



**313 patients with breast cancer during
pregnancy –
a prospective and retrospective
registry
(GBG-20 / BIG02-03)**

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Background

- **Breast cancer is amongst the most common cancers diagnosed during pregnancy.¹**
- **About 2% of all breast cancers are diagnosed during pregnancy.²**
- **1st international guideline for treatment of breast cancer during pregnancy developed in 2003.³**
- **The 5-year survival rate is similar for pregnant and non-pregnant women (N-: 82%; N+: 59%).⁴**
- **Knowledge needs to be improved on BCP**

[1] Stensheim J Clin Oncol; 2009, 27:45-51

[2] Nulman et al. Neurodevelopment of children exposed in utero to treatment of maternal malignancy. Br J Cancer 6 (2001) 1611-18.

[3] Loibl et al. Breast carcinoma during pregnancy. International recommendations from an expert meeting. Cancer 106 (2006) 237-246.

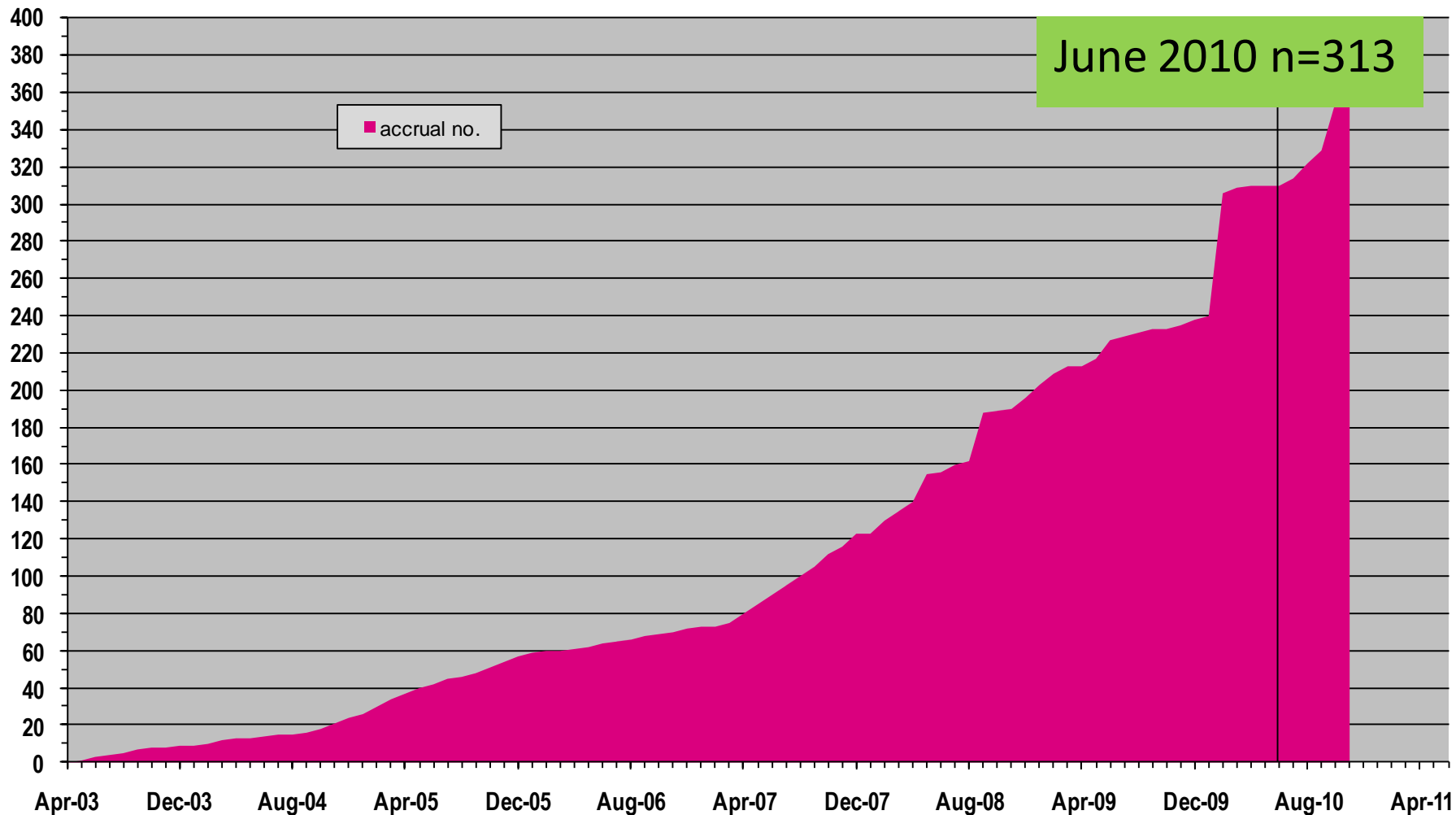
[4] Petrek JA, Dukoff R, Rogatko A. Prognosis of pregnancy-associated breast cancer. Cancer 67 (1991) 869-872.

