

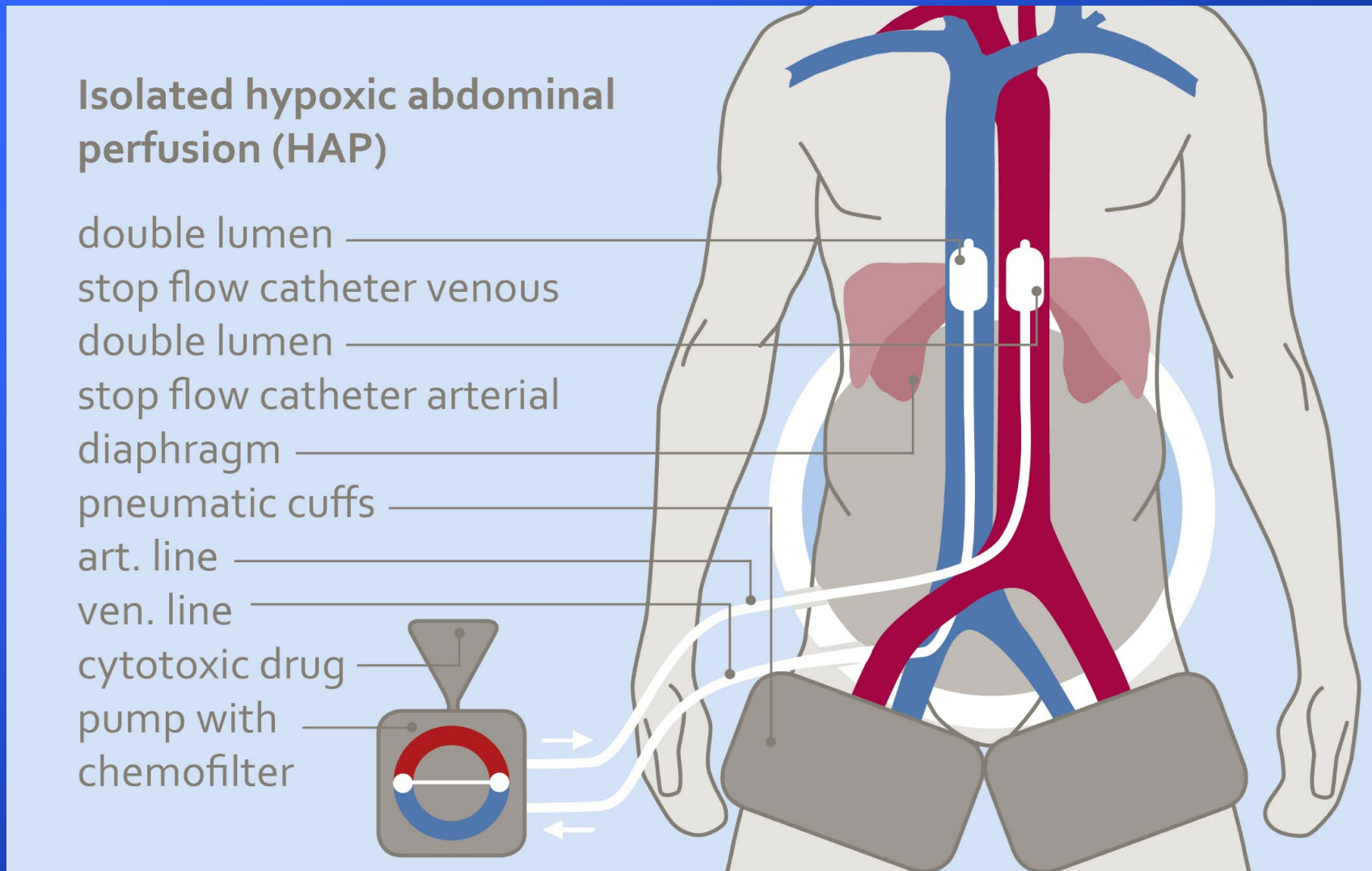
# Hypoxic Isolated Abdominal Perfusion Breaks through Chemoresistance in Recurrent FIGO Stage IIIC and IV Ovarian Cancer: Experience in 143 Patients with Platinum-Refractory and 25 Patients with Chemonaive Ovarian Cancer

