

**IGCS-0224  
CERVICAL CANCER**

**WOMENS' PREFERENCES FOR SURGERY OR IMIQUIMOD AS TREATMENT FOR HIGH-GRADE CERVICAL INTRAEPITHELIAL NEOPLASIA: A DISCRETE CHOICE EXPERIMENT**

*M.M. Koeneman<sup>1,2</sup>, B.A. Essers<sup>3</sup>, C.G. Gerestein<sup>4</sup>, A.J. van de Sande<sup>5</sup>, R. Litjens<sup>6</sup>, D. Boskamp<sup>7</sup>, M.F. Goossens<sup>1</sup>, H.J. Beekhuizen<sup>5</sup>, R.F. Kruitwagen<sup>1</sup>, A.J. Kruse<sup>1</sup>, C.D. Dirksen<sup>3</sup>*

*<sup>1</sup>Maastricht University Medical Center, Department of Obstetrics and Gynecology, Maastricht, Netherlands*

*<sup>2</sup>Maastricht University, GROW - School for Oncology and Developmental Biology, Maastricht, Netherlands*

*<sup>3</sup>Maastricht University Medical Center, Department of Clinical Epidemiology and Medical Technology Assessment, Maastricht, Netherlands*

*<sup>4</sup>Meander Medical Center, Department of Obstetrics and Gynecology, Amersfoort, Netherlands*

*<sup>5</sup>Erasmus Medical Center, Department of Obstetrics and Gynecology, Rotterdam, Netherlands*

*<sup>6</sup>Zuyderland Medical Center, Department of Obstetrics and Gynecology, Sittard, Netherlands*

*<sup>7</sup>VieCuri Medical Center, Department of Obstetrics and Gynecology, Venlo, Netherlands*

**Background and Aims:**

Imiquimod cream has been studied as a treatment alternative to LLETZ (large loop excision of the transformation zone) in high-grade CIN, in order to prevent preterm birth and subfertility after LLETZ treatment. A recent RCT shows a treatment efficacy of 73%. This study aims to investigate womens' preferences in treatment of high-grade CIN with imiquimod or LLETZ.

**Methods:**

A labelled discrete choice experiment (DCE) was conducted among 100 women with abnormal cervical cytology in 5 hospitals in the Netherlands, between March 2014 and December 2015. Participants were asked to choose between imiquimod treatment or standard surgical treatment in ten separate scenarios,

in which the incidence of several treatment characteristics differed (figure 1).

**Question 1**

Attribute	<b>Imiquimod option 1</b>	<b>Imiquimod option 2</b>	<b>LLETZ</b>
Chance of successful treatment	<b>55%</b> <small>55 of 100 women</small>	<b>95%</b> <small>95 of 100 women</small>	<b>95%</b> <small>95 of 100 women</small>
Risk of premature birth	<b>12%</b> <small>12 of 100 women</small>	<b>6%</b> <small>6 of 100 women</small>	<b>12%</b> <small>12 of 100 women</small>
Risk of subfertility	<b>8%</b> <small>8 of 100 women</small>	<b>16%</b> <small>16 of 100 women</small>	<b>16%</b> <small>16 of 100 women</small>
<b>Risk of side effects:</b>			
Vaginal pruritus or pain	<b>10%</b> <small>10 of 100 women</small>	<b>25%</b> <small>25 of 100 women</small>	-
Abdominal pain	-	-	<b>15%</b> <small>15 of 100 women</small>
Vaginal discharge	<b>10%</b> <small>10 of 100 women</small>	<b>30%</b> <small>30 of 100 women</small>	<b>20%</b> <small>20 of 100 women</small>
Vaginal bleeding	-	-	<b>25%</b> <small>25 of 100 women</small>
Flu-like symptoms	<b>10%</b> <small>10 of 100 women</small>	<b>25%</b> <small>25 of 100 women</small>	-

**Which treatment do you prefer?**

<b>Imiquimod option 1</b>	<b>Imiquimod option 2</b>	<b>LLETZ</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Results:**

Baseline characteristics are shown in table 1. Women generally assign a positive utility to LLETZ (positive coefficient of 4.25, table 2). When making a choice for imiquimod, women prefer a higher treatment success rate and a lower risk of premature birth, subfertility and side-effects. A choice for imiquimod treatment is strongly influenced by a future pregnancy wish (table 2-2). The LLETZ treatment provides a significant higher benefit for women without a pregnancy wish compared to women with a pregnancy wish. Subgroup analyses revealed that women with a future pregnancy wish may accept lower treatment success rates than women without a future pregnancy wish: they consider a treatment success rate of 72% acceptable, when the risks of subfertility and future premature birth are low.

Characteristic	N = 100
Age (mean, range)	38.5, 21-70
Degree of education (absolute)	
- Secondary education or intermediate vocational education	62
- Advanced vocational school or university	35
- Unknown	3
Parity	
- Nulliparous	39
- Primiparous	23
- Multiparous	35
- Unknown	3
Age of first birth (mean, range)	27 (18-38)
Pregnancy wish in the future	
- Yes	34
- No	53
- Unsure	9
- Unknown	4
Previous colposcopy	
- Yes	77
- No	21
- Unknown	2
Previous LLETZ treatment or conisation	
- Yes	18
- No	81
- Unknown	1

Attributes	Main effect model (1)		Model with interactions (2)	
	Coefficient	95%CI	Coefficient	95%CI
ASC_Imiquimod	0.060	-0.17 – 0.29	0.14	-0.11 – .40
Treatment success	0.084***	0.06 – 0.10	0.077***	0.06 – .10
Premature birth	-0.126***	-0.19 – -0.06	-0.05	-0.14 – .03
Subfertility	-0.109***	-0.15 – -0.06	-0.006	-0.07 – 0.05
Vaginal pruritus and/or pain	-0.031***	-0.05 – -0.01	-0.024**	-0.04 – -0.003
Vaginal discharge	-0.013*	-0.03 – -0.001	-0.009	-0.03 – 0.007
Flu-like symptoms	-0.029**	-0.05 – -0.005	-0.014	-0.04 – 0.011
ASC_LLETZ- treatment	4.25***	3.33 – 5.16	6.37***	5.09 – 7.66
Pregnancy wish*subfertility			-0.178***	-0.246 – -0.111
Pregnancy wish*premature birth			-0.103**	-0.193 – -0.013
Pregnancy wish* LLETZ-treatment			-0.863***	-1.16 – -.56
LL=-738.33			LL=-612.69	
Number of observations=894			Number of observations=778	
Number of individuals=100			Number of individuals=87	
Likelihood ratio chi square test: model 2 vs model 1 $\chi^2 (251) \geq \chi^2 (7.81)$ ; p-value<0.05				

\*\*\*: p-value< 0.01; \*\*p-value<0.05; \*p-value<0.1;

ASC=alternative specific constant

LL = log likelihood

## Conclusions:

Imiquimod treatment may develop as a treatment alternative mainly for women with a future pregnancy wish.