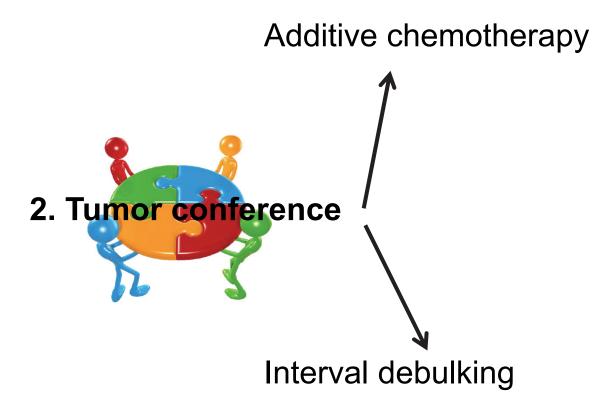








## **Decision making**







Cooperative Management of Ovarian Cancer in St. Gallen **Kantonsspital** St.Gallen München (TRM C56, D39.1: Malignant neoplasm of ovary (incl. borderline) FIGO Prognosis Relative survival 1998-2012 N=2,8 FIGO 100 IA 17.5% n=499 90 IB n=43 1.5% 80 IC n=309 10.8% 70 IIA n=43 1.5% 60 IIB n=71 2.5% 50 IIC n=56 2.0% 40 IIIA 2.1% n=59 30 IIIB n=159 5.6% 20 IIIC n=913 32.0% IV 10 n=705 24.7% NA/NOS n=402 0 12.3% The higher the FIGO stage, the poorer the prognosis



