

# Lynch Syndrome

- It accounts for as much as 3% of all endometrial cancers
- 30-60% lifetime risk for endometrial and colorectal cancer
- 7-12% lifetime risk for ovarian cancer

The recommendation from (ASGO) and ESGO:

- Surveillance of the endometrium **from the age of (30)-35 years**, by annually
  - gynaecological examination
  - transvaginal ultrasound
  - aspiration endometrial biopsy until
  - prophylactic hysterectomy and BSO from the age of (30)-40 years

# Lynch Syndrome

In Denmark the guidelines recommendations include:

- Surveillance of the endometrium **from the age of 35 years**, by
  - gynaecological examination and
  - transvaginal ultrasound **biennially**
  - endometrial biopsy **only performed if indicated** (symptoms or pathological UL-findings)
- Prophylactic hysterectomy and BSO from the age of 40 years **can be an option**

*(Vasen et al, 2013; Ketabi et al, 2014)*

# What is the evidence to support surgery?

## **Retrospective study of 315 women with LS**

61 underwent prophylactic hysterectomy and oophorectomy,

No one developed EC or OC

210 did not have surgery, 69 (33%) developed EC

Additionally 5.5% developed OC

*(Schmeler et al. N Engl J Med 2006)*

## Is it cost effective?

Annual screening followed by prophylactic surgery at age 40 years was the most effective gynaecologic cancer prevention strategy  
*(Kwon JS et al. Cancer 2008)*

Risk-reducing hysterectomy with bilateral salpingo-oophorectomy at age 30 is the least expensive option, costing \$23,422 per patient for 25.71 quality-adjusted life-years (QALYs)

Annual gynaecological screening cost \$68,392 for 25.17 QALYs

Risk-reducing surgery leads to the highest number of QALYs  
*(Yang K et al. Fam Cancer 2011)*

# The pros and cons of the surgery

## Danish Hysterectomy data base – 2014

A total number of 4.388 benign hysterectomies were performed  
75% performed by minimal invasive technique

### The rate of complications:

- |                              |     |
|------------------------------|-----|
| ➤ Total risk of complication | 14% |
| ➤ Major complications        | 6%  |
| ➤ Postoperative bleeding     | 5%  |
| ➤ Reoperation                | 3%  |

# The pros and cons of the surgery

## Side effects of premature menopause

Vasomotor symptoms

Sexual function (libido and lubrication)

Mood/ Loss of “femininity”

Increased cardiovascular risk – (RR 4.55; 95% CI 2.56-8.10)

*(Atsma F et al. Menopause 2006)*

Increased risk of osteoporosis

Increased dementia risk

*(Rocca W.A. et al. Neurology 2007)*

Overall mortality impact

*(Rocca W.A. et al. Lancet 2006)*

# HRT recommendations

Survival patterns after oophorectomy in pre-menopausal women – follow up 25 years

Women having oophorectomy ≤ 45 year	No	Follow up (person years)	Deaths	HR (95%CI)
Control	1417	38106	229	1
Oophorectomy	124	3164	33	1.67 (1.16-2.40)
Oestrogen given to the age of 45	45	1202	10	1.27(0.67-2.39)
Oestrogen not given to the age of 45	79	1962	23	1.93(1.25-2.96)

*Rocca W.A. et al. Lancet 2006*

# At what age should risk-reducing surgery be undertaken?

Median age at diagnosis of ovarian cancer in women with LS is 41 years  
20-30% of OC occur prior to age 40 years *(Ketabi Z. et al. 2014)*

The risk is different depending on the MMR-mutation  
Highest risk in MLH1 and MSH2 mutation carriers  
Lowest risk in MSH6 mutation carriers

Biology of OC in LS may be less aggressive

77-81% of symptomatic LS patients with OC are diagnosed at an early stage (FIGO stages I and II)

In a multicentre study of 144 prospectively diagnosed cases of OC in LS women, 10 years survival was 81%

*(Grindedal EM et al. J MED Genet 2010 )*



