

# **Recurrent Vulvovaginal Candidiasis**

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# Department of Obstetrics and Gynecology, University of Helsinki

- Large department
  - 3 hospital units
  - 15,000 deliveries/yr
  - 150,000 outpatient visits/yr
- Staff
  - 59 senior physicians
- Postgraduate training
  - 33 residents
- Undergraduate training
  - 120 medical students



# WHO is an Expert?

- An expert is one who has stopped thinking- he knows!
- Where facts are few, experts are many!
- An expert is one who knows more and more about less and less!
- An expert maintains absolute confidence in "belief based medicine"
- An expert is one who has made all the mistakes which can be made!

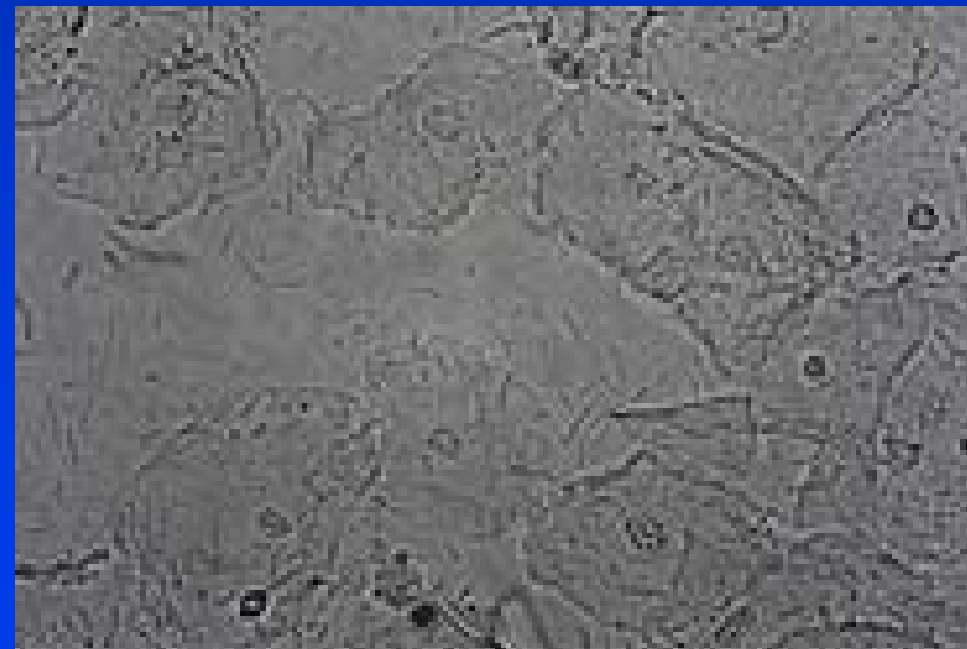
# Vulva clinic

- Vulvar dermatoses
- Vulvovaginal infections
- HPV-related diseases
  - VIN, VaIN
- Vulvodynia
- Other conditions



# Vagina

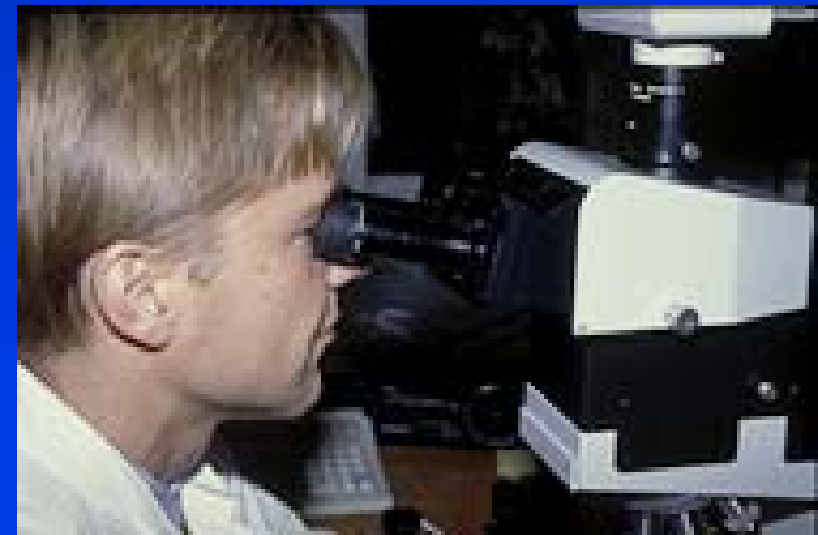
- Stratified squamous epithelium
  - Surprisingly resistant to infection
- Döderlein's flora
  - Lactobacilli
  - Low pH
  - Cytolysis
- Mucosal immune system
  - IgA, IgG
  - Langerhans cells
- Effects of sexual intercourse, menstruation, and sex steroid hormones