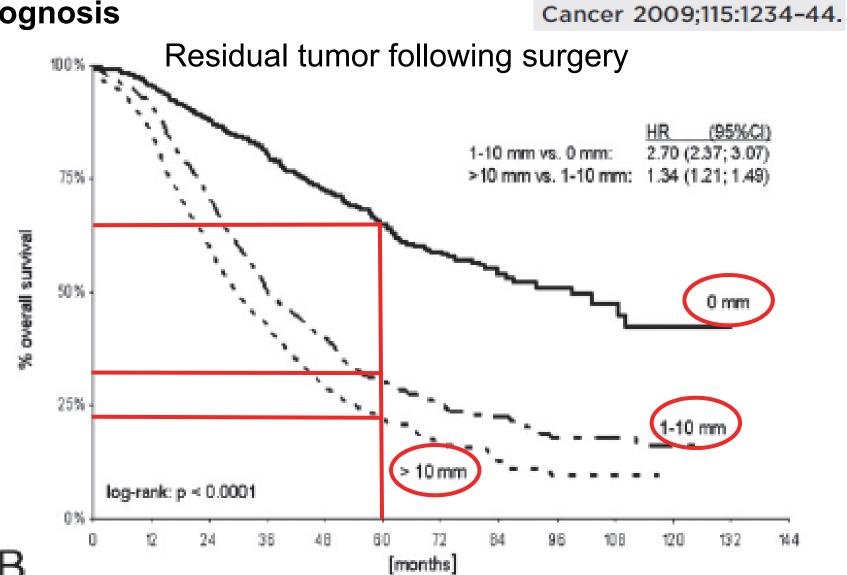




St.Gal

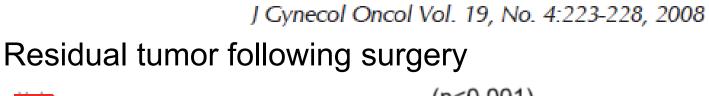
#### **Prognosis**

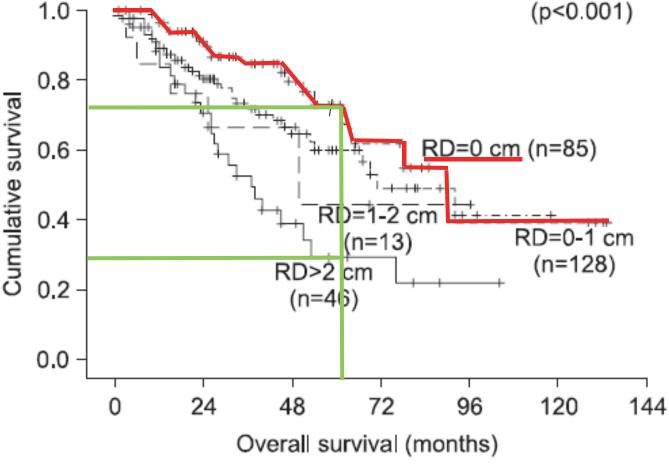
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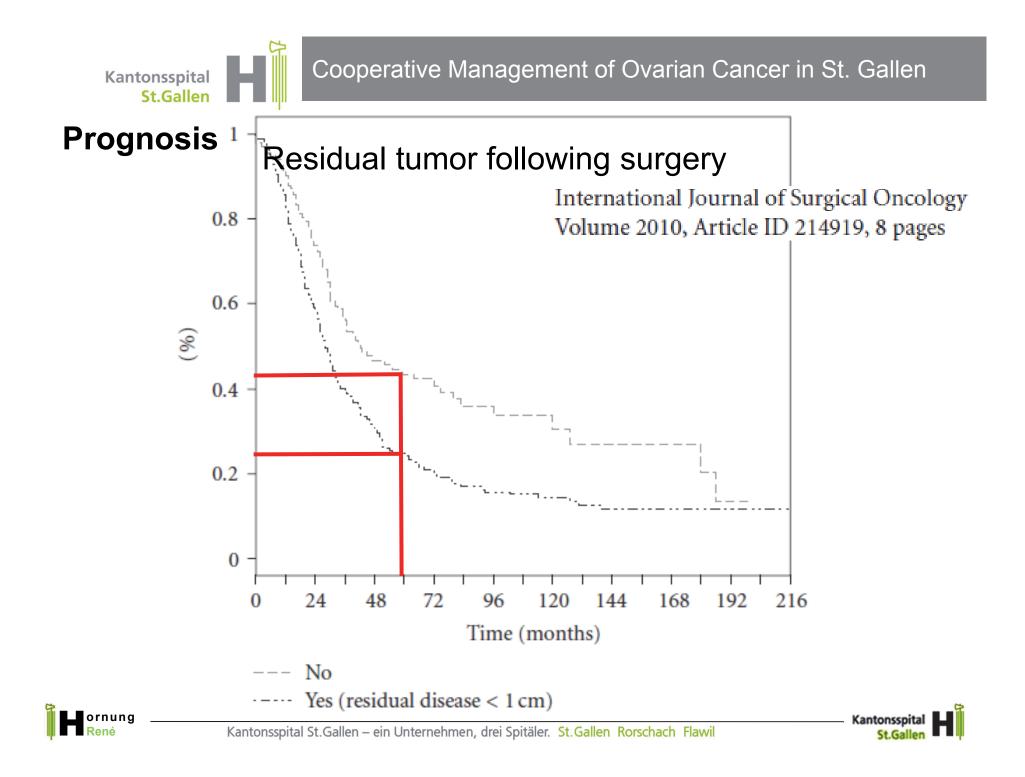
#### Prognosis











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#### Therapy



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## Cytoreduction Residual disease > 1cm versus microscopic disease

Study or subgroup	log [Hazard Ratio] (SE)	Hazard Ratio IV,Random,95% Cl	Weight	Hazard Ratio IV,Random,95% CI	
I Advanced stage (III/IV)					
Salani 2007	1.77 (0.4)		13.1 %	5.87 [ 2.68, 12.86 ]	
Subtotal (95% CI)		-	13.1 %	5.87 [ 2.68, 12.86 ]	
Heterogeneity: not applicable					
Test for overall effect: $Z = 4.43$	3 (P < 0.00001)				
2 Stage III					
Winter 2007	0.9 (0.09)	-	42.4 %	2.46 [ 2.06, 2.93 ]	

