



#### , בהריון - מה עושים עם זה **CIN 2-3** ומה הנתונים בישראל?

דר אפרים סיגלר יו"ר החברה הישראלית לקולפוסקפופיה ופתולוגיה של צוואר הרחם והעריה



במשך 15 שנה אני אוסף נתונים של נשים בהריון שאובחנו עם ממצא של 2-3 CIN בביופסיה. כמובן שזה לא מדגם מיצג , אבל הנתונים תואמים את הספרות

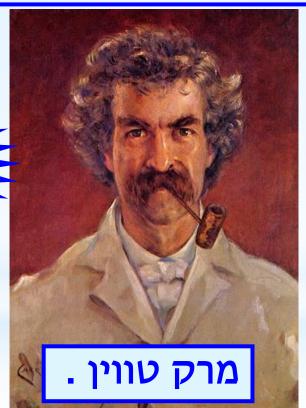
153 women were diagnosed with CIN 2-3 lesion on cervical biopsy during pregnancy

## INVASIVE CANCER WAS DIAGNOSED IN 9 women (5.9%)

#### קודם תלמד את העובדות.

אחר כך אתה יכול לסלף אותן כאוות נפשך."

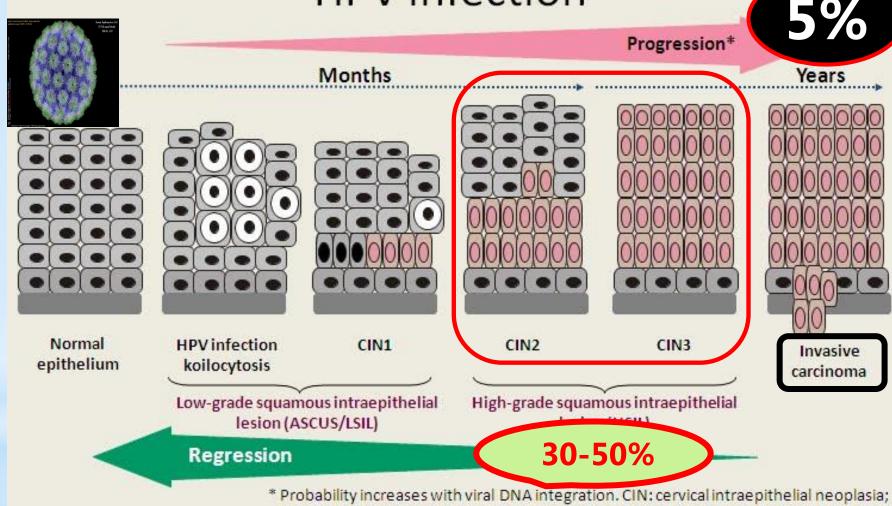




5% 5/4 4

סמיואל לנגהורן קלמנס 1910 בנובמבר 1835 - 21 באפריל Progression of cervical disease after HPV infection





\* Probability increases with viral DNA integration. CIN: cervical intraepithelial neoplasia;

ASCUS: atypical squamous cells of undetermined significance

Burd EM. Clin Microbiol Rev 2003; 16:1-17; Solomon D, et al. JAMA 2002; 287:2114-2119.





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#### To the state of th

#### European consensus statement on essential colposcopy



C.W.E. Redman<sup>a</sup>, V. Kesic<sup>b</sup>, M.E. Cruickshank<sup>c,\*</sup>, M. Gultekin<sup>d</sup>, X. Carcopino<sup>e</sup>, M. Castro Sanchez<sup>f</sup>, M. Grigore<sup>g</sup>, M. Jakobsson<sup>h</sup>, V. Kuppers<sup>i</sup>, A. Pedro<sup>j</sup>, O. Reich<sup>k</sup>, S. Leeson<sup>l</sup>, U. Tabuica<sup>m</sup>, J. Zodzika<sup>n</sup>, A. Ciavattini<sup>o</sup>, R. Jach<sup>p</sup>, M. Katsyuba<sup>q</sup>, R. Koiss<sup>r</sup>, P. Martin-Hirsch<sup>s</sup>, W.A. Tjalma<sup>t</sup>, P. Nieminen<sup>u</sup>, On behalf of the European Federation for Colposcopy and Pathology of the Lower Genital Tract (EFC) and the European Society of Gynecologic Oncology (ESGO)

Initial management of women with HSIL

Biopsies should be taken in non-pregnant women.