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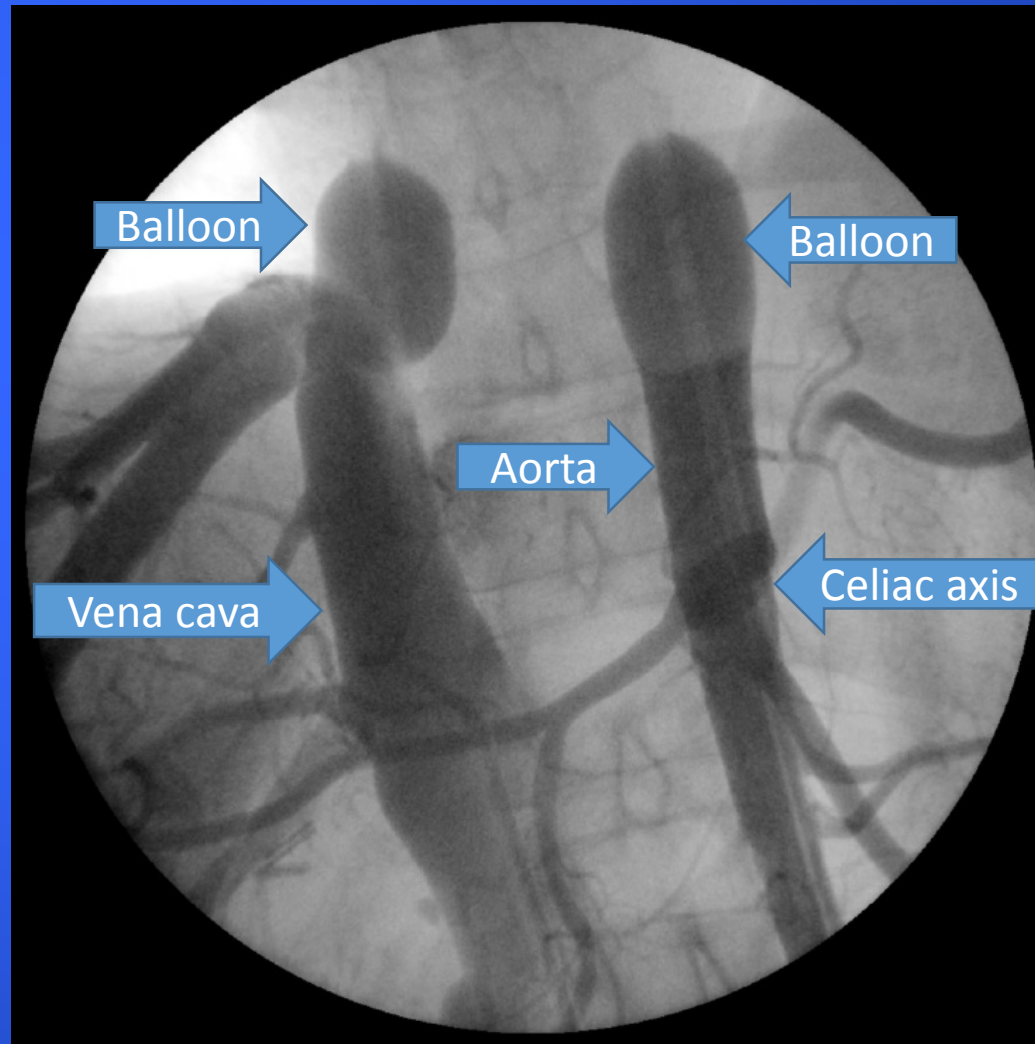


## Background

**In order to break through chemoresistance of recurrent platinum-refractory ovarian cancers, increased drug-exposure is administered in an isolated abdominal perfusion circuit.**