# Primary surgery is of utmost importance for the patient's survival

Eisenkop 2003	1.09 (0.28)		20.9 %	2.97 [ 1.72, 5.15 ]	
LISEINOP 2005	1.07 (0.20)		20.7 /0	2.77 [ 1.72, 3.13 ]	
Subtotal (95% CI)		•	44.5 %	3.36 [ 2.33, 4.84 ]	
Heterogeneity: Tau <sup>2</sup> = 0.0; Chi <sup>2</sup>	= 0.34, df = 1 (P = 0.56); l <sup>2</sup> =0.0%				
Test for overall effect: $Z = 6.50$	(P < 0.00001)				
Total (95% CI)		•	100.0 %	3.16 [ 2.26, 4.41 ]	
Heterogeneity: Tau <sup>2</sup> = 0.06; Chi	<sup>2</sup> = 6.57, df = 3 (P = 0.09); l <sup>2</sup> =54%				
Test for overall effect: $Z = 6.77$	(P < 0.00001)				
Test for subgroup differences: C	hi <sup>2</sup> = 6.22, df = 2 (P = 0.04), l <sup>2</sup> =68%				
	0.05 0.2	5 20			
	Favours >1 cm group	Favours Ocm grou	D		
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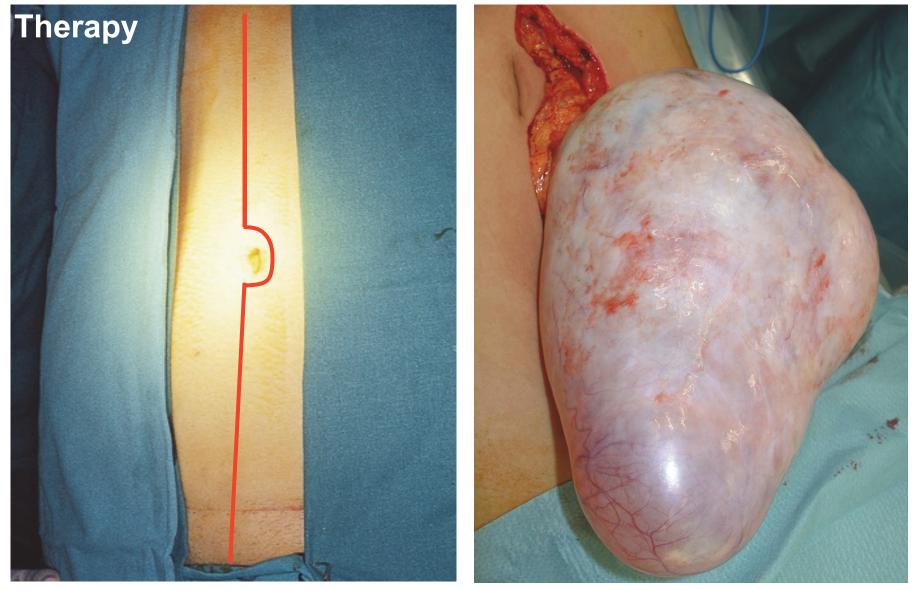
## Therapy

## Surgery of ovarian cancer

Hysterectomy Bilateral salpingo-oophorectomy Omentectomy Pelvine and paraaortal lymphadenectomy Appendectomy (mucinous ovarian cancer) Bowel resection (rectum, colon, small intestine) with anastomosis Splenectomy Peritonectomy







