LABQUALITY

External Quality Assessment Scheme

Clinical cytology: Gynaecological cytology (smear), virtual microscopy
Round 1, 2023

Specimens
Please find enclosed six virtual microscopy cases.

Background information
Specimens are six gynaecological, Papanicolaou stained Pap smear samples. The whole specimen slides were scanned. Cytological slides were chosen from routine material of a pathology laboratory. Age of the patient and information about menstrual cycle, hormone therapy, contraception and clinical history are given when available.

Result reporting
Please enter the results and methods via LabScala. Please use Mozilla Firefox or Google Chrome as a web browser. Do not use Internet Explorer. Results can be entered and changed if the round is open, even if those are already sent to Labquality. Change your results, save as final and remember to send results again.

Examinations
This round assesses diagnostics of cervical-vaginal and endometrial cellular atypias. Epithelial abnormalities in the gynaecological Papanicolaou stained smears should be classified according to the modified Bethesda system (TBS). It is voluntary to give the Papanicolaou classification (Classes 0–5). Please, pay attention only to epithelial type and other cellular changes, not hormonal effects. There is also a free text field for comments. The circles in samples are only routine markings. Important findings may also be found outside of these markings.

Cases
S001: LQ778223011
60-year-old woman. HPV primary screening positive for HPV genotype other than 16 or 18. Trichomonas treated earlier. Otherwise, no abnormality.

S002: LQ778223012
61-year-old woman. Case 1 control sample. HPV genotype other than 16 or 18 positive. Abundant bloody leakage lately. Diabetes and persistent yeast infection.

S003: LQ778223013
60-year-old woman. Local estrogen treatment 2 days ago. Otherwise, no abnormality. HPV primary screening HPV genotype 16 positive.

S004: LQ778223014
42-year-old woman. Cervix clean. Normal fluor. Copper IUD prevention, now appointment for planned replacement. Pap smear taken.

S005: LQ778223015
45-year-old woman. Cycle 30-31 days. Dydrogesterone in use. When sampling, mucous discharge, mucous membranes bleed sensitively. Pap smear taken. Sample mucous and bloody.

S006: LQ778223016
30-year-old woman. A year ago, a hormone IUD was installed. No discharge, status OK. Pap smear taken.

2023-04-04

INSTRUCTIONS

Product no. 6700
LQ778223011-016/FI

Subcontracting: Digital image services

The results should be reported no later than **May 2, 2023**.

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FINAS
Finnish Accreditation Service
PT02 (EN ISO/IEC 17043)

Quality Management
LQ
ISO 9001:2015

Responses from individual pathologists are requested instead of responses based on group consensus. Interpretations should be made as similarly as possible compared to patient cases. It is possible to return multiple results/case (1-5 respondents). Although in every day work you must often give several different diagnoses or interpretations, only one diagnosis of each case per respondent is wished. This will make final analysis easier.

It is important to consider that this external quality assessment scheme does not evaluate cytological examination as a medical consultation. Only the most important parameters, especially cellular atypia, have been chosen to obtain a comprehensible final report.

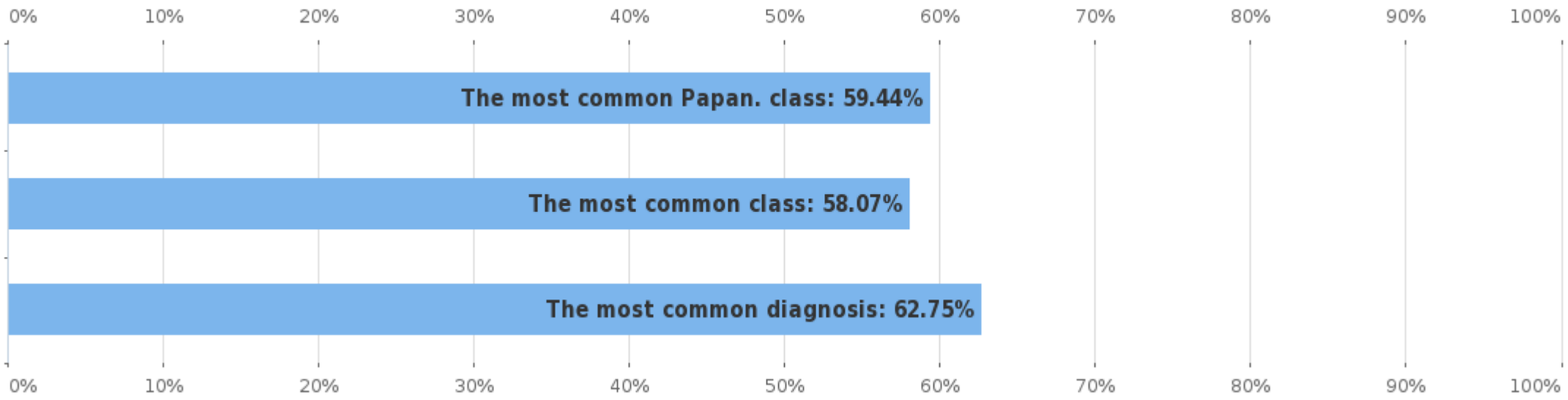
Bethesda Classification
negative for intraepithelial lesion or malignancy, NILM
atypical squamous cells of undetermined significance, ASC-US
atypical squamous cells, cannot exclude HSIL, ASC-H
low grade squamous cell intraepithelial lesion (LSIL)
high grade squamous cell intraepithelial lesion (HSIL)
squamous cell carcinoma
atypical glandular cells of undetermined significance, AGC-NOS
atypical endocervical cells of undetermined significance, AGC-NOS
atypical endometrial cells of undetermined significance, AGC-NOS
atypical glandular cells, favour neoplastic, AGC-FN
atypical endocervical cells, favour neoplastic, AGC-FN
atypical endometrial cells, favour neoplastic, AGC-FN
adenocarcinoma in situ, AIS
cervical adenocarcinoma
endometrial adenocarcinoma
other malignant neoplasm

