



**Cervarix™,  
GSK's HPV 16/18 Cervical Cancer Vaccine is  
highly immunogenic and well tolerated in  
women over 25 years of age**

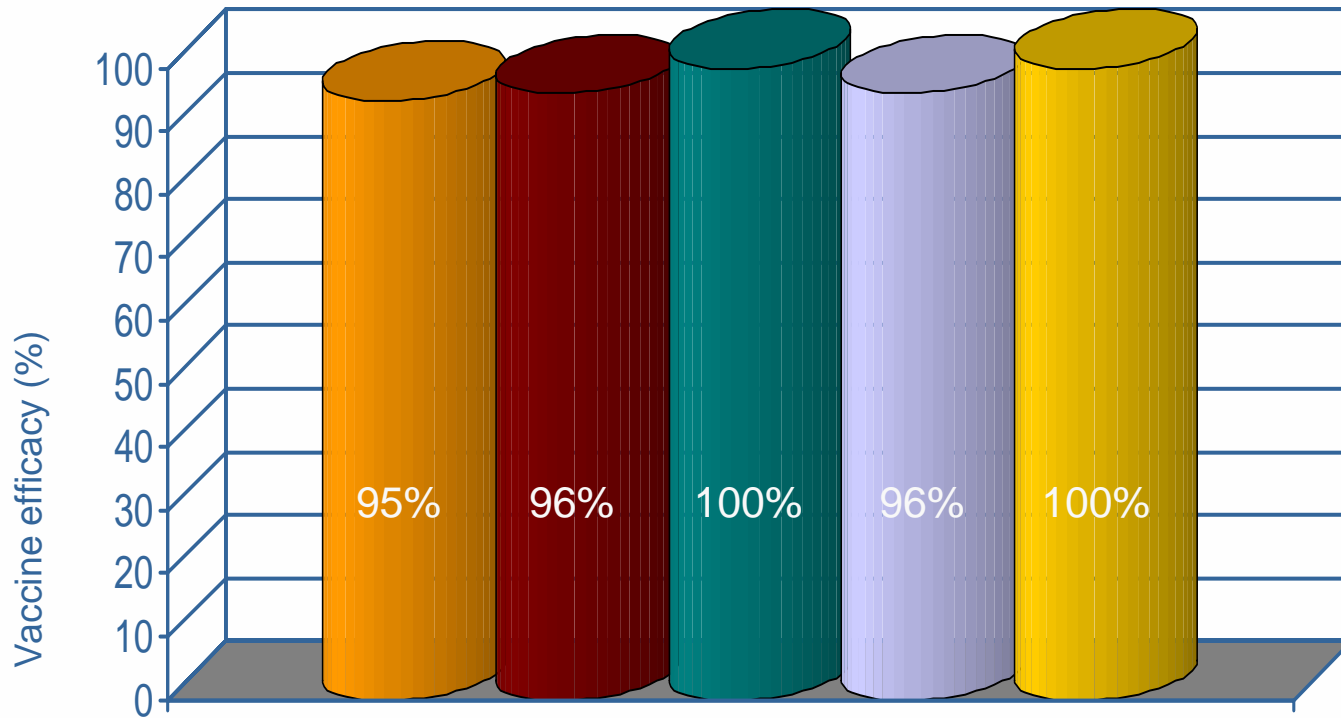
# Every women is at risk of oncogenic HPV infection, which may cause cervical cancer

- Incident infection (new cases per year) of oncogenic HPV types is estimated 5.3% in women 25-55 years of age (range 5-10%)<sup>1</sup>
- Although new infections decrease with age, risk of persistence increases with age<sup>2</sup>