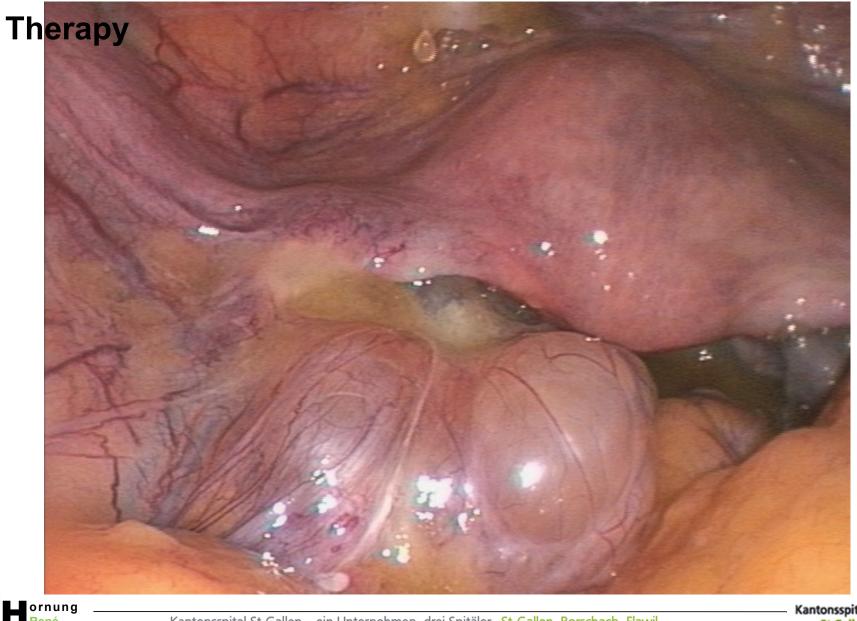




**Kantonsspital** St.Gallen Therapy 0000 Stomach Diaphragm Liver serosa Omentum Bowel serosa Paraaortic lymph nodes Pelvic peritoneum Pelvic lymph nodes Fallopian Ovary tube Uterus Broad ligament Systematic inspection of Preferential sites for the abdominal cavity metastasis ornung René Kantonsspital St.Gallen – ein Unternehmen, drei Spitäler. St.Gallen Rorschach Flawil St.Gallen