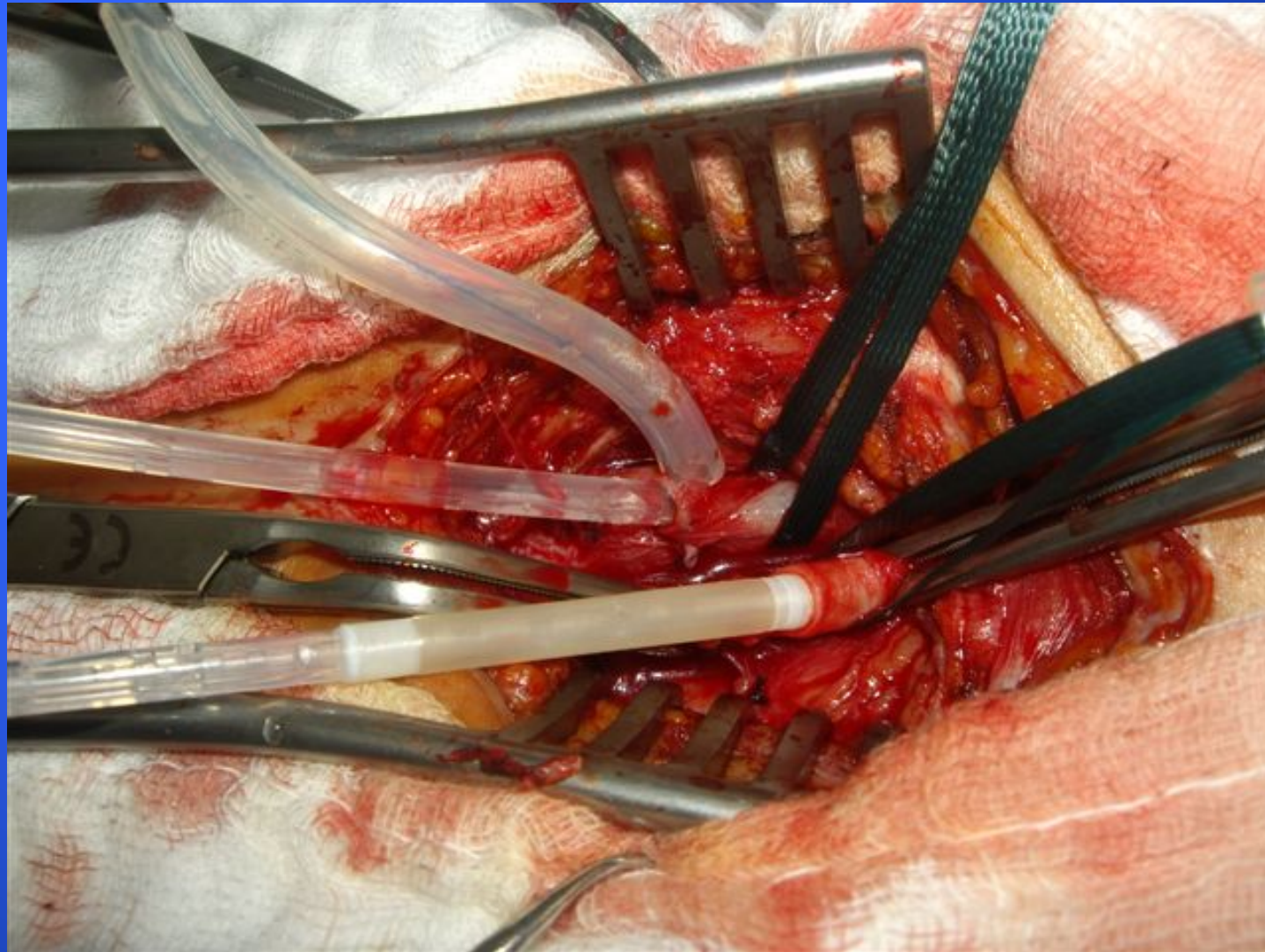


**Scheme of isolated abdominal perfusion**



**Balloon blocking and contrast imaging of aorta and vena cava beneath the diaphragm**





**Cannulation of femoral artery and vein**



**Chemofiltration**

## Patient characteristics n=168

<b>Age: median 56.6 years, Grading: G3, n= 66 patients (39 %)</b>			
<b>Stage</b>	<b>Patients</b>	<b>Pretreated</b>	<b>Non-pretreated</b>
FIGO IIIc	106 (63 %)	86 patients	20 patients
FIGO IV	62 (37 %)	57 patients	5 patients
<b>Peritoneal carcinosis</b>			
four quadrant	132 patients (79 %)		
two quadrant	36 patients (21 %)		