- If histological HSIL is confirmed, then treatment should usually be performed but expectant management can be considered in young women (≤30 years) with a small area HSIL/CIN 2 lesion, with a fully visible transformation zone [9]
- If treatment is not undertaken, then close surveillance with colposcopy and cytology is recommended with 6 monthly intervals. If at follow-up HSIL cytology persists over 24 months, then excisional treatment is recommended

2019





2019 ASCCP Risk-Based Management Consensus Guidelines for Abnormal Cervical Cancer Screening Tests and Cancer Precursors

Rebecca B. Perkins, MD, MSc, <sup>1</sup> Richard S. Guido, MD, <sup>2</sup> Philip E. Castle, PhD, <sup>3</sup> David Chelmow, MD, <sup>4</sup> Mark H. Einstein, MD, MS, <sup>5</sup> Francisco Garcia, MD, MPH, <sup>6</sup> Warner K. Huh, MD, <sup>7</sup> Jane J. Kim, PhD, MSc, <sup>8</sup> Anna-Barbara Moscicki, MD, <sup>9</sup> Ritu Nayar, MD, <sup>10</sup> Mona Saraiya, MD, MPH, <sup>11</sup> George F. Sawaya, MD, <sup>12</sup> Nicolas Wentzensen, MD, PhD, MS, <sup>13</sup> and Mark Schiffman, MD, MPH<sup>14</sup> for the 2019 ASCCP Risk-Based Management Consensus Guidelines Committee

#### I.2 Management of Histologic HSIL (CIN 2 or CIN 3)

Guideline: In all nonpregnant patients with a diagnosis of histologic HSIL (CIN 3), treatment is recommended and observation is unacceptable (AII). In nonpregnant patients with histologic HSIL (CIN 2), treatment is recommended, unless the patient's concerns about the effect of treatment on future pregnancy outweigh concerns about cancer (BII). Observation is unacceptable when the squamocolumnar junction or the upper limit of the lesion is not fully visualized or when the results of an endocervical sampling, if performed, is CIN 2+ or ungraded (EIII) (see Figure 7).

CIN 2-3 Pregnancy EUROGIN 2021

#### **ACOG** Management of Abnormal Pap & CIN in pregnancy (2008)

Hunter M. & al; CIN in Pregnancy AMJOG July 2008;

### TREAT, ONLY IF INVASION IS SUSPECTED



Perkins RB & al ; JLGTD : Vol 24 ; No 2 : **APRIL 2020 ;** 

2019

2019 ASCCP Risk-Based Management Consensus Guidelines for Abnormal Cervical Cancer Screening Tests and Cancer Precursors

Rebecca B. Perkins, MD, MSc, Richard S. Guido, MD, Philip E. Castle, PhD, David Chelmow, M Mark H. Einstein, MD, MS, Francisco Garcia, MD, MPH, Warner K. Huh, MD, Jane J. Kim, PhD, Anna-Barbara Moscicki, MD, <sup>9</sup> Ritu Nayar, MD, <sup>10</sup> Mona Saraiya, MD, MPH, <sup>11</sup> George F. Sawaya, M Nicolas Wentzensen, MD, PhD, MS, <sup>13</sup> and Mark Schiffman, MD, MPH<sup>14</sup> for the 2019 ASCCP Risk-Based Management Consensus Guidelines Committee

ommended if invasion is suspected of the appearance of the resion

worsens (BII). Treatment of histologic HSIL (CIN 2 or CIN 3) during pregnancy is not recommended (DII). If AIS is diagnosed dur-

thelial lesion: / S// low grade SII

European Journal of Obstetrics & Gynecology and Reproductive B



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2021

Review article

European consensus statement on essential colposcopy

C.W.E. Redman<sup>a</sup>, V. Kesic<sup>b</sup>, M.E. Cruickshank<sup>c,\*</sup>, M. Gultekin<sup>d</sup>, X. Carcopino<sup>e</sup>,