Cooperative Management of Ovarian Cancer in St. Gallen

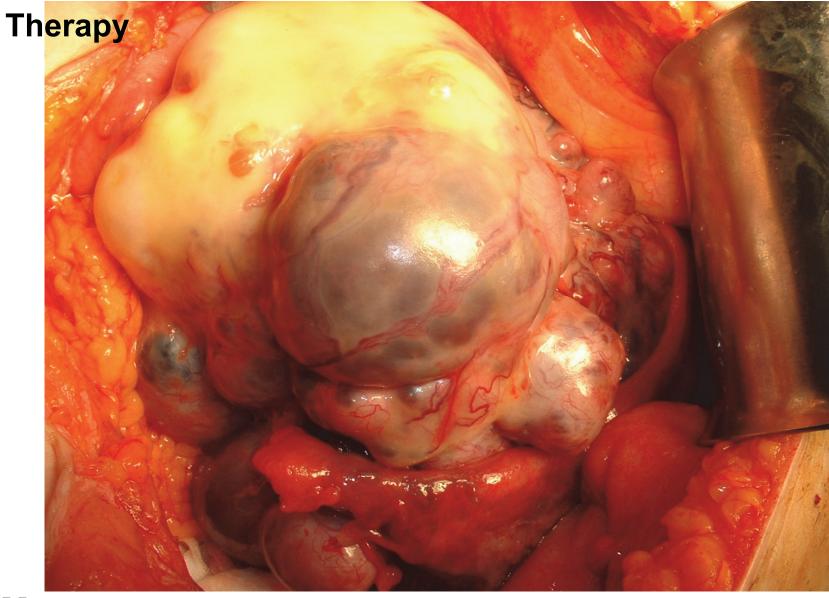








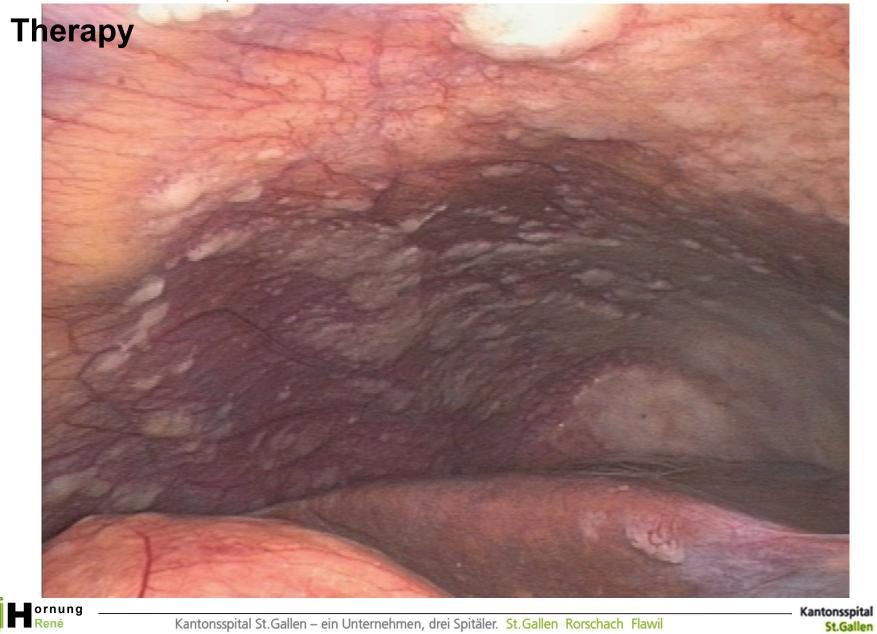










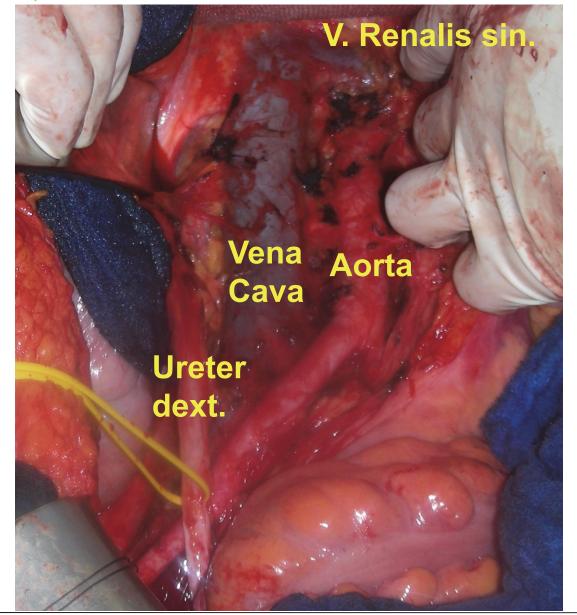


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#### Cooperative Management of Ovarian Cancer in St. Gallen