## Treatment protocol

**4 treatment cycles in 4 weeks intervals each**

## Drug regimen

**Maximum intra-arterial total dose at one-shot:**

**Cisplatin 70 mg**

**Adriamycin 50 mg**

**Mitomycin 20 mg**

**Overall dose for a 70 +/- 5 kg patient:**

**Cisplatin 50 - 60 mg**

**Adriamycin 30 - 40 mg**

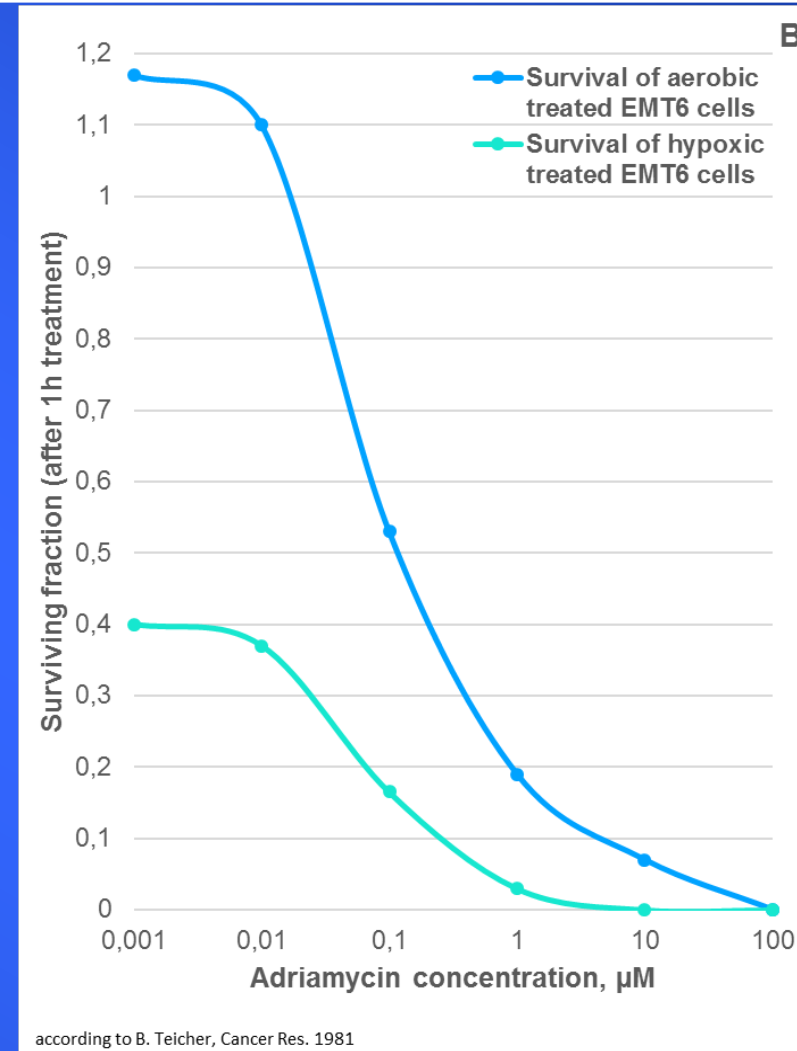
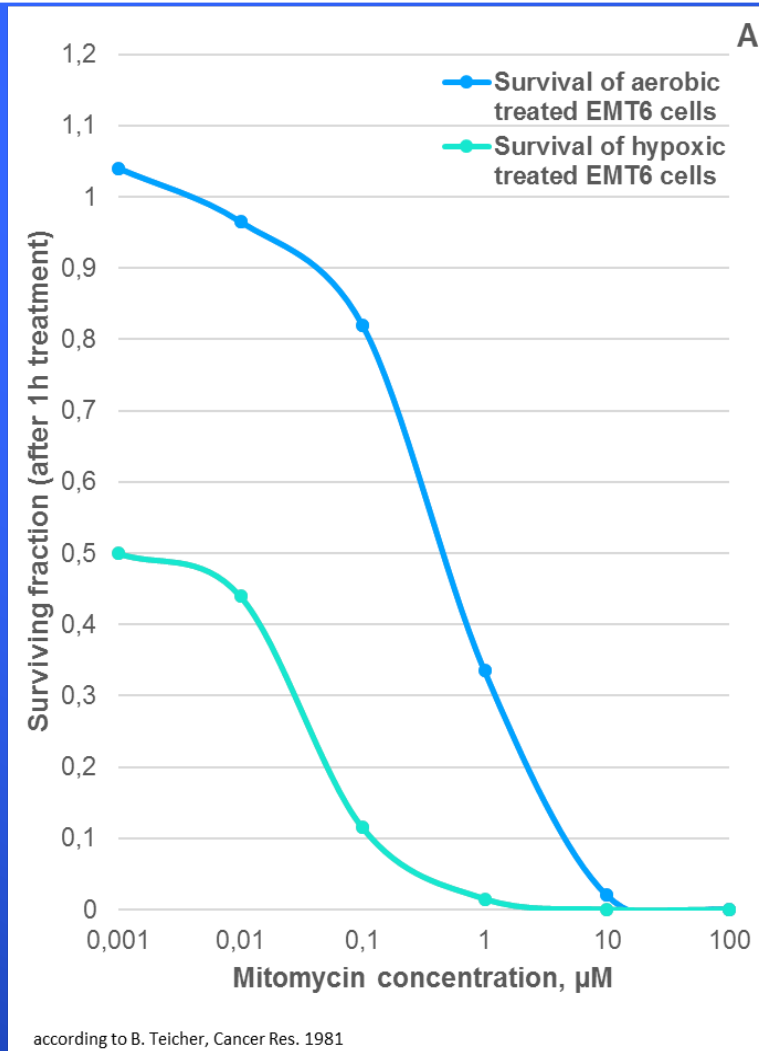
**Mitomycin 15 - 20 mg**