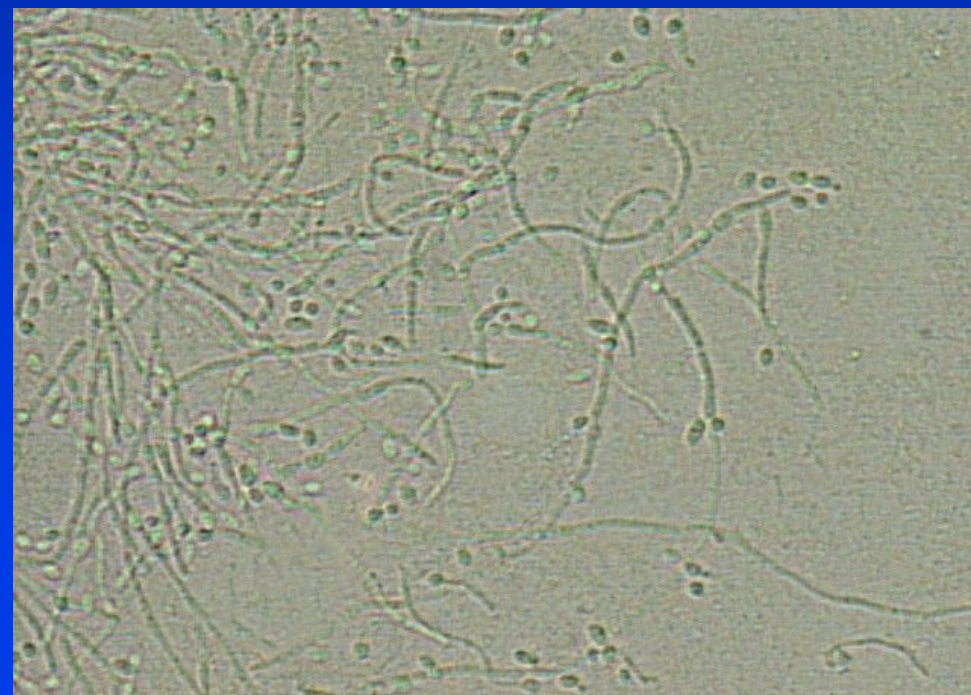




# Evaluation of vaginal complaints

- Poor performance of symptoms and signs in the diagnosis
- Difficult to identify the cause
  - Candida 17-39%
  - BV 22-50%
  - Trich 4-35%
  - Other 7-72%
- Microscopy of vaginal discharge most useful in office diagnosis







# CANDIDIASIS



## Pathogenesis, Diagnosis, and Treatment

Second Edition

**GERALD P. BODEY**

RAVEN PRESS

26269-6 \* IN U.S. \$3.95 (IN CANADA \$4.95) \* A BANTAM BOOK

ERTTIA PÄYVÖNEN  
isk. apulaisprofessori  
sairautautien ja synnytyksen  
erikoistääkäri  
Puh. 177311