#### Colposcopy in pregnancy:

- Should only be undertaken by an experienced, trained col scopist
- Should be performed, if indicated, and not deferred because pregnancy
- · Primarily aims to detect or exclude invasive disease. If invas disease is not suspected, then punch biopsy or treatment deferred until post-partum
- Should not include endocervical curettage
- Enables excisional biopsy/ LLETZ if invasion is suspected
  - If colposcopy has been performed for an abnormal cytology

2022 אם עובר CIN 2-3 -

t Gynecol 2008.





#### מדוע ההמלצות השגויות?

- כ95% מ 2-3 CIN תוך שנה לא הופך לסרטן פולשני. (הבעיה -5% מהנשים שכן יפתחו סרטן פולשני!) ערבוב בין מטופלות בגילים שונים ?
  - ? CIN-1-2-3 בלבול בין הדרגות השונות של
- [ KNIFE CONE ] אחוז גדול של סיבוכים מעבודות ישנות
  - ערבוב תוצאות CONE מכל תקופת ההיריון ?
- כיון שרופאים הפסיקו לבצע קוניזציה- אין להם ניסיון והם מצטטים את הסיבוכים / ההמלצות מהעבודות הישנות !





Hunter M. & al ; CIN in Pregnancy AMJOG July 2008 ;
Pap smear and CIN in pregnancy

AGC-AIS HSIL ASC-H LSIL

Under 20 y.o.

#### Why delay Treatment?

1.CIN 2-3 doesn't progress to Invasion during pregnancy!

2. The treatment has many complications!

Abortions, severe bleeding, premature delivery)

*US*, elial

thelial lesion; LSIL, low grade SIL.

a

Hunter. Cervical neoplasia in pregnancy. Am J Obstet Gynecol 2008.

#### **CIN Lesions during Pregnancy**



Mailath-Pokorny et al. BMC Pregnancy and Childbirth (2016) 16:74 Mean age 24 years CIN CIN<sub>2</sub> **Table 4** Review of the literature and pooled analysis of studies with report nisto-pathological outcome Population Author, Date Regression N Persistence Progression Lurain [19] 53 Pregnant women with CIN I-III Retrospective 0 % 77.4 % 22.6 % Yost [7] 153 Pregnant women with CIN II-III Retrospective 693% 26.8 % 3.9 % Palle [16] 142 Pregnant women with CIN I-III Retrospective 25 % 47 % 28 % Vlahos [8] 78 Pregnant women with CIN II-III Retrospective 61.6 % 38.4 % 0 % Paraskevaides [9] 64 Pregnant women with CIN II-III Retrospective 37.5 % 59.4 % 3.1 % Serati [15] 36 Pregnant women with CIN II-III Prospective 47.3 % 52.7 % 0% Coppolillo [11] 30 Pregnant women with CIN II-III 16.7 % 70.0 % 13.3 % Retrospective Kärrberg [17] 163 Pregnant women with CIN I-III 12.3 % Prospective 33.1 % 54.6 %

28 % according to different reports. Ackermann et al. limitation of the present study. We did not consider cy-

Retrospective

Pooled

56.9 %

46.8 %

Pregnant women with CIN I-III

Pregnant women with CIN I-III

This study

Pooled analysis

51

770

3.9 %

9.6 %

39.2 %

43.6 %

#### CIN Lesions during Pregnancy



## The risk of CIN 1 to progress to CIN 2-3 or

The risk of CIN 2-3 to progress to Invasive Cancer?