**All patients were progressive after systemic chemotherapy and had received at least two lines of platinum-containing combinations, 14 had undergone third-line, 5 fourth-line and 2 patients fifth-line therapies.**

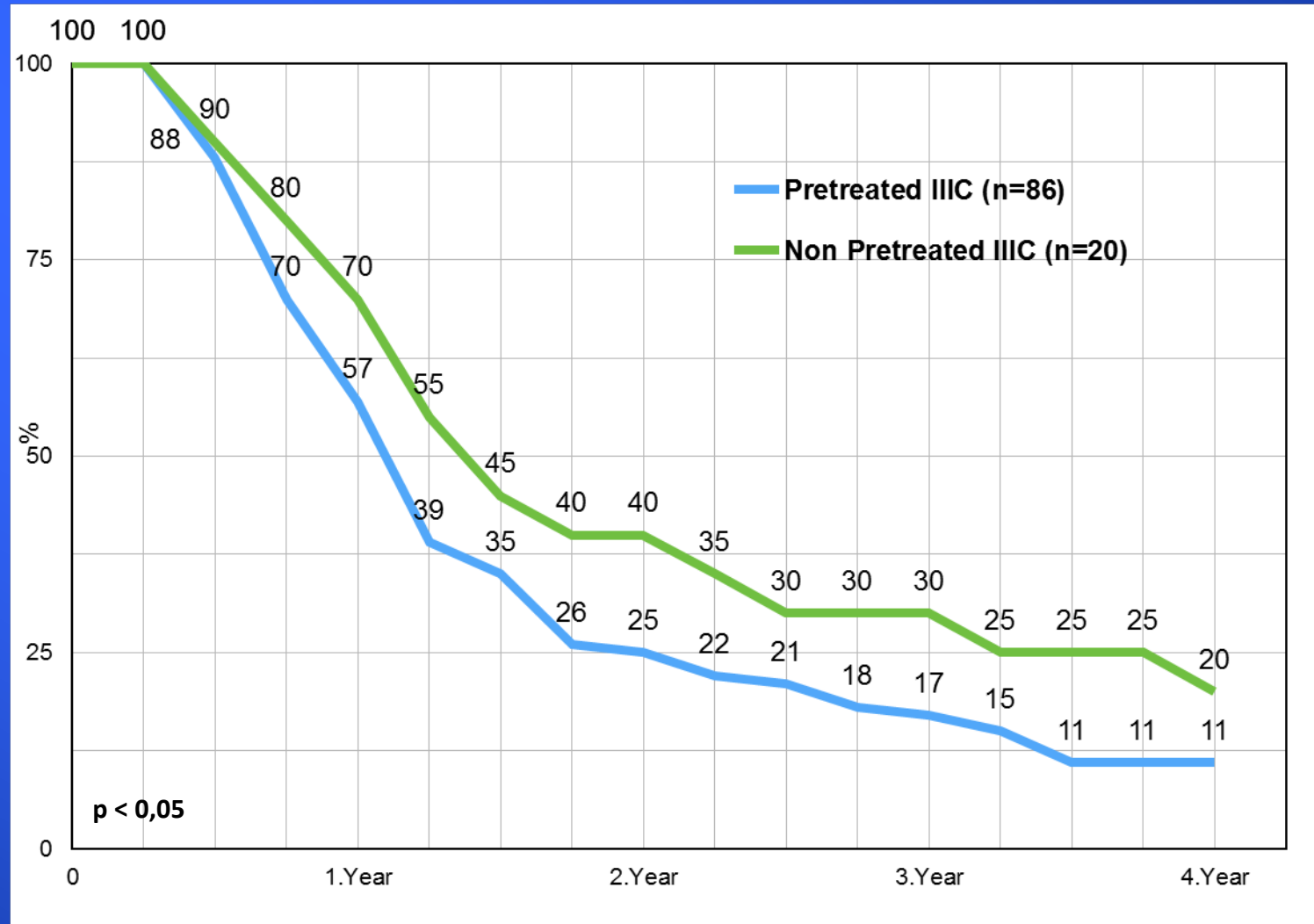
**Previously given drugs contained combinations of cisplatin or carboplatin with paclitaxel, caelyx, treosulfan or bevacizumab.**