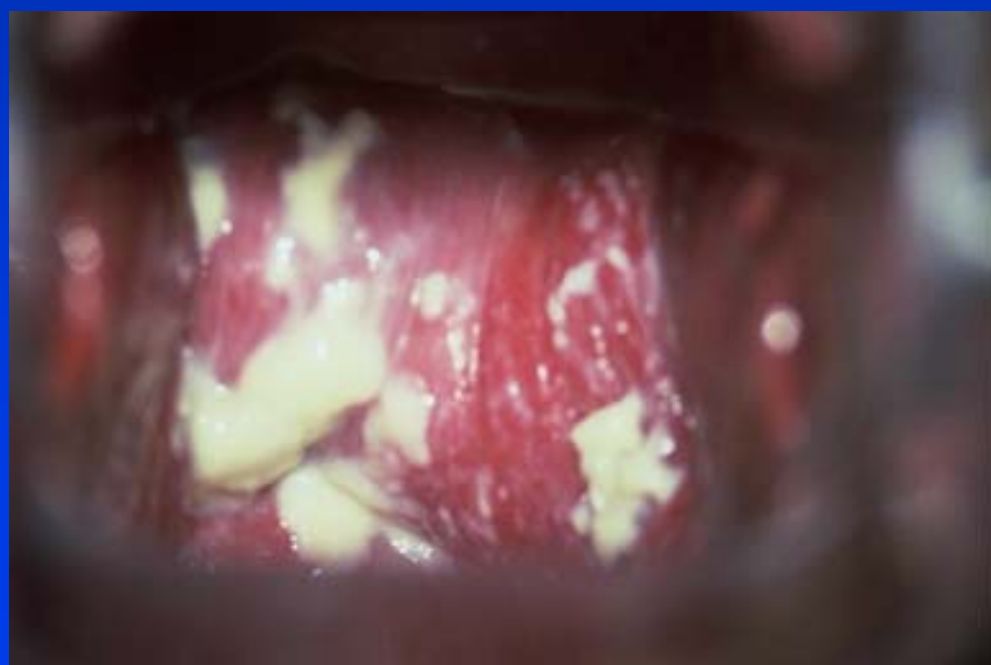
- IF YOU SUFFER FROM
- ACNE • ALLERGIES • ANXIETY • ASTHMA
  - CONSTIPATION • DEPRESSION • DIARRHEA
  - EARACHES • FATIGUE • HEADACHES • INFERTILITY
  - LOST SEX DRIVE • POOR MEMORY • MUSCLE WEAKNESS
  - PERSISTENT COUGHS • PREMENSTRUAL SYNDROME
  - RECURRENT VAGINITIS • SKIN IRRITATIONS

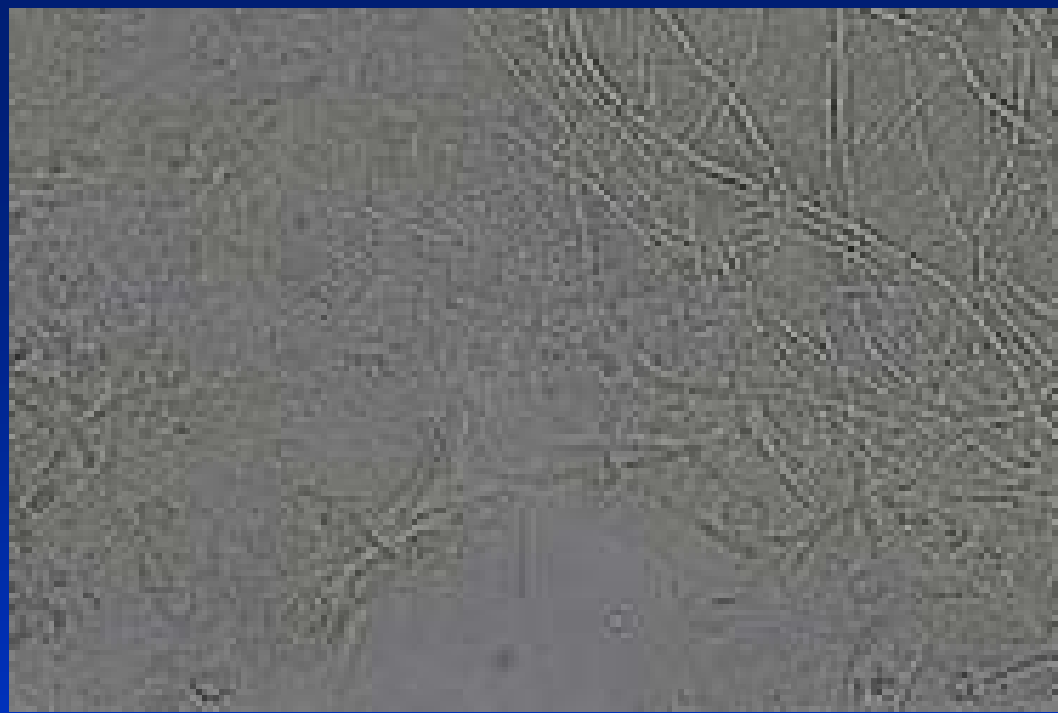
YOU MAY BE A VICTIM OF.