Patients and Methods

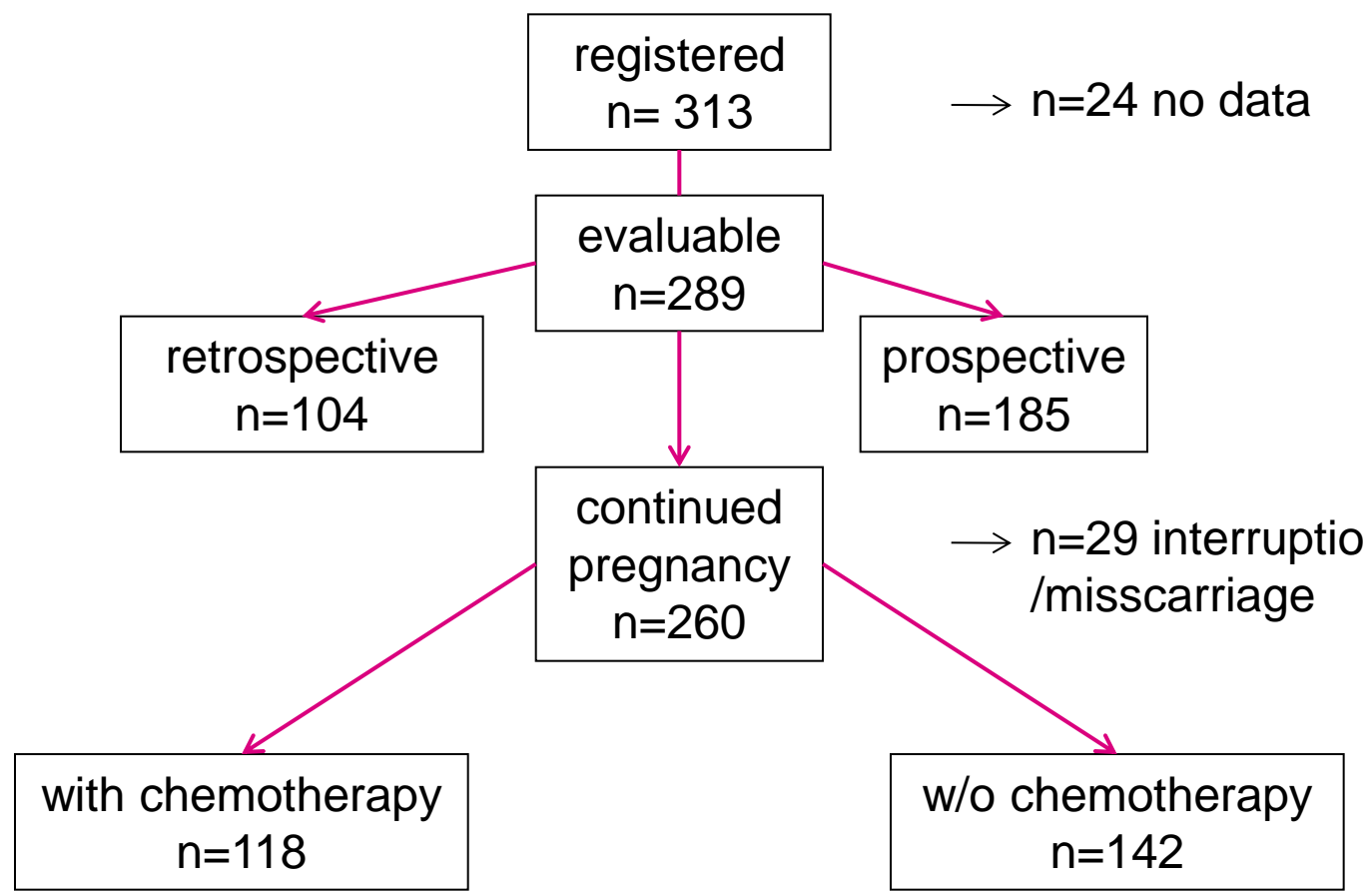
- The registry includes all patients diagnosed with breast cancer during pregnancy independent from treatment and gestational age.
- **Primary endpoint:**
 - Foetal outcome 4 weeks after delivery.
- **Secondary endpoint:**
 - Maternal outcome of pregnancy.
 - Stage of and biological characteristics of breast cancer.
 - Breast cancer therapy, type of surgery.
 - Sensitivity and specificity of diagnostic procedures.
 - Outcome of the new-born after 5 years of therapy.
 - Outcome of breast cancer 5 years after diagnosis.