## Hypoxic isolated abdominal perfusion for recurrent ovarian cancer



**Mitomycin and Adriamycin exhibit increasing cytotoxicity under hypoxic conditions (B. Teicher, Cancer Res. 1981)**

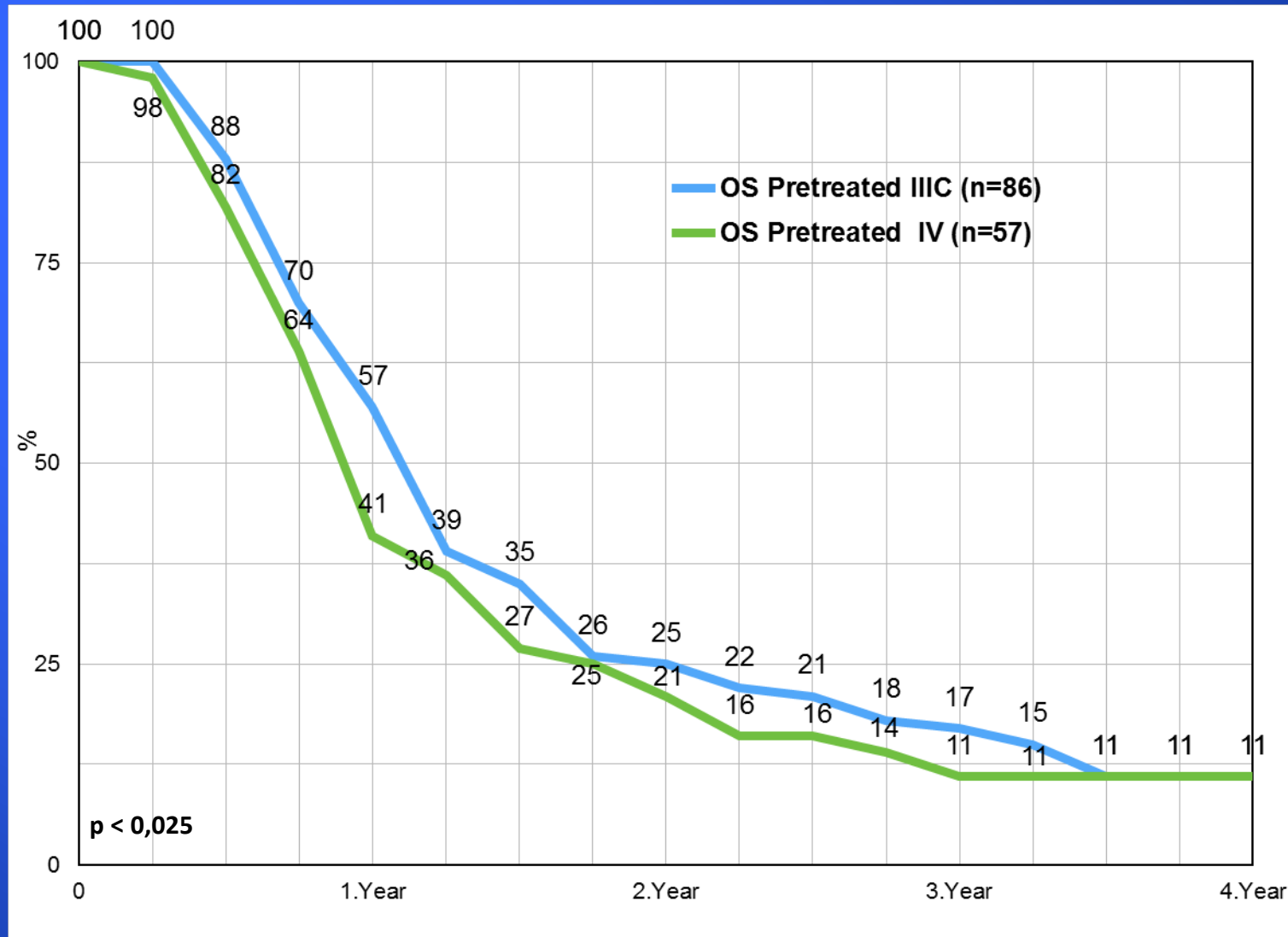
## Hyoxic isolated abdominal perfusion for recurrent ovarian cancer



**Overall survival pretreated versus non-pretreated ovarian cancer in stage FIGO IIIIC**



## Hypoxic isolated abdominal perfusion for recurrent ovarian cancer



### Overall survival ovarian cancer in stage FIGO IIIC and IV

## Results

<b>Overall Survival</b>					
	<b>1 year</b>	<b>2 years</b>	<b>3 years</b>	<b>4 years</b>	<b>...13 years</b>
FIGO IIIC/IV (n=143)	50 %	23 %	15 %	10 %	
FIGO IIIC (n=86)	57 %	25 %	17 %	11 %	3 %
FIGO IV (n=57)	41 %	21 %	11 %	11 %	

## Clinical vs. histological response rates in 79 patients after second-look laparotomy

<b>Response</b>			
Clinical	<b>CR 25 %</b>	<b>PR 39 %</b>	<b>Total 64 %</b>
Histological	<b>CR 13 %</b>	<b>PR 35 %</b>	<b>Total 48 %</b>
Ascites	<b>CR 43 %</b>	<b>PR 19 %</b>	<b>Total 62 %</b>