## COMPLICATION OF CONE during PREGNANCY

High Complications Rate , -

Hannigan 1982, Coppola 1997

High rate of Residual disease

• (52-86%)

Devereux 1967, Richart 1966

Excess Hemorrhage -8.9%

(range 5.2-13.9)

Hannigan 1982

Spontaneous Miscarriage - 33%

Hacker 1982



#### Cone Biopsy During Pregnancy

EDWARD V. HANNIGAN, MD, HENRY H. WHITEHOUSE III, MD, WILLIAM D. ATKINSON, BS, AND STEVEN N. BECKER, MD

#### Obs & Gyn Vol 60 No4 Oct 1982:450-55

Under a diagnostic schema that used cervical conization liberally for evaluating women with abnormal Papanicolaou smears, 82 pregnant patients underwent conization. Fifteen had significant morbidity related to cervical bleeding. The uncorrected perinatal mortality was 44.1/1000. Sixty-one cone biopsies, performed before colposcopy was introduced into the schema, uncovered 2 cases of previously undiagnosed invasive carcinoma. Among 21 patients who under-

of invasive carcinoma, and then, after review of the relative risks and benefits of the procedure, to redefine the proper role of diagnostic conization for pregnant patients who have been evaluated colposcopically.

Materials and Methods

#### Conization and Duration of Pregnancy

The duration of pregnancy after conization is summarized in Table 2. All infants delivered after 36 weeks of pregnancy were alive. No patients subjected to a cone biopsy in the first trimester had a spontaneous abortion or premature onset of labor.

> a vicar sinears in an attempt to reduce the chance of missing the diagnosis of invasive carcinoma during pregnancy. As a consequence of this policy, the authors have a large series of pregnant patients who underwent cone biopsy after a colposcopically directed punch biopsy.

> maternal and fetal risks in a large series of patients undergoing diagnostic conization during pregnancy,

> The purpose of the study is threefold: to quantitate to quantitate the yield of previously undiagnosed cases

tion. Neither an endocervical speculum nor ring forceps was used to assist in visualizing the upper limits of the transition zone in patients evaluated by colposcopy, and endocervical curettage was not performed. The indications for conization and the results of examination of the specimen are summarized in Table 1 for the 21 patients evaluated by colposcopy.

opsy, and 21 underwent it after colposcopic examina-

Thirteen patients underwent conization in the first 14 weeks of pregnancy, 50 during the second trimes ter, and 19 after 28 weeks of pregnancy. No standard ized technique was employed in obtaining the core specimen; the cervix was injected with epinephrine in

אם עובר CIN 2-3 -

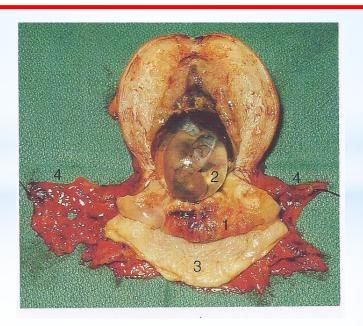




#### 1. Diagnose Cervical Cancer

2. Prevent Cervical Cancer







#### Diagnose Cancer

### CX Cancer is found in 5.4% of women with HSIL on PAP Test +HPV HR + .

Katki HA & al :JLGTD 2013; Vol 17; Issue 5, S50-S55

### CX Cancer is found in 4.8% of women with HSIL on PAP Test +HPV HR + .

Demarco M & al :JLGTD 2018; Vol 22; Issue 2,p 97103.

## CX Cancer was found in 7% PREGNANT women investigated because HSIL on PAP Test.

Karrberg C: Acta Obst Gynecol Scand, 2013 Jun: 92(6) 692-9



#### Diagnose Cancer

The same risks are in pregnant women

Invasive carcinoma diagnosed in excisional specific women of women treated because CIN 2-3 lesions

8% in women undergoing Hysterectomy
Due to CIN 2-3

ACOG Practice Bulletin: Obstet Gynecol. 2008 Dec; 112(6):1419-44.

6.4% in women undergoing LOOP CONE

Due to CIN 2-3

Cong Q -Bio Med Research Int 2018

2.3%

From 1683 LLETZ operations because CIN 2-3

Siegler E, Bornstein J; LLETZ in Israel Gynecologic And Obstetric Investigation 2011; Vol. 72 (2), pp. 85-9



#### 1. Diagnose Cervical Cancer

#### 2. Prevent Cervical Cancer





#### CIN 3 Progression to Invasive Cancer

Prevent Cancer

See 1 citation found using an alternative search:

Br J Obstet Gynaecol. 1985 Feb;92(2):150-7.