BCP - recruitment on 01.11.2010

n = 359



Patients



Patients diagnosed after April 2003 were defined as prospective

Baseline characteristics


BCP

Breast Cancer in Pregnancy

		All % (N)	Prospective %	Retrospective %
age median (range)		34 (21-47)	34 (23-47)	33 (21-44)
T stadium	1	22.3	23.3	20.8
	2	47.6	47.7	47.5
	3	20.1	19.2	21.8
	4 a-c	6.2	5.2	7.9
	4 d	3.7	4.7	2.0
	missing	(16)		
Nodal status	N+	48.1	45.6	52.6
Histo type	Ductal	97.1	99.4	93.1
Grading	G3	64.4	66.3	61.0
ER	Negative	60.9	62.0	59.0
HER-2 status	positive	41.4	41.4	41.4
	missing	(62)		
	TNBC	33.8	34.5	31.5

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 GERMAN
BREAST
GROUP
 

Patients obstetrics characteristics

		All % (N)	Prospective % (N)	Retrospective % (N)
Week of gestation		23 weeks	24 weeks	20 weeks
Time of diagnosis	1st trimester	22.8	19.4	28.9
	2nd trimester	41.5	40.0	44.3
	3rd trimester	35.7	40.6	26.8
Pregnancy outcome	abortion /miscarriage	(29)	(20)	(9)
Mode of delivery	Caesarean	48.7	44.4	56.1
Type of surgery	mastectomy	50.4	49.1	52.7

Delivery outcome

	All patients with pregnancy (N=260)	With chemotherapy (N=142)	w/o chemotherapy (N=118)
week of delivery			
median	36	37	36
range	30-42	31-42	30-42
Weight at birth			
median	2772	2810	2730
range	1260-4295	1270-4050	1260-4295
% of premature deliveries <35th week	24.0	16.9	33.0
		P = 0.009	

Cytotoxic regimes during pregnancy (n=142)

Regimen	AC/EC	FE(A)C	CMF	Vincaal kaloids	E/A mono	Taxanes
N (142)	70	29	14	12	10	6

Cycles during pregnancy	1	2	3	4	5	6	8
N (527)	8	25	23	52	14	19	1

•The 142 patients evaluable received in the median 4 cycles during pregnancy (1-8).