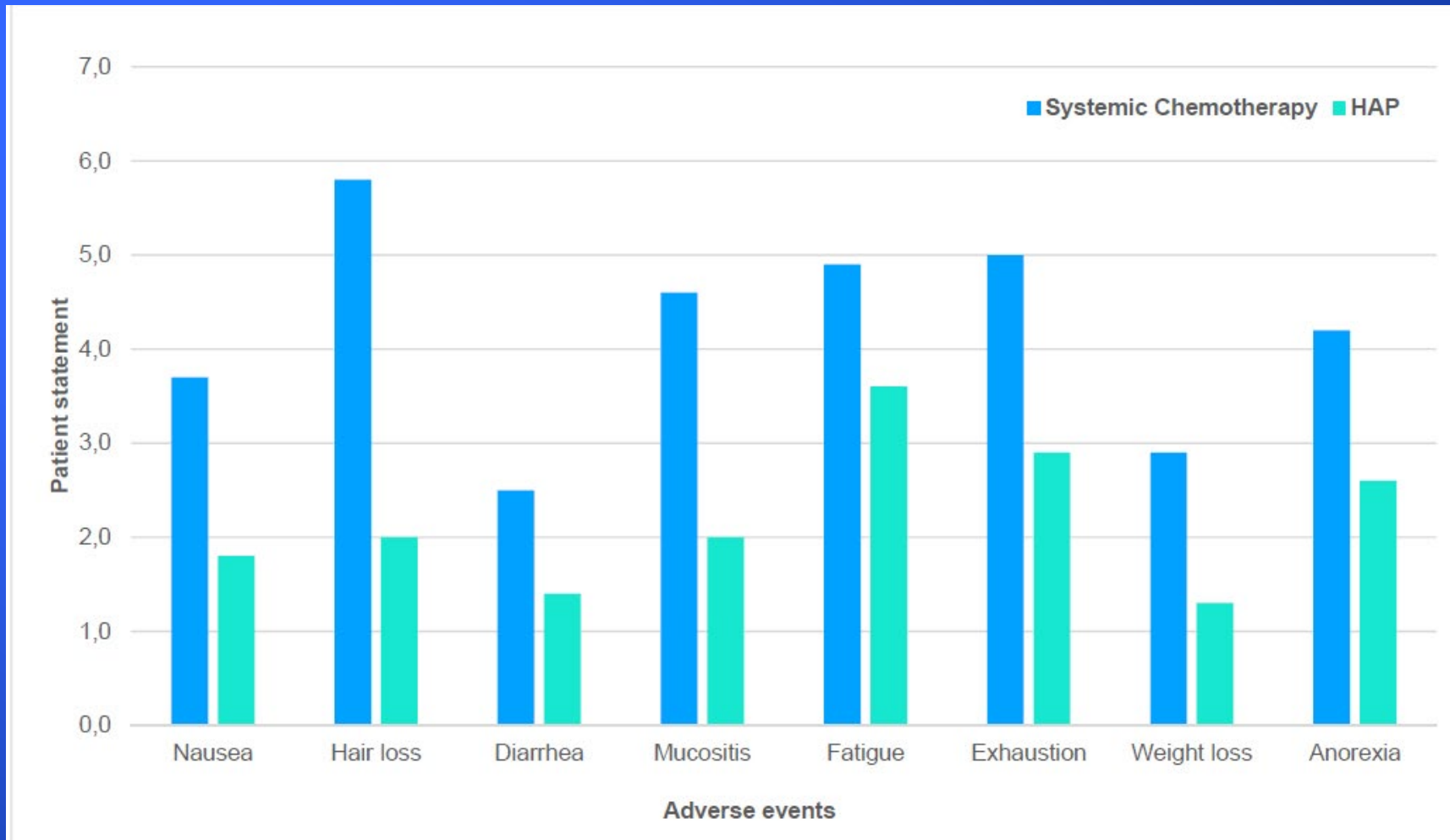
CR = Complete Response, PR = Partial Response



## Toxicity

<b>Bone marrow suppression</b> <ul style="list-style-type: none"><li>• after prior third- and fourth-line chemotherapy</li></ul>	<b>WHO grade 1 and 2</b> <b>WHO grade 3</b>
<b>Temporary elevation of creatinin and liver enzymes</b>	<b>16 %</b>
<b>Neutropenic fever</b>	<b>never</b>
<b>Hand-foot-syndrom</b>	<b>never</b>
<b>Temporary inguinal lymph fistula</b>	<b>30 %</b>

## Hypoxic isolated abdominal perfusion for recurrent ovarian cancer



**Patient opinion on quality of life after regional chemotherapy as opposed to prior systemic chemotherapy. Patients rated the perceived intensity of the side-effects at increasing levels from 1 (very mild) – 6 (very strong)**

## Conclusion

**Isolated hypoxic abdominal perfusion with chemofiltration for patients with progressive and platinum-refractory stage FIGO IIIC and IV ovarian cancer is an effective therapy offering comparably long survival, maintaining quality of life.**





*Burghausen, Bavaria - World's longest castle, 1051 m*