The impact of screening on the incidence of cervical cancer in England and Wales.

Parkin DM, Nguyen-Dinh X, Day NE.

A mathematical model ..

the annual rate of progression from

CIN 3 TO CERVICAL CANCER, 4.33 %

#### CIN Lesions during Pregnancy



# The risk of CIN 2-3 to progress during pregnancy to Invasive Cancer?



#### CIN 2- 3 in Pregnancy - Progression to Cancer > 25 years

	החברה הישראלית לקולפוסקופיה פתולוגיה של צוואר הרחם והוגריה
	1
_	Ironal Contain of Colonsons on

onv 2 3 in Freguency Frogression to Cancer 7 2										
	N O		Name / Year		No Pat	Mean Age	Dig	Regres (%)	Persist (%)	Progr
Г	1	LaPolla	JP :J Reprod Med ;1988;33(3)301-6		16	27	CIN 3			4(25%)
	2	Copolla	A :Gyn Onc :67:162-165 (1997)		26	26	CIS		88	2(8%)
	3	Giraud:	J Gynecol Obstet Biol Reprod (Paris). 1997;		16	*	CIN 3			3(18%)
	4	Pale C: Acta Obs Gyn Scand 2000 Apr ;79;(4) 306-10			97	28	CIN 2-3	8	89.6	2(2%)
	5	Mitsush	asi A ; Int J Obst & Gyn 71(2000) 237-239		9	29	CIN 2-3			2 ( 22.2%)
	6	Sood Ak	c: Obst Gyn 2000;95;832-8		3	31.2	CIN3			3(100%)
	7	Vlahos (	G :Gy Ob Inves 2002 :54:78-81		78	28	CIN 2-3	61	38.4	0
	8	Kaplan I	K :Cancer Cytopathology 2004:102;228-32		28	26	HSIL		100	3(10.7%)
	9	Robova	H:Eur J Gynaecol Oncol. 2005;26(6):611-4.		85	28	CIN3/MIC			12(14.1%)
1	10	Ackerma	an S:Acta Ob GynScand. 2006;85(9):1134-7		77	31	CIS	34	63.1	2(2.6%)
1	11	Frega A	:Anticancer Research 27:2743-2746(2007)		16	31	CIN 3	62.5	37.5	1(4.7%)
1	12	Fambrin	i M:Int J Gyn Cancer2007;17;127-131		26	32.3	CIN 3			2(7.7%)
1	13	Serati M	:Acta Ob GynScand. 2008;87(12):1296-300.		36	30	CIN 2-3	47	52	0
1	14	Chung	SU –Gyn Obs Invest 2011:72:234-8		29	32	CIN-2-3	77		4(13%)
1	15	Cubo-Al	oert M:JLGTD 16(1) Jan 2012:34-28		33	>25	HSIL	26	67	2(6.1%)
1	16	Schaefr	K :Int J Gyn Obstet. 2012 Aug;118(2):141-4.		27	31	CIN 3		89	3(11%)
1	17	Coppolil	o: Acta Obst Gyn Scan 2013:92;293-7		30	*	CIN 2-3	16	70	4( 13.3%)
1	18	Karrberg	g C:Acta Ob GynScand. 2013 Jun;92(6):692-9		71	30	CIN 3			4(5.6%)
1	19	Wu YM:	Arch Gyn Obs 2014		65	30	CIN 3			4(6.1%)
2	20	Mailath-	Pokorny :BMC Preg Childbirth 2016;16;74		27	29	CIN 3	37	63	0
2	21	Grimm :	Arch Gyn Obs 2020		60	30				1(1.7%0
2	22	Siegler I	E : JLGTD Vol 21 No 4, 2017:299-303		93	32.5	CIN 2			5 (5.4%)
2	23	Mazzoni	SE: J Low Gen Tract Dis 2015:19:329-332	41	147	26	CIN 2	0/		1(4%)
2	24	4 Da Kyung Hong:Eur J Obs Gyn 236(2019) 173-6			<i>113</i>	30.4	CIN .	67 [6%	. 🚄 🔲	3(2.1%)
								16%	<b>6</b> / H	