Events of the newborn


BCP

Breast Cancer in Pregnancy

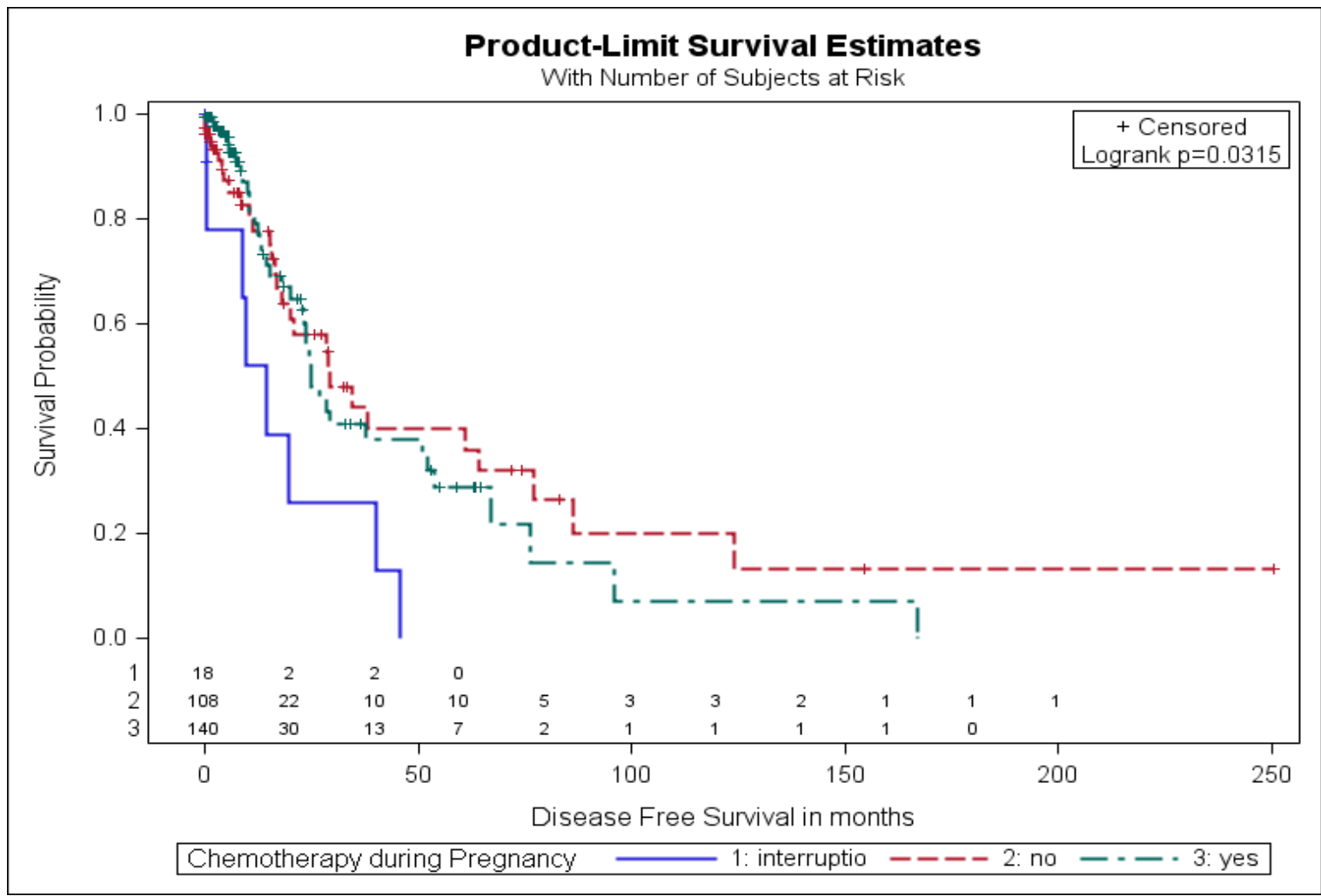
	With CHT n=142	W/o CHT n=118
Total	19 (13.3%)	8 (6.7%)**
<i>Premature deliveries</i>	8	5
infections	4	
congenital malformations ***	3	1
Trisomie 18	1*	
persistent foramen ovale	2	
small for date	2	
CPAP (cont pos airway pressure)	1	1
necrotic enterocolitis	1*	
apnoe		1
hyperbilirubinemia/icterus	1	2
cerebral paresis		1
hypoglycemia		1
neutropenia	2	1
anemia	2	

- *died; ** p=0.08; *** Polydactylie 2x, rectal atresia1x, hypospadias 1x
- 13/27 events in premature deliveries