Papanicolaou class (voluntary):
Please give the Papanicolaou classification only if you use it your practice
0 (not representative), 1 (normal), 2 (benign atypia), 3 (suspect), 4 (clearly suspect) or 5 (malignant).

Specific/additional diagnosis/findings:
trichomonas
fungal organism
actinomyces/ALO
herpes
inflammation
regeneration
atrophy
radiation change
IUD change
benign endometrium
other findings (specify)

Round	No of participants	No of responded participants	Response percentage %
Gynaecological cytology (smear), virtual microscopy, March, 1-2023	169	164	97.04%

Agreement percentage of the responses



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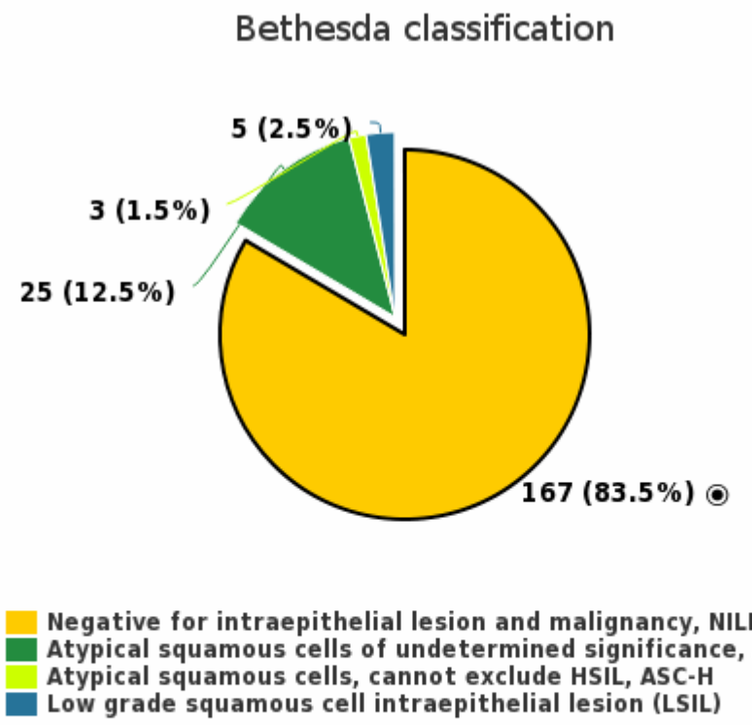
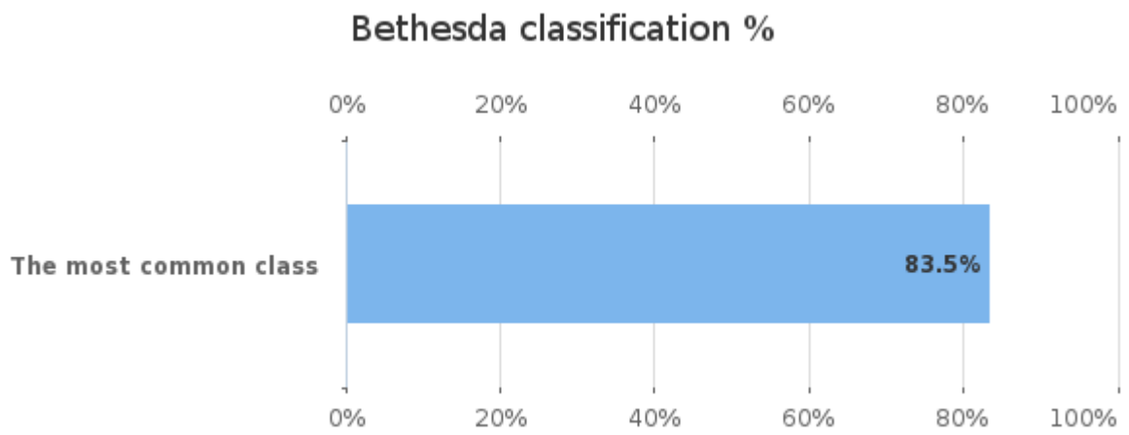
Case 1 | Bethesda classification | Paris Irene - Desmirean Minodora