1. Bory et al. 2002 Int J Cancer; Dalstein et al. 2003 Int J Cancer 102; 519-25; Franco et al 1999 JID 180; 1415-23

2. Castle et al JID 2005 191; 1808-16 3. Johnson et al 2001Lancet 358; 1835-42.

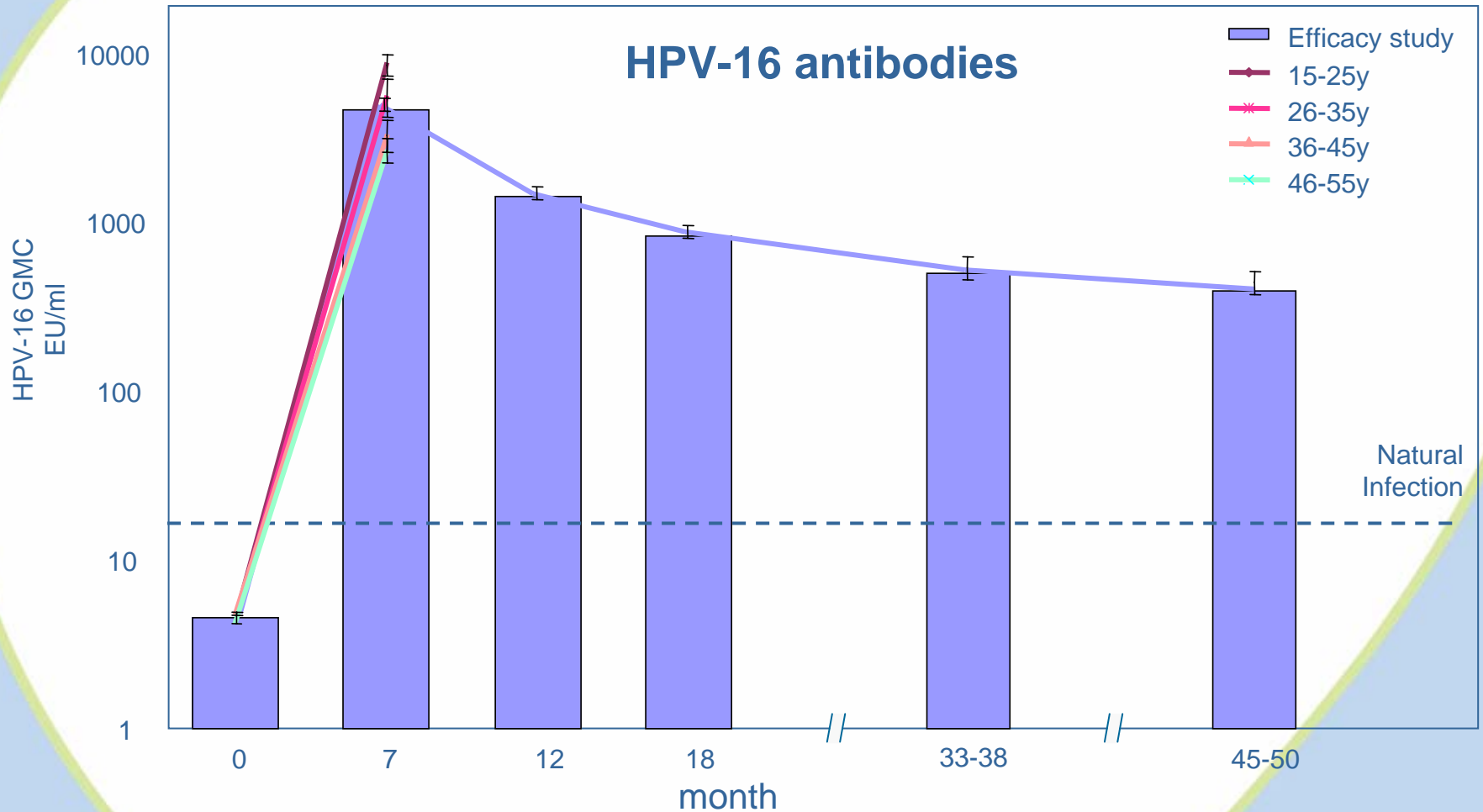
# HPV-16/18 Efficacy in 15-25 year old women up to 4.5 years<sup>1</sup>