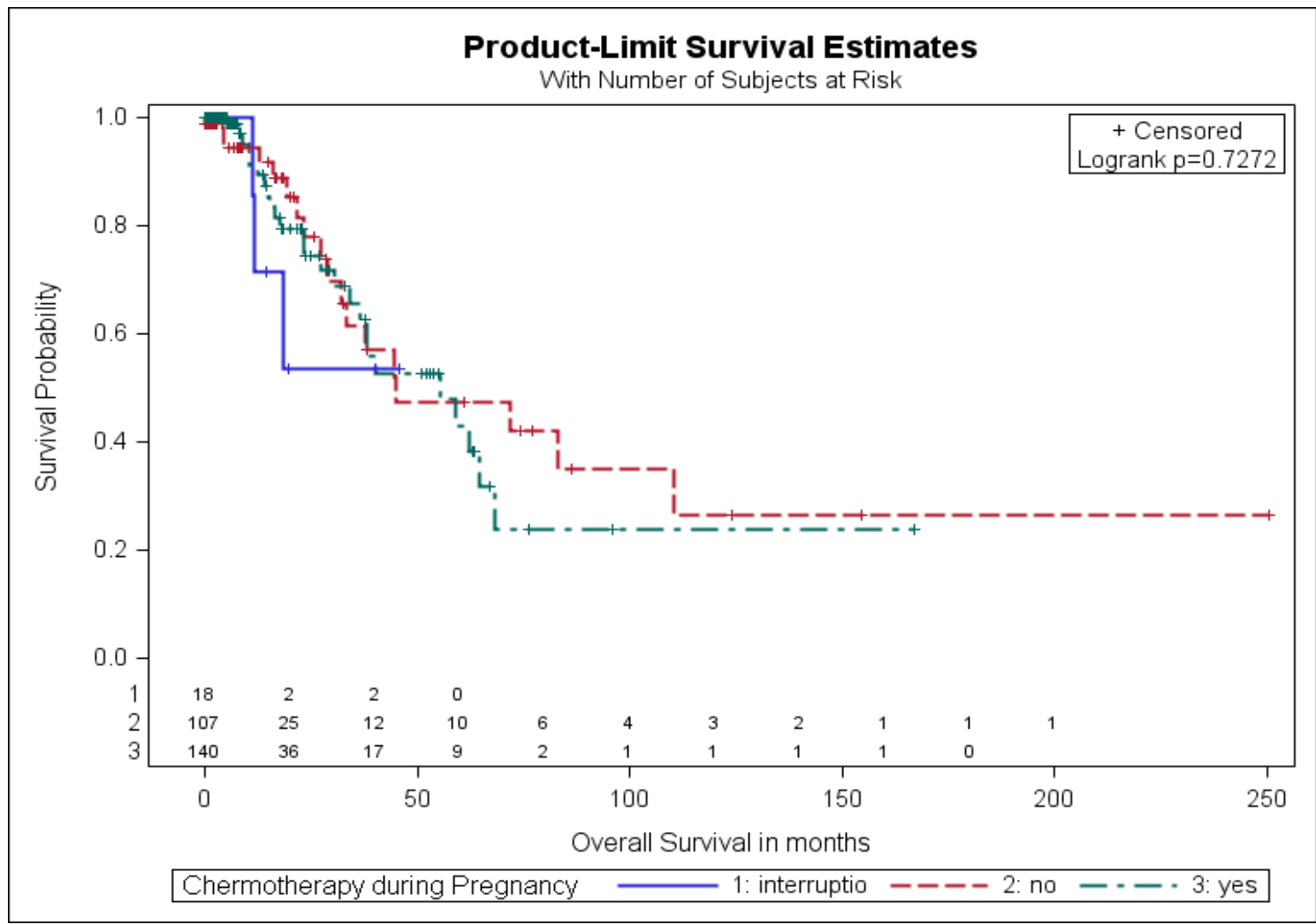




Disease free Survival



Overall Survival



Conclusion

- **Tumor characteristics are comparable to previous ones**
- **More than 50% of the patients received chemotherapy with a median of 4 cycles during pregnancy**
- **77% received an anthracycline-based regimen – only 8 patients received a taxane during pregnancy**
- **Premature deliveries were significantly more common in the group not receiving chemotherapy – probably to allow for treatment start**
- **Fetal outcome was comparable between the groups with and w/o chemotherapy**
- **Premature delivery with risk of fetal morbidity is unnecessary**
- **Outcome of breast cancer patients with and w/o chemotherapy during pregnancy is comparable.**

Acknowledgement

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