Bethesda classification	n
Negative for intraepithelial lesion and malignancy, NILM	167
Atypical squamous cells of undetermined significance, ASC-US	25
Atypical squamous cells, cannot exclude HSIL, ASC-H	3
Low grade squamous cell intraepithelial lesion (LSIL)	5
Total	**200**

Agreement percentage of the responses	%
The most common class	83.5

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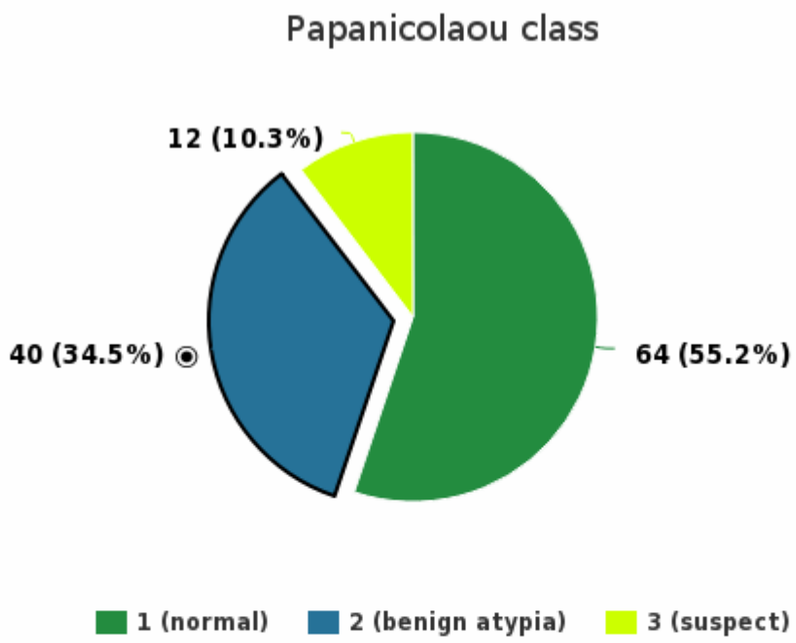
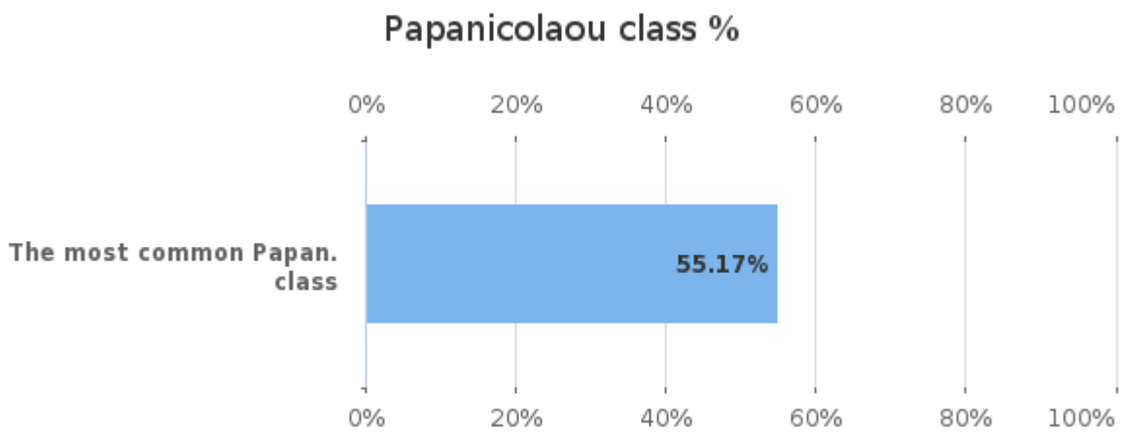
Case 1 | Papanicolaou class | Paris Irene - Desmirean Minodora