# THE YEAST SYNDROME

HOW TO HELP  
YOUR DOCTOR IDENTIFY  
AND TREAT THE REAL  
CAUSE OF YOUR  
YEAST-RELATED  
ILLNESS

JOHN PARKS TROWBRIDGE, M.D.  
and MORTON WALKER, D.P.M.





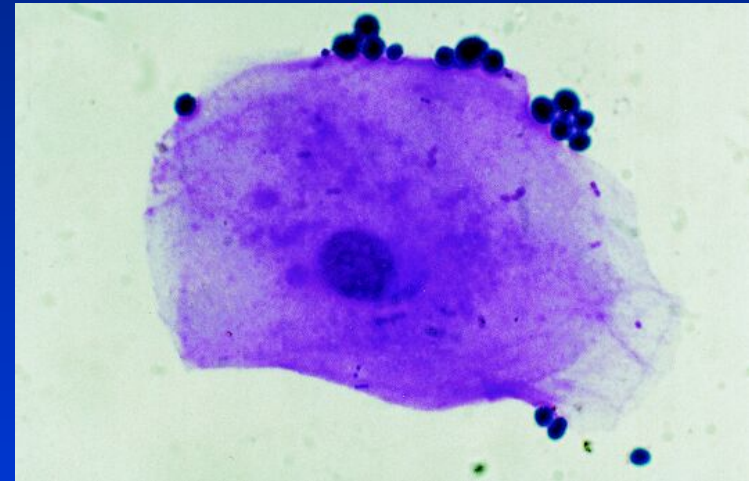
# Recurrent VVC

- Understudied
- Poorly understood
- Commonly misdiagnosed
- Morbidity
  - Genital discomfort
  - Loss of productivity
  - Sexual problems
  - Psychological distress
- Medical costs



# Recurrent VVC

- Four or more episodes of VVC per year
- At least 5% of women with sporadic VVC develop recurrent VVC
- Vaginal reinfection or relapse?
  - No consistent pattern of increased virulence of associated Candida strains
  - Hormonal factors
  - Risk factors have been poorly defined
- Weak evidence of impaired cell mediated or humoral immune response to Candida
  - Strikingly short duration of remission following prolonged antimycotic therapy