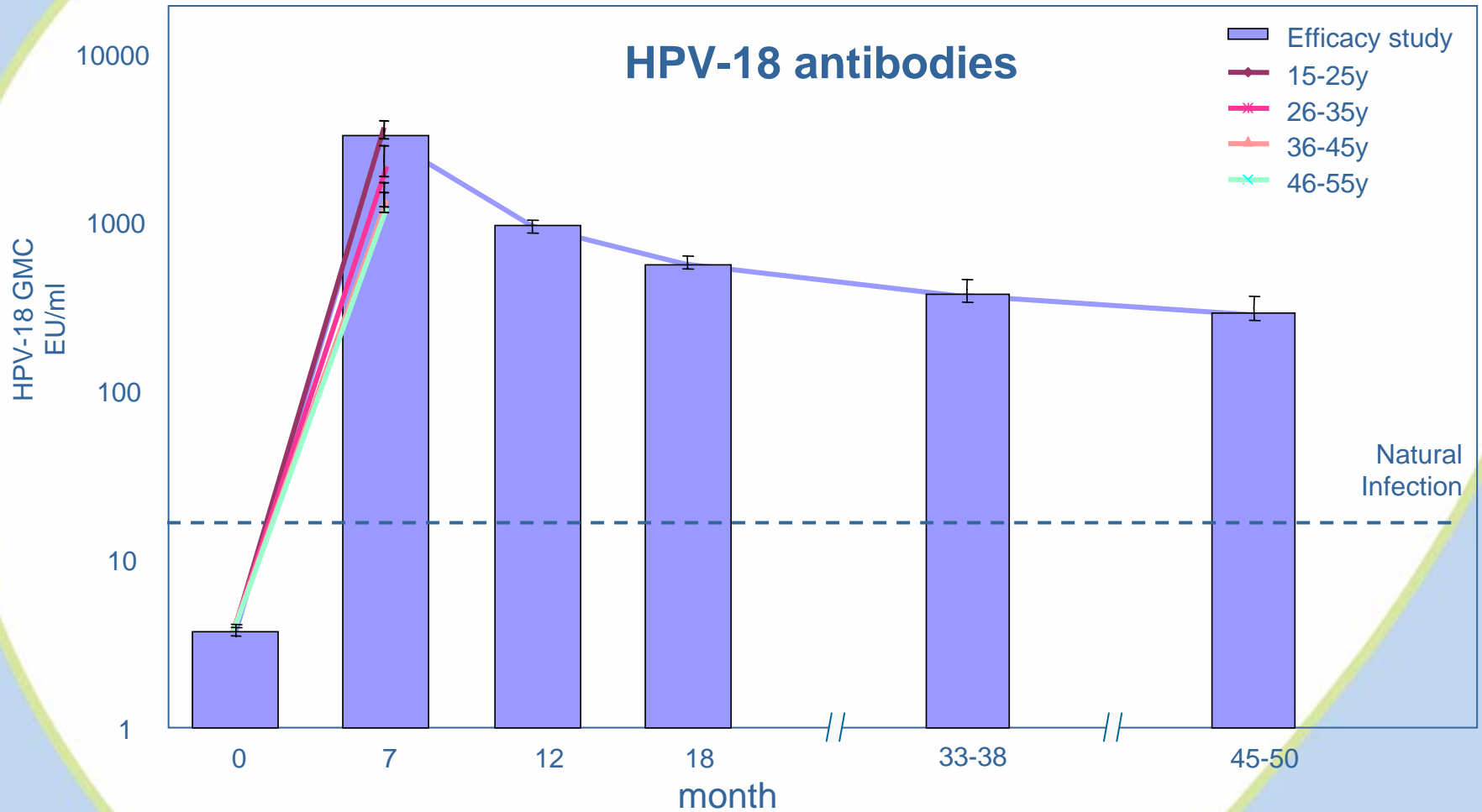
ATP ATP ATP ITT ITT  
Initial and extended follow-up - combined analysis

- Incident Infection
- 6M Persistent Infection
- 12M Persistent Infection
- Cytology
- CIN