Papanicolaou class	n
1 (normal)	64
2 (benign atypia)	40
3 (suspect)	12
Total	**116**

Agreement percentage of the responses	%
The most common Papan. class	55.17

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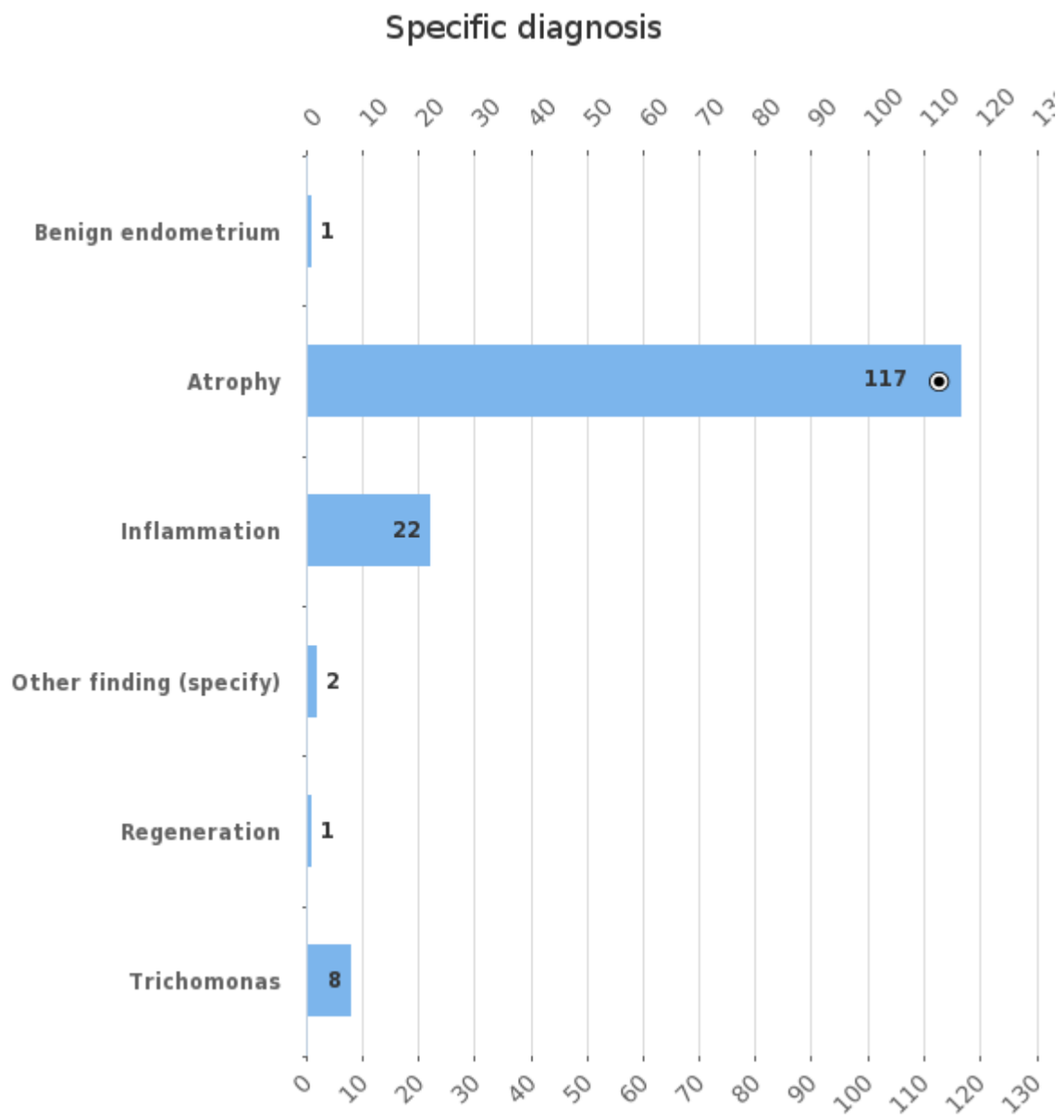
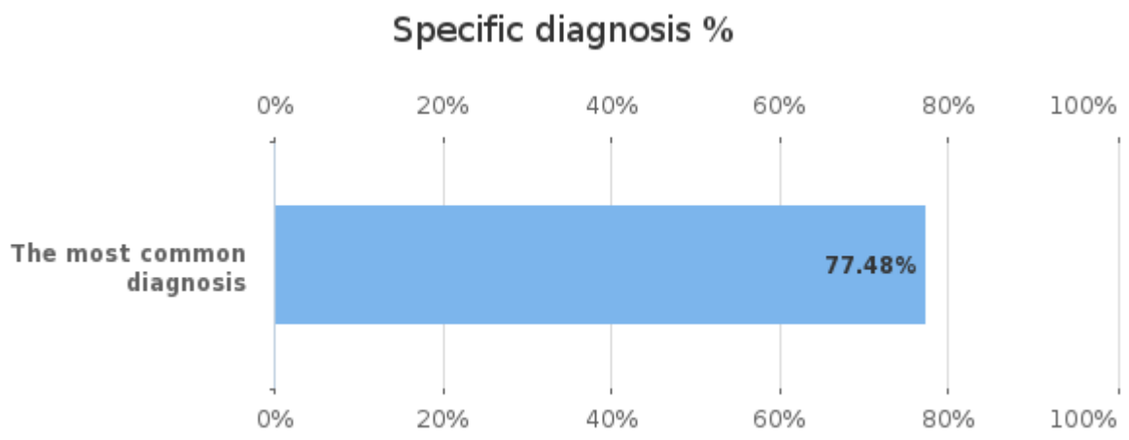
Case 1 | Specific diagnosis | Paris Irene - Desmirean Minodora