#### CIN 2-3 in Pregnancy - Progression to Cancer over 25 years



								Israeli Society of Colposed Cervical and Vulvar Pati
N O	Name		No Pat	Mean Age	Dig	Regres (%)	Persist	Progress (%)
							(%)	
1	LaPolla JP :J R		10	07	OWA			4(25%)
2	Copolla A :Gyr		_				88	2(8%)
3	Giraud: J Gyned	eanan	it wa	me	11 0	ler		3(18%)
4	Pale C: Acta Ob						89.6	2(2%)
5	Mitsushasi A ;							2 ( 22.2%)
6	Sood Ak: Obst	age o	6 25					3(100%)
7	Vlahos G: Gy C	age o		760			38.4	0
8	Kaplan K :Cano						100	3(10.7%)
9	Robova H:Eur				<b>0 1</b> 0			12(14.1%)
10	Ackerman S:Ac	h CIN	<b>2-3</b>	<i>leşi</i> (			63.1	2(2.6%)
11	Frega A:Anticar						37.5	1(4.7%)
12	Fambrini M:Int							2(7.7%)
13	Serati M:Acta O	were d	iaan	ata.		h	52	0
14	Chung SU -Gy	were u	ıugıı	MICH	ı wıt			4(13%)
15	Cubo-Abert M:J						67	2(6.1%)
16							89	
	Schlaeff K.IIII J	ASIVE		INC	ER			3(11%)
17	Copponio. Acta						70	4( 13.3%)
18	Karrberg C:Act				an a			4(5.6%)
19	Wu YM: Arch Gyn Obs 2014		65	30	CINIS			4(6.1%)
20	Mailath-Pokorny :BMC Preg Childbirth 201 WU YM. Arc Gynecol Obstet 2014			29 29		67	}	0 4(6.1%)
22	Siegler E : JLGTD Vol 21 No 4, 2017:299-3			32.5		<i>67</i>	H	5 (5.4%)
23	Mazzoni SE: J Low Gen Tract Dis 2015:19	111.	4	26	_		_	1(4%)
				22.4		6%		
24	Da Kyug H:Eur J Obs Gyn 236(2019) 173-			30.4	L		' )	3(2.1%)

#### Cancer in pregnancy: a challenging conflict of interest



Great and sacred are the thoughtful deliberations required

of progression. For particular cancers treatment can See Perspectives page 511

## Morice P ,Uzan C ,Gouy S -The Lancet Volume 379, Issue 9815,Pages 558-9,11.2 2012

The main goal is to offer pregnant patients the same optimum management (and therefore similar predicted survival) as non-pregnant patients. Overall survival and







## CIN 2-3 diagnosed during pregnancy Data from ISRAEL registry 2006-2021

#### **Objective:**

1. To describe the outcome of women diagnosed with CIN 2 or CIN 2-3 during pregnancy.

2. To describe the outcome of women who had LLETZ during the first 15 weeks of pregnancy

## CIN 2-3 diagnosed during pregnancy Data from ISRAEL registry 2006-2021



### A questionnaire was sent to members of the Israeli Society of Colposcopy

- 155 women : Lin / Carmel Medical Center ,
- > 32 women: Other Doctors, Clinics, Medical Centers