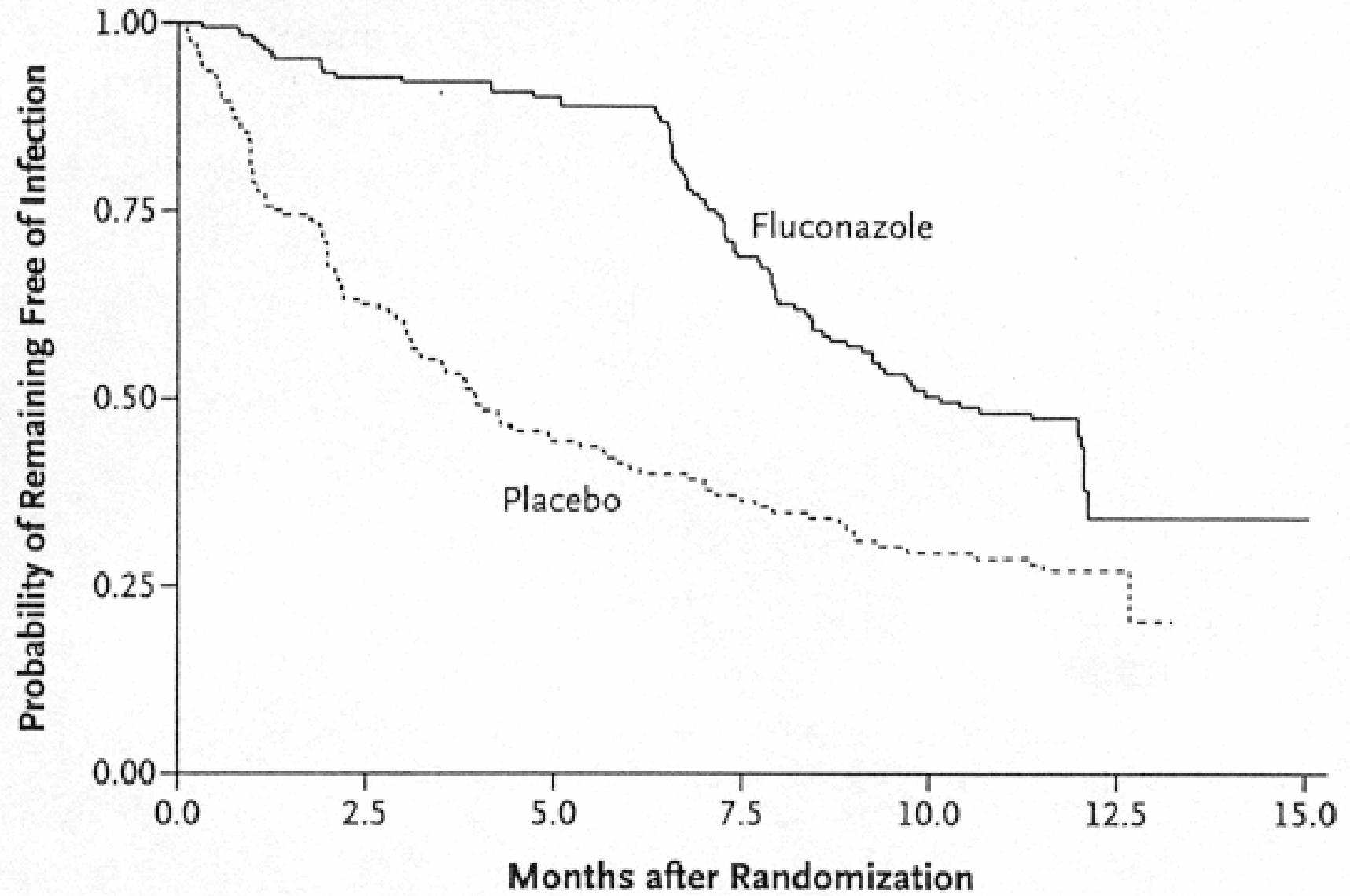
# The ideal antimycotic agent

- Easy to administer
- Effective in a short course
- Fungicidal
- Immediate symptomatic relief
- Lack of systemic and local side effects
- Safe in pregnancy
- Prevents recurrent infection
- No alteration of host vaginal flora
- Low cost
- Broad-spectrum activity