Specific diagnosis	n
Benign endometrium	1
Atrophy	117
Inflammation	22
Other finding (specify)	2
Regeneration	1
Trichomonas	8
Total	**151**

Agreement percentage of the responses	%
The most common diagnosis	77.48

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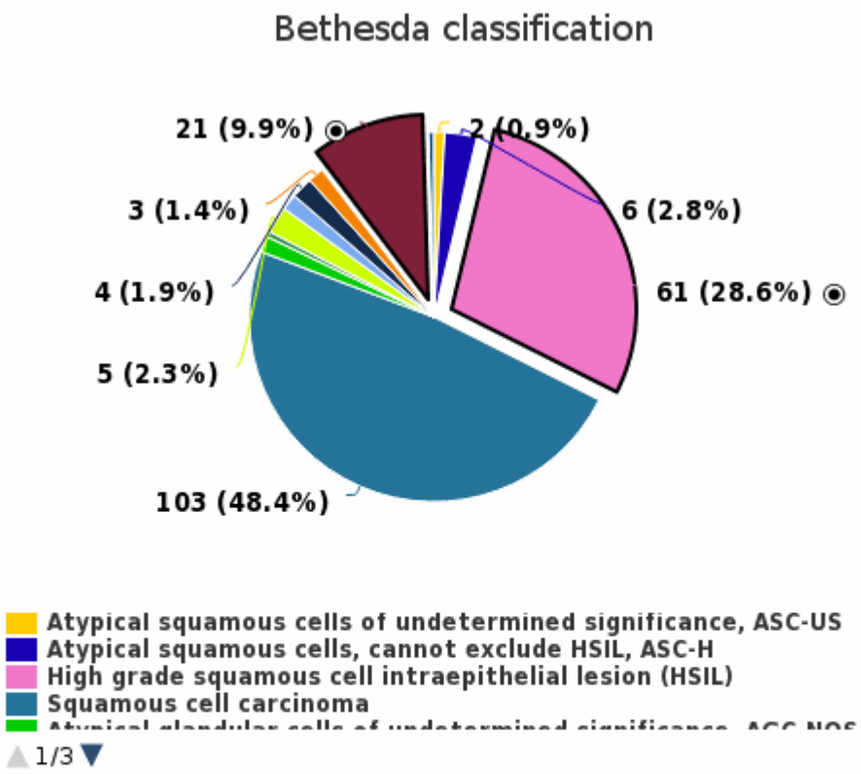
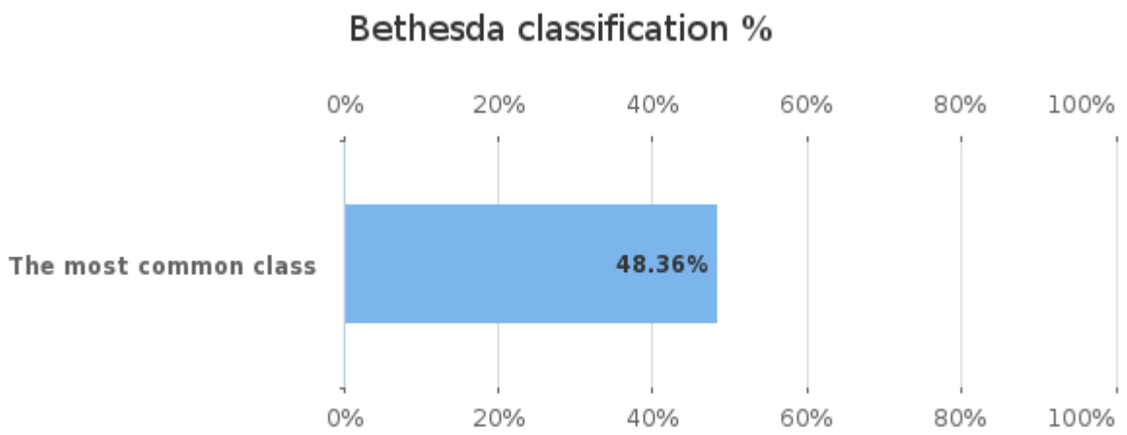
Case 2 | Bethesda classification | Paris Irene - Desmirean Minodora