#### 187women were diagnosed with

#### CIN 2 or CIN 2-3 on cervical biopsy

- 34 women CIN 2 only [Only Observation]
- ☐ 153 women CIN 2-3



## CIN 2-3 in Pregnancy Observation or LLETZ till 15 weeks

153 women diagnosed during pregnancy with CIN 2-3 lesion on cervical biopsy

## INVASIVE CANCER WAS DIAGNOSED IN 9 women (5.9%)





## 90 women - observation only Investigation & treatment after delivery

CANCER	6(6.6%)
CIN 2-3/AIS	58 ( 64.5%)
CIN 1/ NORMAL	24 (26.6%)
Lost FU	2(1.3%)
TOTAL	90



5/6 נשים שאובחנו עם סרטן עברו כריתת רחם/ כריתת רחם רדיקלית



## CIN 2-3 during PREGNANCY LLETZ Treatment Group

#### 63 women underwent LLETZ till 15 weeks

#### LLETZ was offered individually (Personalized Medicine):

- \* Colposcopic impression of HSIL
  - (Large lesions, dense AWE, mosaic, punctations, erosion)
- \* Risk Factors (HPV 16,18, 45)
- Pathological report of the cervical biopsy (positive ECC,AIS)
- \* History of persistent CIN lesion, abnormal PAP
- \* Women preference (Fear of cancer).



## CIN 2-3 in Pregnancy Observation or LLETZ till 15 weeks



	Observation 90 women	LLETZ Treatment 63 women	Total 153 women	
CANCER	6(6.6%)	3(4.8%)	9 (5.9%)	
CIN 2-3/AIS	58 ( 64.5%)	57(90.4%)	115(75.2%)	
CIN 1/ NORMAL	24 (26.6%)	3(4.8%)	27(17.6%)	
Lost FU	2(1.3%)	-	2 (1.4%)	
TOTAL	90	63	153	



## **CIN 2-3 in Pregnancy Observation or LLETZ till 15 weeks**



Total 153 Women	Observation 90 women	LLETZ Treatment 63 women	P VALUE
CANCER	6(6.6%)	3(4.8%)	0.890
CIN 2-3/AIS	58 ( 64.5%)	57(90.4%)	<0.001
CIN 1/ NORMAL	24 (26.6%)	3(4.8%)	<0.001
Lost FU	2(1.3%)	-	
TOTAL	90	63	



## **CIN 2-3 during PREGNANCY LLETZ Treatment Group**

#### 63 women underwent LLETZ till 15 weeks

#### 9 women underwent LLETZ and D+C

- 3 women (4.8%) Missed Abortion before LLETZ.
- 6 women (9.2%) -- Termination of Pregnancy.

#### 54 women continued their pregnancy

- 49 women (90.7%) Term delivery
- 2 women (3.7%) Late preterm delivery (34,36 W)
- 2 women (3.7%) Early/Late Missed Abortion
- 1 women (1.7%) Ongoing pregnancy

## CIN 2-3 in Pregnancy Observation -LLETZ till 15 weeks



•	Observation 90 women	LLETZ Treatment 63 Women	Total 153 Women
Early Missed Abortion – PRE LLETZ	4( 4.4%)	3( 5.7%)	
IUFD / Late Abortion	5( 5.5 %)		12(7.8%)
Abortion/Late POST LLETZ		2( 3.8%)	
TOP	1 ( 1.1%)	6 ( 11.3%)	
CX Suture	1(1.1%) 22 weeks	1(1.8%) 21 weeks	

**BLEEDING:** 



## Our Experience with 63 LLETZ operations during first 15 weeks of pregnancy

- Diagnosed Invasive Cancer in 4.8% of the women.
- Low Rate of Complications
  - (1- severe bleeding, 1-early abortion,
  - 1- late abortion, 1- Cervical suture)
- Term delivery (Late preterm) (94.4%).
- Two cases of recurrence after delivery (3.1%)