# Maintenance fluconazole therapy for recurrent VVC

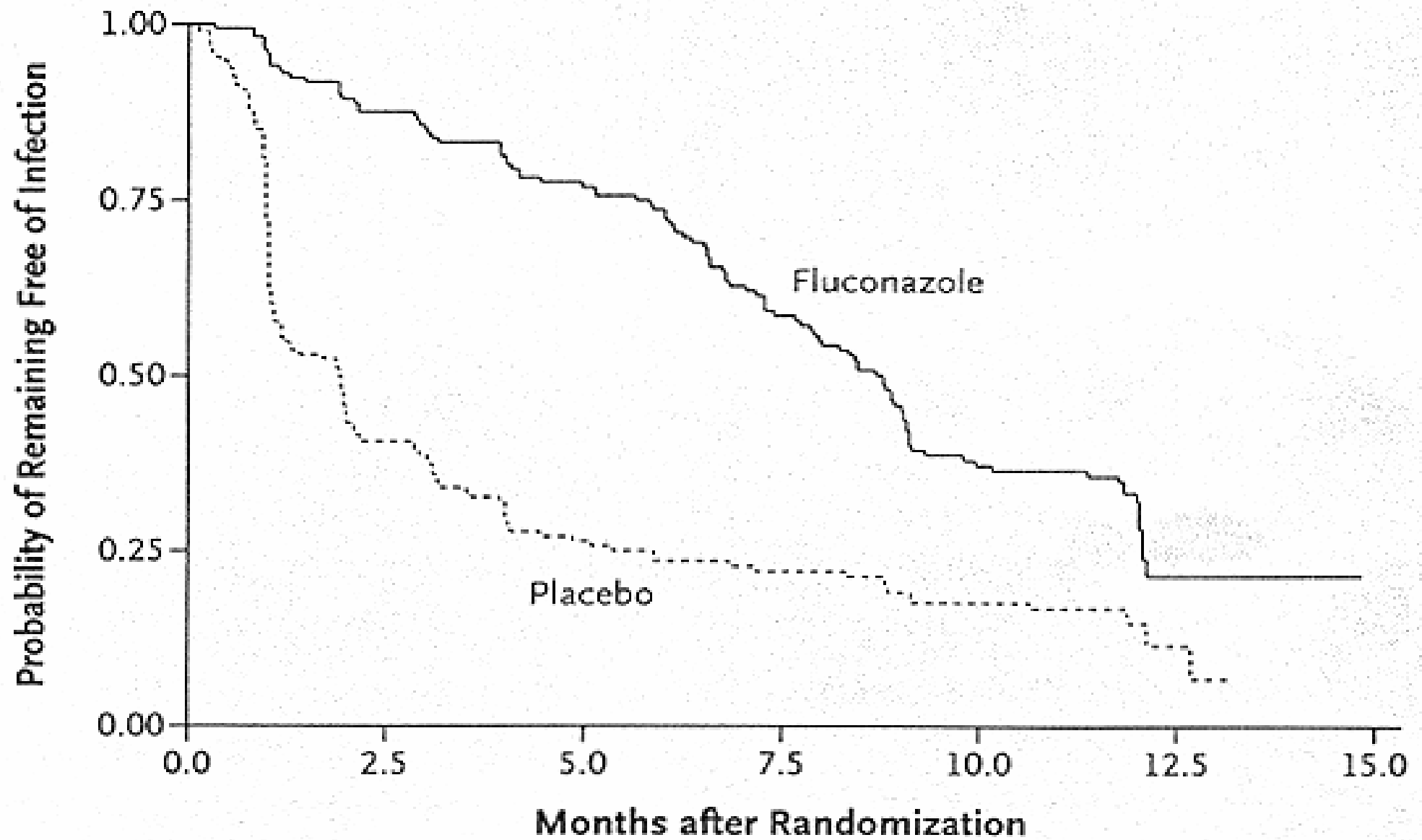
- 494 patients enrolled, mean age 33.8 (range 18-65)
- 94% *C. albicans*
- 387 responded to fluconazole 150mg 3 doses at 72h intervals
- 373 randomized to fluconazole 150mg or placebo weekly for 6 months
- 6 mo observation period w/o therapy
- Clinical or mycologic outcome