Therapy

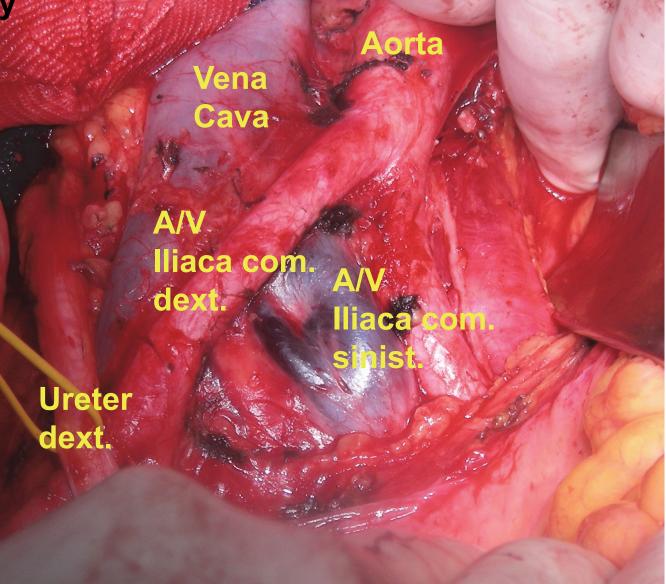








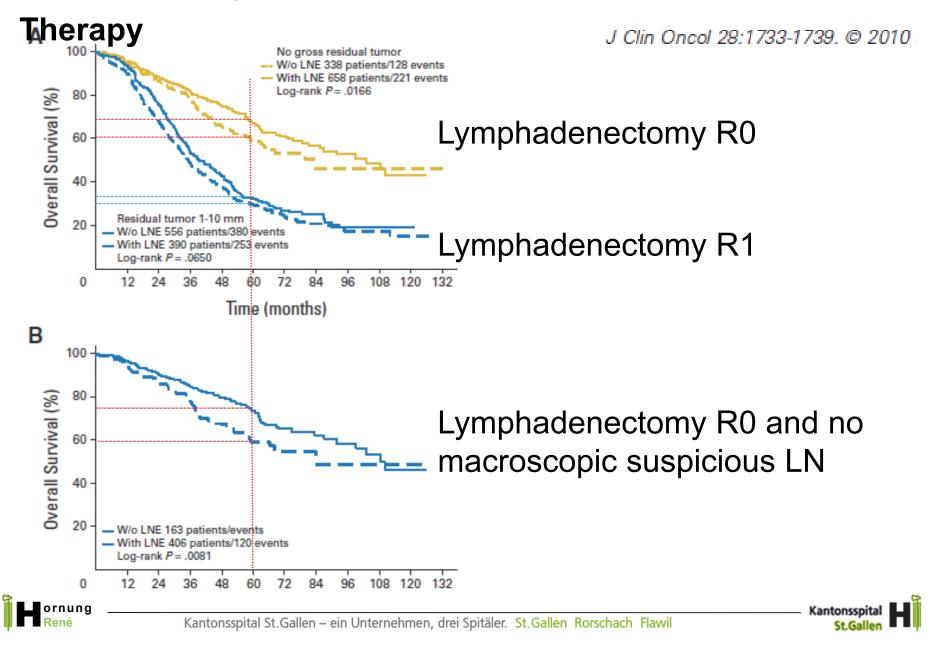
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Bowel Resection

#### Cooperative Management of Ovarian Cancer in St. Gallen

116/301

38.5%

## Therapy

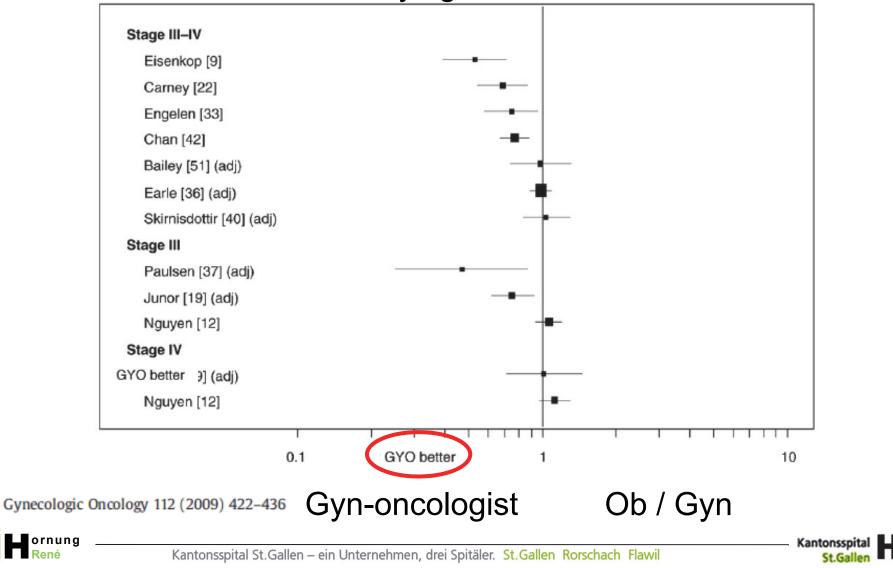
Inerapy	Rectosigmoidectomy Only	81/116	69,8%	
	Upper Bowel Surgery Only	17/116	14,7%	
Journal of Ovarian Research 2014,	Rectosigmoidectomy and Upper Bowel Surgery	18/116	15,5%	
Giorda <i>et al</i> .	Pelvic Peritonectomy Only	133/301	44,2%	
	Upper Abdominal Procedurs Only	13/301	4,3%	
	Pelvic Peritonectomy and Upper Abdominal Procedures	69/301	22,9%	
	Upper Abdominal Procedures	82/301	27.2%	
	Diaphragmatic Peritoneum Stripping	45/82	54,9% 🗲	
	Splenectomy	31/82	37,8%	
	Colecystectomy	16/82	19,5%	
	Liver Metastasectomy	5/82	6,1%	
	Partial Gastrectomy	3/82	3,6%	
	Distal Pancreatectomy	3/82	3,6%	
	Diaphragmatic Full-Thickness Resection	2/82	2.4%	
	Hepatic Hilum Lymphadenectomy	1/82	1.4%	
	Celiac Lymphadenectomy	1/82	1.4%	
	Retroperitoneal Lymphadenectomy	196/301	65.1%	
	Pelvic Lymphadenectomy	188/196	95.9%	
~	Aortic Lymphadenectomy	149/196	74.5%	
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#### Therapy Hazzard ratio for dying due to ovarian cancer