#### LLETZ /LASER CONE till 19 weeks



Author (year)	NO	WEEKS of LLETZ /KNIFE CONE LASER CONE	Cancer/ MIC	SEVERE BLEEDING	ABOR TIONS	PRE TERM DELIVERIES	Term deliveries
Hannigan	7	13	1				7/7 (100%)
1982 (Knife Cone)							
Robinson 1996	4	9-16					2(100%)
Penna -1998	8	16		1			8/8(100%)
(Laser)							
Mitsuhashi 2000	9	14	2			1	9/9 (100%)
Lacour 2005	5	19					5/5 (100%)
Fambrini 2007 (Laser)	26	10-18	2	6		1	25/26(96%)
Frega 2007	5	16	1				5/5(100%)
Schaefer 2012	21	16	3		1	2	18/21 (86%)
Siegler 2021	55	4-15	3	1	2	2	44/48(91%)
TOTAL	141	4-19	12				86-100%
			(8.5%)				
	Hannigan 1982 (Knife Cone) Robinson 1996 Penna -1998 (Laser) Mitsuhashi 2000 Lacour 2005 Fambrini 2007 (Laser) Frega 2007 Schaefer 2012 Siegler 2021	Author (year)  Hannigan 1982 (Knife Cone)  Robinson 1996 4 Penna -1998 (Laser) Mitsuhashi 2000 9 Lacour 2005 5 Fambrini 2007 (Laser) Frega 2007 5 Schaefer 2012 21 Siegler 2021 55	Author (year)  Hannigan 1982 (Knife Cone)  Robinson 1996 Penna -1998 (Laser)  Mitsuhashi 2000 Pambrini 2007 (Laser)  Frega 2007  Schaefer 2012  LLETZ //KNIFE CONE LASER CONE  13  9 -16  9 -16  16  17  18  19  18  19  19  19  10  10  11  11  11  12  13  14  15  16  16  16  16  16  16  16  17  18  18  18  18  18  18  18  18  18	Author (year)         LLETZ /KNIFE CONE LASER CONE         Cancer/ MIC           Hannigan 1982 (Knife Cone)         7         13         1           Robinson 1996         4         9-16         9-16           Penna -1998 (Laser)         8         16         1           Mitsuhashi 2000         9         14         2           Lacour 2005         5         19         2           Fambrini 2007 (Laser)         26         10-18         2           Frega 2007         5         16         1           Schaefer 2012         21         16         3           Siegler 2021         55         4-15         3           TOTAL         141         4-19         12	Author (year)         ILLETZ (KNIFE CONE LASER CONE LASER CONE LASER CONE LASER CONE LASER CONE MIC         Cancer/ MIC         SEVERE BLEEDING           Hannigan 1982 (Knife Cone)         7         13         1         1           Robinson 1996         4         9-16         9         1         1         1           Penna -1998 (Laser)         8         16         1	Author (year)         ILLETZ (KNIFE CONE LASER CONE LASER CONE LASER CONE LASER CONE LASER CONE MIC         Cancer/ MIC         SEVERE BLEEDING ABOR TIONS           Hannigan 1982 (Knife Cone)         7         13         1           Robinson 1996         4         9-16         9           Penna -1998 (Laser)         8         16         1           Mitsuhashi 2000         9         14         2           Lacour 2005         5         19         9           Fambrini 2007 (Laser)         26         10-18         2         6           (Laser)         5         16         1         1           Schaefer 2012         21         16         3         1           Siegler 2021         55         4-15         3         1         2           TOTAL         141         4-19         12         12	Author (year)         ILETZ (KNIFE CONE LASER CONE)         Cancer/ MIC         SEVERE BLEEDING TIONS         ABOR TIONS         PRE TERM DELIVERIES           Hannigan 1982 (Knife Cone)         7         13         1



#### Based on that data:



## LLETZ in the first trimester should be performed based on personalized medicine!

- ✓ The benefit of diagnosing Cervical Cancer in 5-6% of the women should be considered against the risk of complications.
- ✓ LLETZ during the first trimester appears to be a safe procedure with few complications.
- ✓ In each woman personalized treatment should be selected according to pathological results, colposcopic results ,risk factors and patient preferences.



#### Based on that data:



- ✓ The benefit of diagnosing Cervical Cancer in 5-6% of the women should be considered against the risk of complications.
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#### Based on that data:



- ▼ The benefit of diagnosing Cervical Cancer in 5-6% of the women should be considered against the risk of complications.
- ✓ LLETZ during the first trimester appears to be a safe procedure with few complications. ■
- ✓ In each woman personalized treatment should be selected according to pathological results, colposcopic results ,risk factors and patient preferences.

Take PAP test in the first visit of the pregnant woman





## Cervix cancer can be prevented ALSO DURING PREGNANCY