# Antibody levels in each age group (7 Months) comparable to levels observed in efficacy study



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## In all age groups, the vaccine was:

- **Highly immunogenic:**
  - **Seroconversion:** 100% for both antigens at 12 months
  - **Antibody levels:**
    - considerably higher than those associated with natural HPV infection
    - > levels of antibodies associated with protection against HPV infection and its associated lesions <sup>1</sup>
- **Generally safe and well tolerated**

## Summary of clinical results with Cervarix™

- **Stronger** antibody response and **longer lasting** antibody levels as compared to aluminium
- **100% seroconversion** over the entire age spectrum (10-55)
- **Complete (100%) protection** over 4.5 years
  - against persistent HPV-16/18 infection (ATP cohort) <sup>1</sup>
  - against biopsy confirmed CIN lesions associated with HPV-16/18 (PCR on biopsy) <sup>1</sup>

## Summary of clinical results with Cervarix™

- Evidence of **broad protection** against clinical lesions which appears to extend beyond HPV-16 and HPV-18<sup>1</sup>
- The broad protection is likely due, at least in part, to the **protection against types 45 and 31**, the 3th and 4th most prevalent HPV cancer-causing types<sup>1</sup>

**The best possible vaccination  
against cervical cancer  
will combine the **broadest coverage** of  
cancer-causing HPV types  
with the **longest duration** of protection**




# **Antigen-Specific Cancer Immunotherapy for Non-Small Cell Lung Cancer**

*Vincent G. Brichard*

# The GSK ASCI approach

- **Antigen**
  - Targets expressed by tumor cells
  - Recombinant protein technology
- **Specific**
  - Genuine tumor specificity – No expression in normal tissues
  - Reduced risk of side effects
- **Cancer:**
  - Aim: to cure cancer
  - To impact tumor growth and prevent recurrence
  - Potentially for all cancer types
- **Immunotherapeutics:**
  - Patients' immune system is “taught to kill the cancer”
  - Immunological adjuvants: key for a robust immune response

# ASCI ongoing trials

Mage-A3 <i>NSCLC</i>	Randomized, DB, placebo-controlled trial  <i>Phase II</i>	
Mage-A3 <i>Melanoma</i>	Open-Label, randomized trial  <i>Phase II</i>	
Her2 <i>Breast</i>	Open-Label, dose escalating trial  <i>Phase I / II</i>	
P501 <i>Prostate</i>	Open-Label Trial  <i>Phase I</i>	
WT1 <i>Leukemia</i>	Development  <i>Preclinical</i>	