Bethesda classification	n
Atypical squamous cells of undetermined significance, ASC-US	2
Atypical squamous cells, cannot exclude HSIL, ASC-H	6
High grade squamous cell intraepithelial lesion (HSIL)	61
Squamous cell carcinoma	103
Atypical glandular cells of undetermined significance, AGC-NOS	3
Atypical glandular endometrial cells of undetermined significance, AGC-NOS	1
Atypical glandular cells, favour neoplastic, AGC-FN	5
Atypical glandular endocervical cells, favour neoplastic, AGC-FN	3
Atypical glandular endometrial cells, favour neoplastic, AGC-FN	4
Cervical adenocarcinoma	3
Endometrial adenocarcinoma	21
Other malignant neoplasm	1
Total	**213**

Agreement percentage of the responses	%
The most common class	48.36

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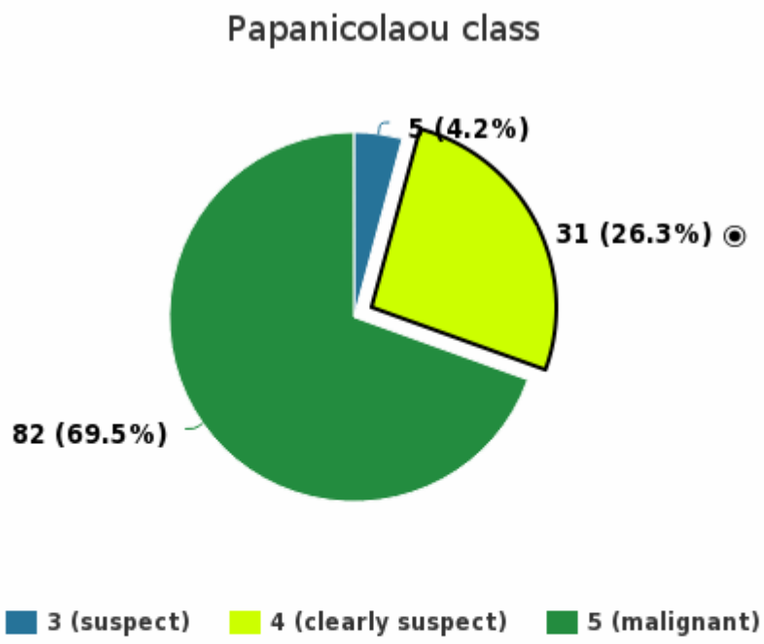
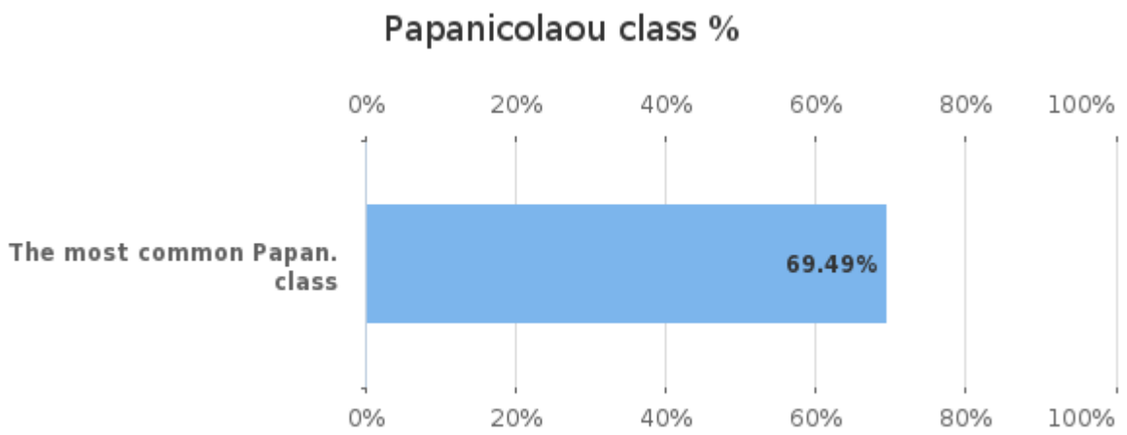
Case 2 | Papanicolaou class | Paris Irene - Desmirean Minodora