# A Clinical Recurrence





## B Mycologic Recurrence



# Suppressive fluconazole therapy for recurrent VVC

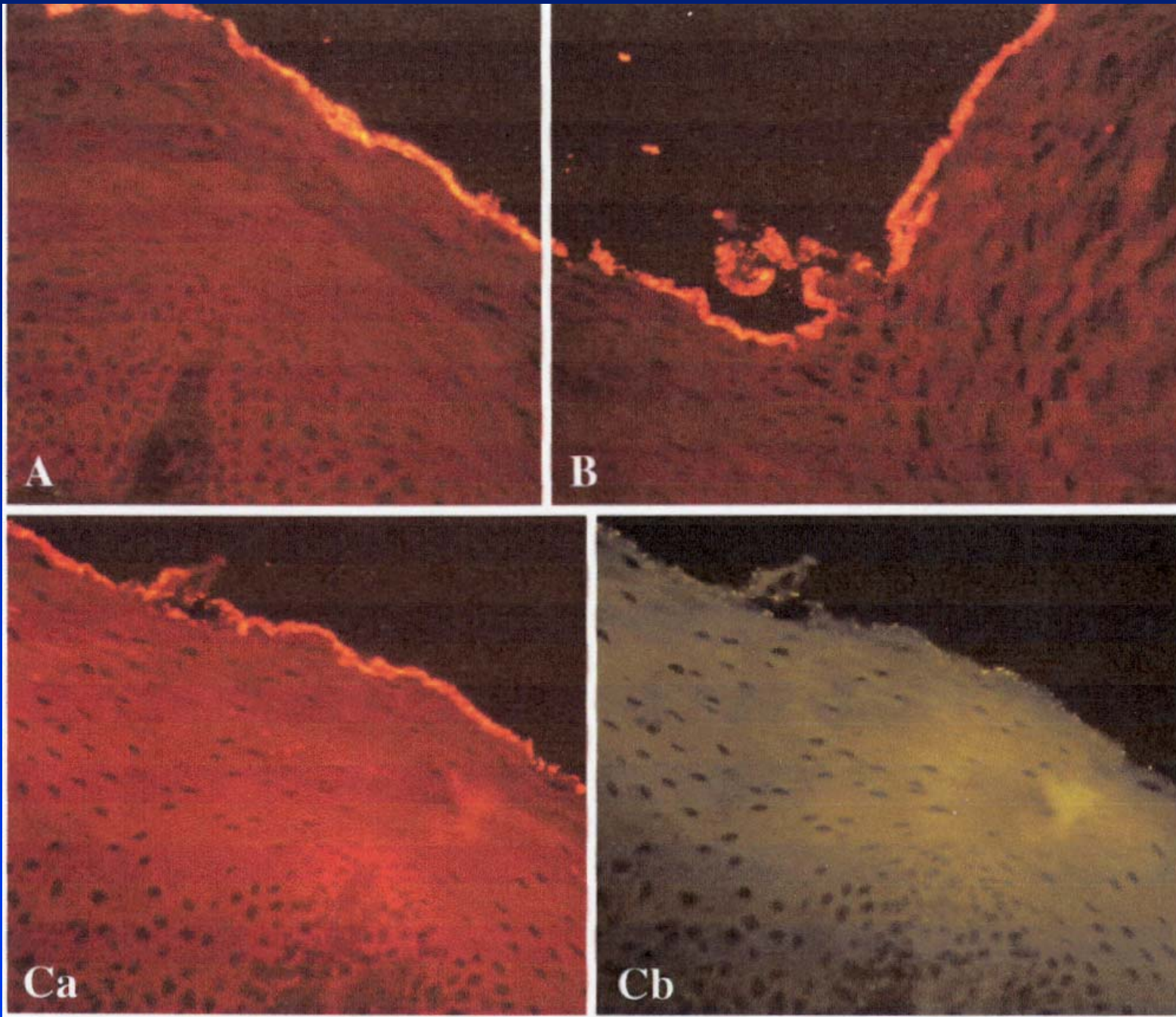
- Recurrent VVC can be successfully managed by weekly suppressive therapy
- No evidence of fluconazole resistance emerging in *C.albicans*
- Low rate of adverse events
- High rate of relapse after suppressive therapy
  - Long-term cure remains difficult to achieve