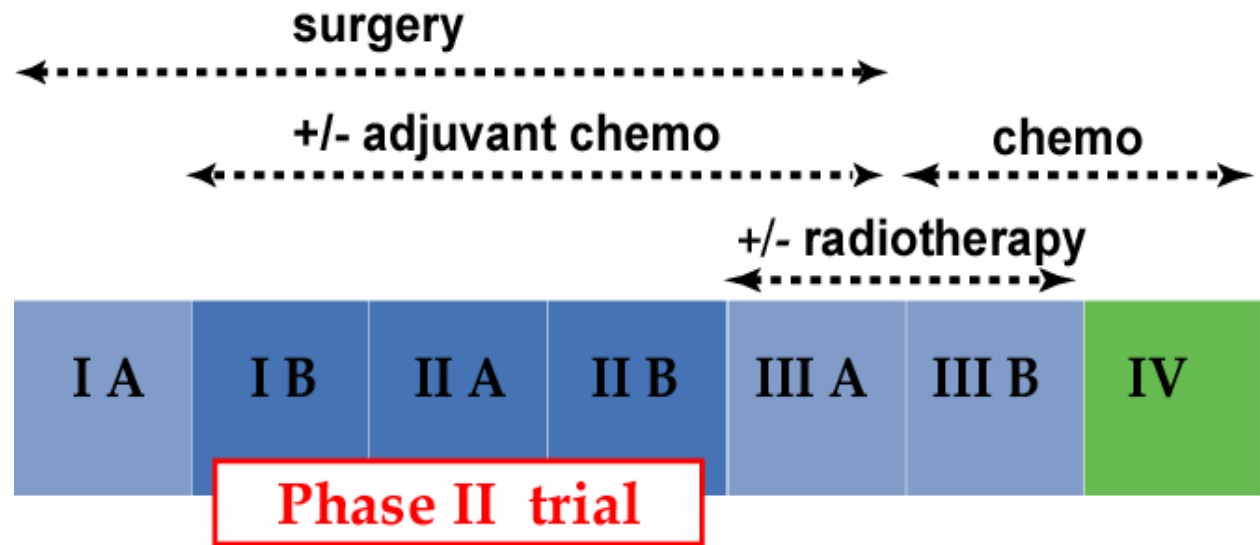


Interim to be presented at ASCO, June 4th

# The MAGE-A3 Antigen

- **Truly tumor-specific**
  - Not expressed on normal cells (*RT-PCR*)
  - Expressed by various tumor types
    - Lung 35-50%
    - Bladder 35%
    - Head & Neck 49%
    - Melanoma 74%
- May be associated with poor prognosis (*Bolli et al.,2002; Gure et al.,2005*)
- Member of a large family of genes (portfolio)

# MAGE-A3 in Non-Small Cell Lung Cancer



<b>Incidence US</b>	21 960	38 010	12 030	24 720	24 500	56 100	
<b>5-year survival</b>	61%	38%	34%	23%	11%	5%	1%
<b>MAGE-A3 expr.</b>	16%	34%	36%	48%			

# Phase II in NSCLC: Study Design

Double-blind

- Stage IB or II NSCLC
- MAGE-A3 (+) tumors
- Complete surgical resection
- Recovered (PS 0-1)