Papanicolaou class	n
3 (suspect)	5
4 (clearly suspect)	31
5 (malignant)	82
Total	**118**

Agreement percentage of the responses	%
The most common Papan. class	69.49

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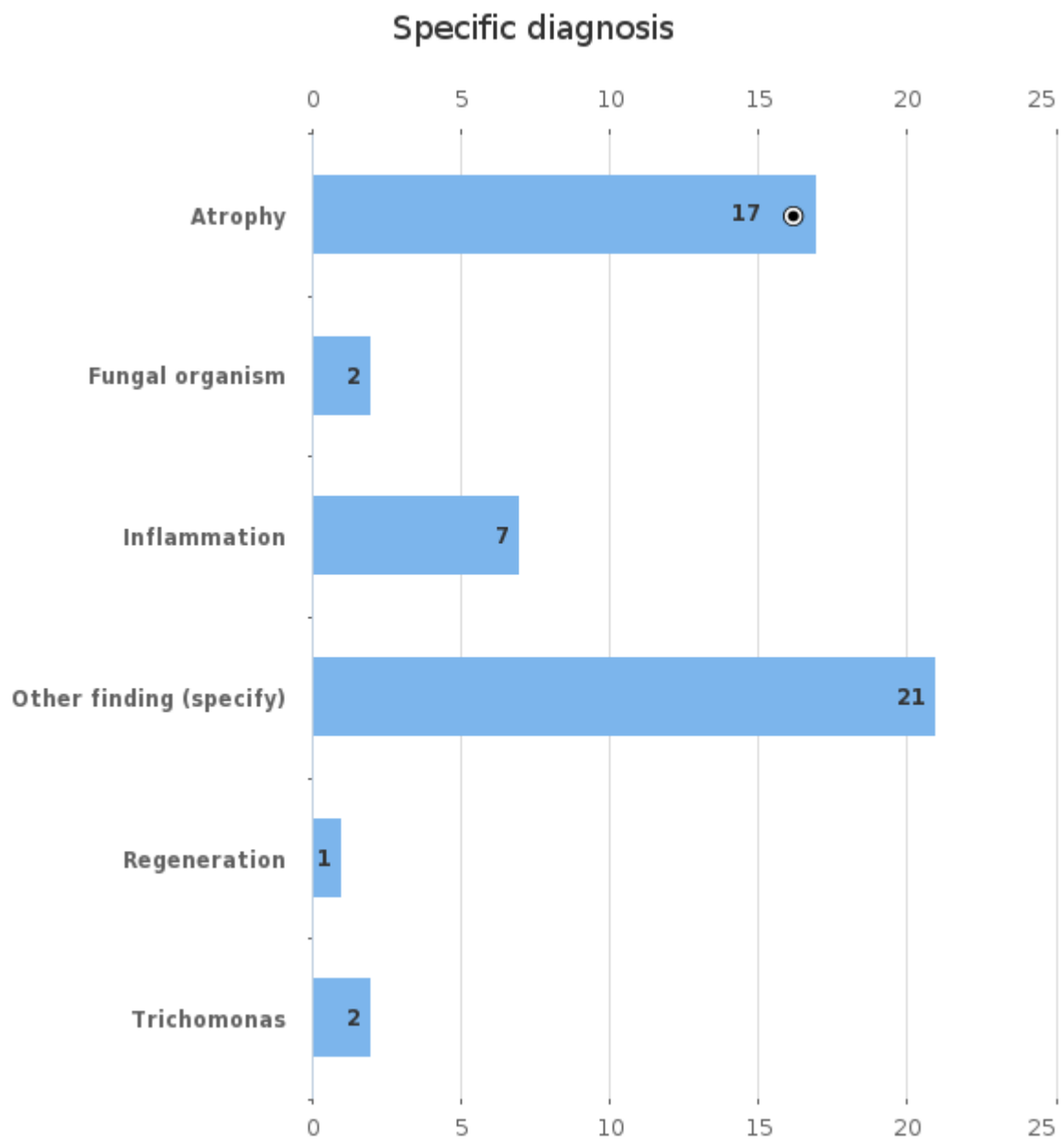
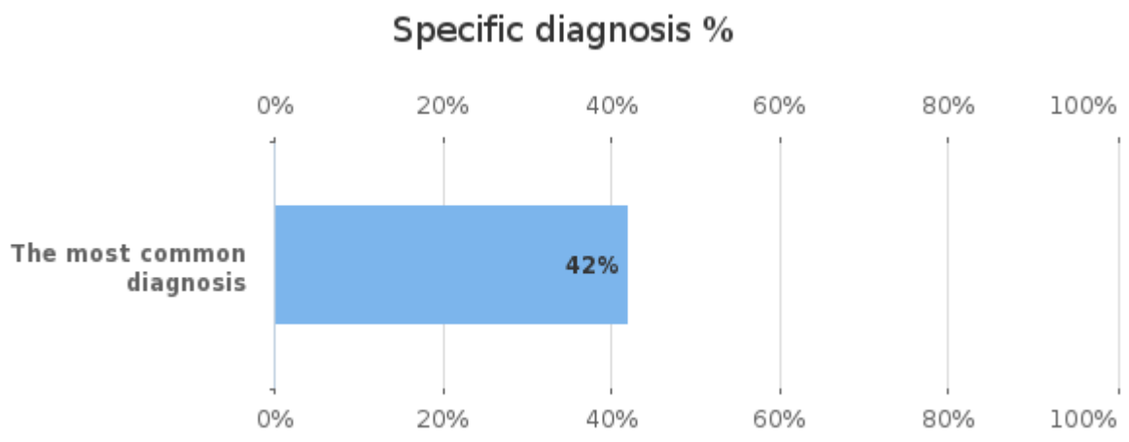
Case 2 | Specific diagnosis | Paris Irene - Desmirean Minodora