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## Therapy

Ovarian cancer incidence:

Cancer Registry St. Gallen – Appenzell (2010-2012):

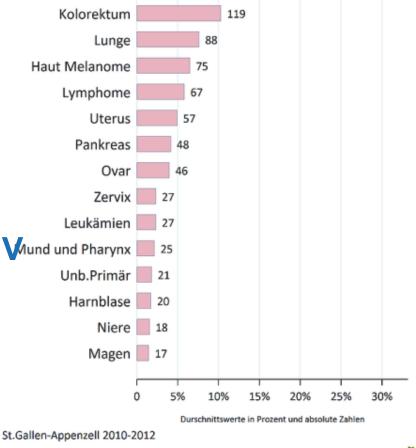
- 46 Ovarian cancers / year
- $\sim 2/3$  stage III+IV ( $\sim 30$  pats)

About 20 surgeries for stage III/IV<sup>1</sup>und und Pharynx ovarian cancer / y requested for adequate quality of care





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**6 cycles of Carboplatin** 5AUC + 175 mg/m<sup>2</sup> **Paclitaxel** every 3 weeks (Paclitaxel weekly)

Some indications: + Bevacizumab

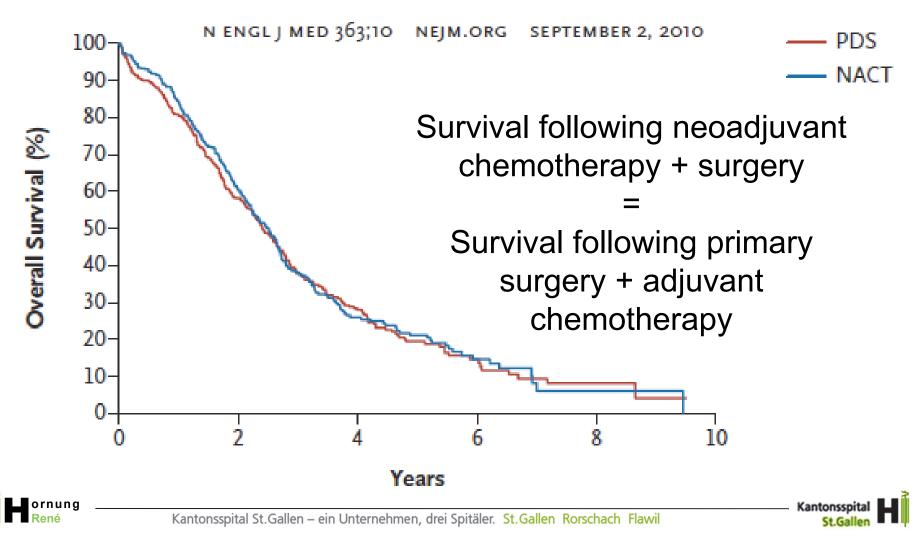






#### Therapy

Neoadjuvant Chemotherapy or Primary Surgery in Stage IIIC or IV Ovarian Cancer





## Therapy

Quality of life of advanced ovarian cancer patients in the randomized phase III study comparing primary debulking surgery versus neo-adjuvant chemotherapy

Gynecologic Oncology 131 (2013) 437-444

Survival and **quality of life** of patients with ovarian cancer III / IV

neoadjuvant chemotherapy + secondary debulking

primary surgery + adjuvant chemotherapy

→ Survival and quality of life are significantly better when the patient is treated in a gyn-onc center







Mode

## Therapy

Patients profiting from primary debulking surgery

- Stage IIIA/B
- Stage IIIC radical operable (R0 very likely to be achieved)

Patients profiting from neoadjuvant chemotherapy followed by interval debulking

- Stage IIIC R0 very likely not to be achieved (small bowel)
- Stage IV (probability for R0 resection < 10%)
- Poor general condition
- Logistic problems

## → Individual decision (team, experience)