# Antifungal drug resistance in Candida

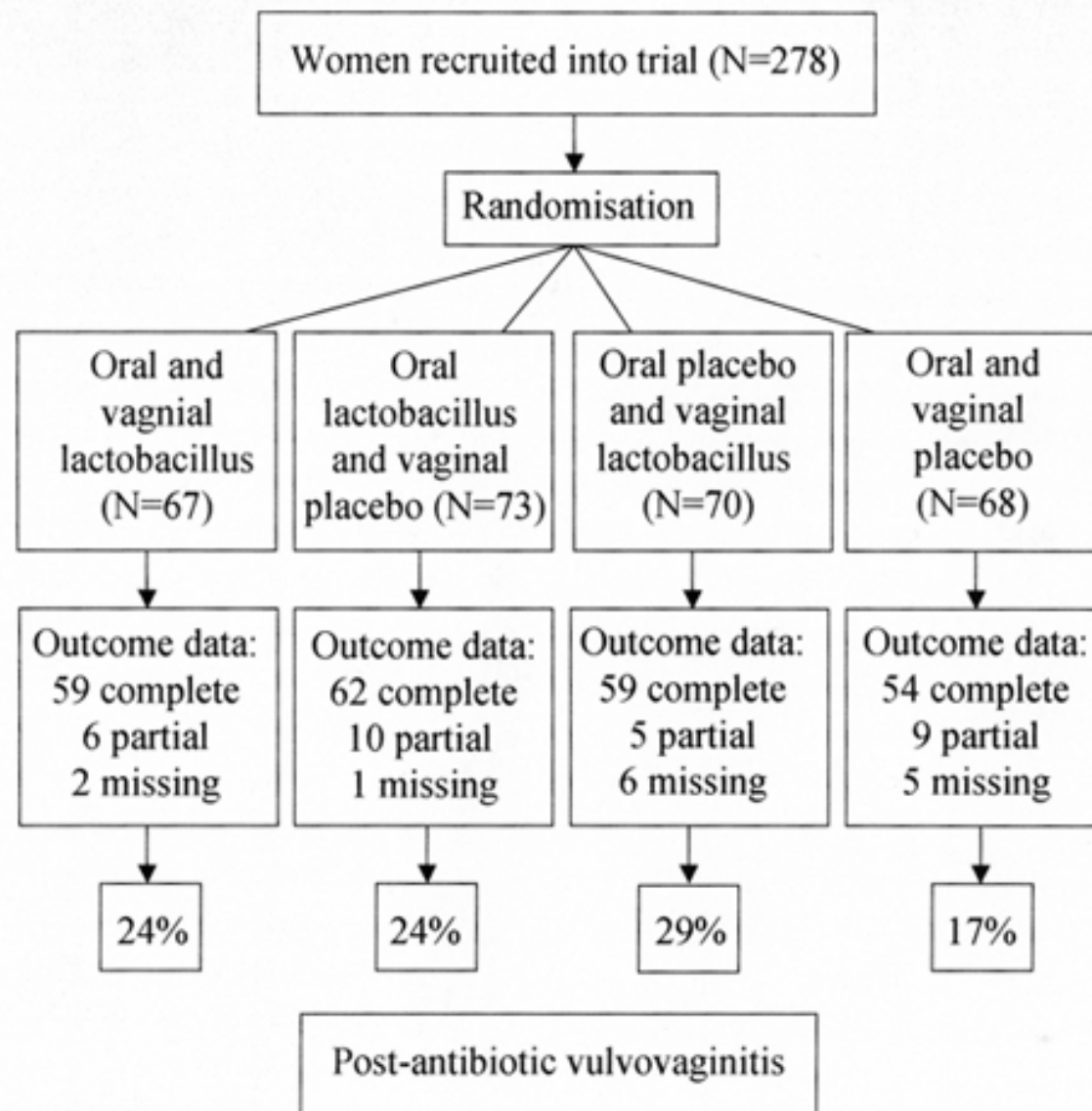
- Azoles are fungistatic, not fungicidal
- Selected contributing factors
  - Frequency and dosage
  - Low doses over long periods
  - Other disease states
  - Non-albicans strains emerge
- Drug resistance not a major clinical problem so far
- Azole resistance common in HIV-infected populations

# Probiotics

- Probiotics are micro-organisms that have antagonist activity against pathogens in vivo
- Thought to be health enhancing in general
  - Useful for vaginal problems
- Probiotics may inhibit the growth of *Candida* or its adherence on the vaginal epithelium
- Available evidence of effectiveness is limited
  - Most studies have major weaknesses
- Rare adverse effects



Swidsinski et al:  
Obstet Gynecol  
2005;106:1013



# Conclusions

- Recurrent VVC is a common and poorly managed condition
- Recurrent VVC can be successfully and safely managed by suppressive therapy with fluconazole
- Relapse is common after suppressive fluconazole therapy
- Azole resistance in *Candida* is not a major clinical problem in recurrent VVC
- Limited evidence for probiotics in the prevention of recurrent VVC

# Questions remain

- Explain high recurrence rate after stopping suppressive therapy
- Define optimal duration of suppressive therapy
- Pathophysiology and risk factors of recurrent VVC
- New insights into host defense
- Probiotics in the prevention of recurrent VVC
- Maintenance therapy for vaginitis associated with non-*Candida albicans* species



# Thank you!