R

$N = 122$

$N = 60$

**MAGE-A3** 300  $\mu$ g *i. m.*  
– Induction: q3w x 5  
– Maintenance: q3m x 8  
– Total duration: 27 mo

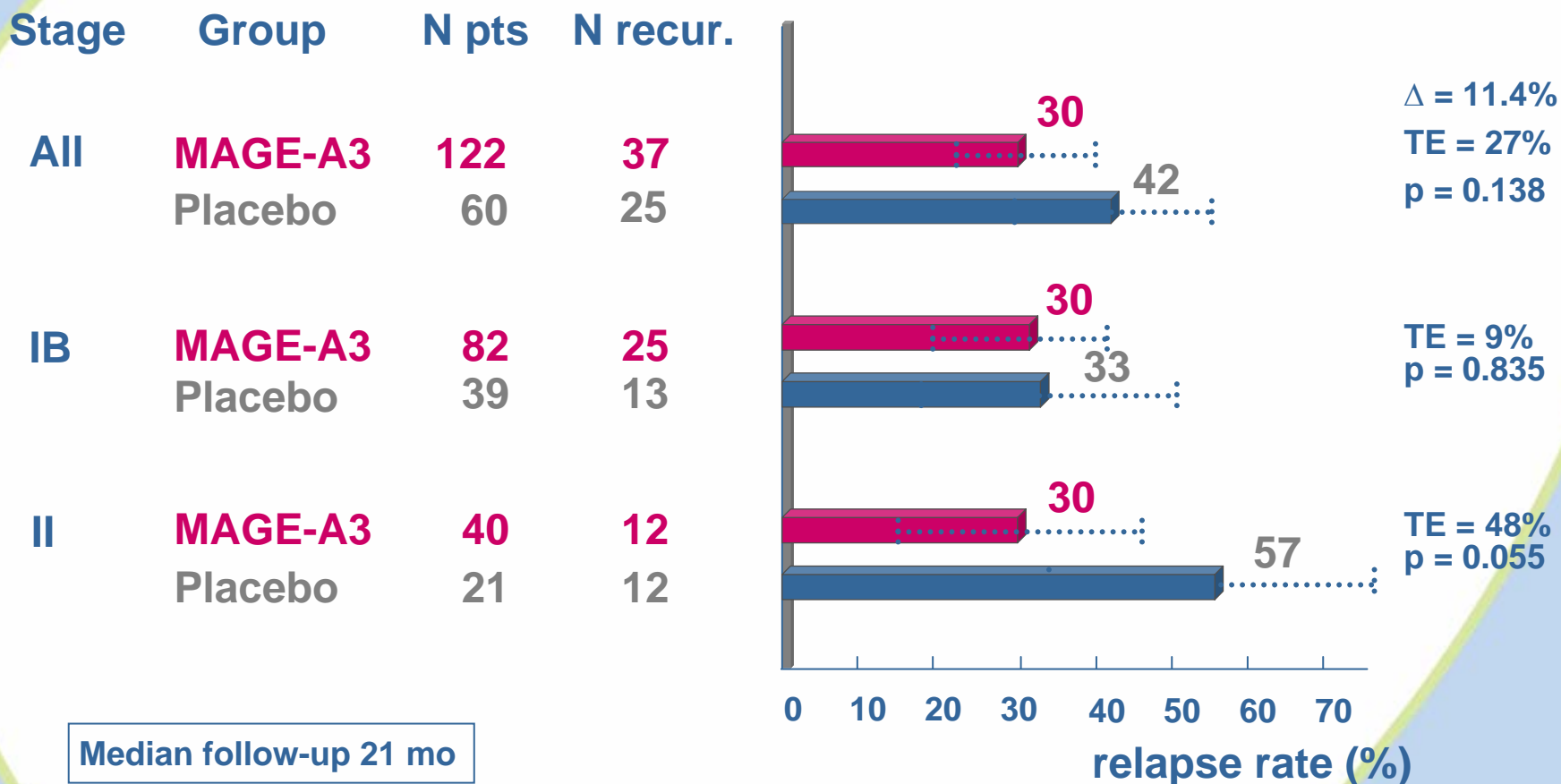
**Placebo** *same schedule*

Primary Objective = to establish Time to Recurrence

# Phase II in NSCLC: Safety Results

- 182 patients / 1609 doses administered (*Study still blinded*)
- Overall well tolerated
  - ✓ Mild grade 1 or 2
  - ✓ Local or systemic reactions, < 24 hours
- 29 grade 3 or 4 adverse events in 21 patients
  - ✓ Three grade 3 events, possibly related to treatment
  - ✓ Leading to withdrawal of 2 patients  
(*local pain, COPD exacerbation*)

# Phase II in NSCLC: Efficacy Results



# Conclusions

- **Positive signal for clinical efficacy**
  - **First time in a double-blind, placebo-controlled trial in NSCLC**
  - **33% reduction in the relative risk of cancer recurrence following surgery, compared with placebo (*Cox regression*)**
- **Well tolerated**
  - **Excellent compliance with treatment – outpatient - intramuscular**
  - **Suitable for long-term maintenance (so far, 27 months)**
  - **Suitable for most patients (old age, co-morbidity...)**
- **Proof of Concept**
  - **For other MAGE-A3 (+) tumor types**
  - **For other genuine tumor-specific antigens**

# A view on the LICR portfolio

Antigen	NSCLC	Breast	Prostate	Melanoma	Bladder	Head&N.	Ovary	Colon	Kidney	Oesophagus	Leuk	Liver
MAGE-A3	47	13	18	74	57	53	30	17	0	47	29	48
MAGE-A1	45	19	18	46	32	31	28			53	0	80
NY-ESO-1	30	42	33	35	80	27	30	0	9		0	29
LAGE-1	35	23	27	41	47	35	?					
MAGE-C1	33	30	11	70	44	36	66				80	48
MAGE-C2	24	38	10	43	44	36			0	13	0	68
PRAME	61	27		90					40		68	
SSX-2	21	7	40	50	44	57	50	12	5		16	35