Specific diagnosis	n
Atrophy	17
Fungal organism	2
Inflammation	7
Other finding (specify)	21
Regeneration	1
Trichomonas	2
Total	**50**

Agreement percentage of the responses	%
The most common diagnosis	42

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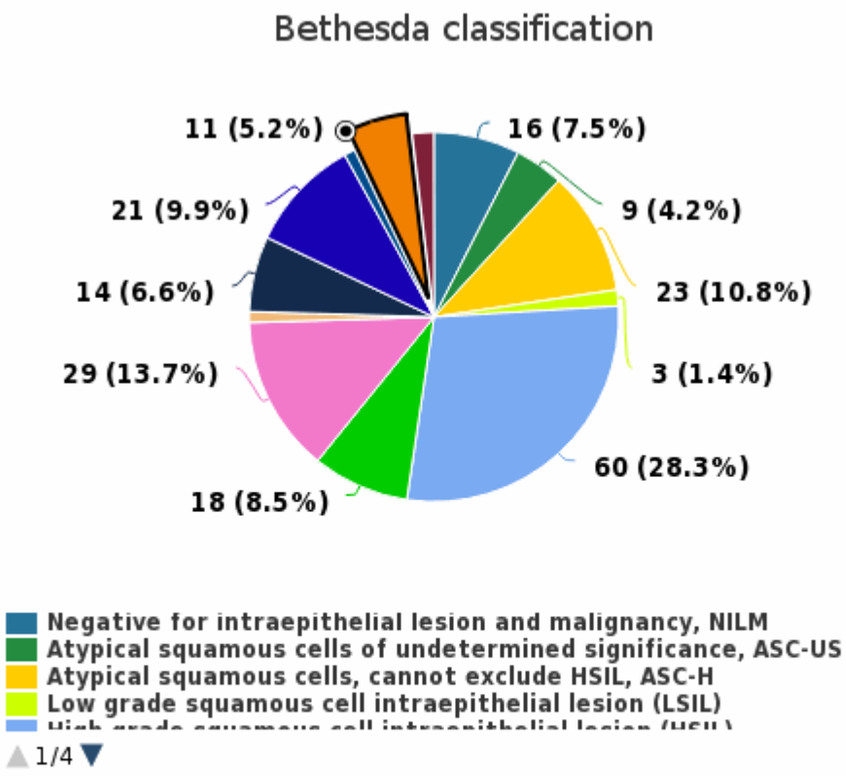
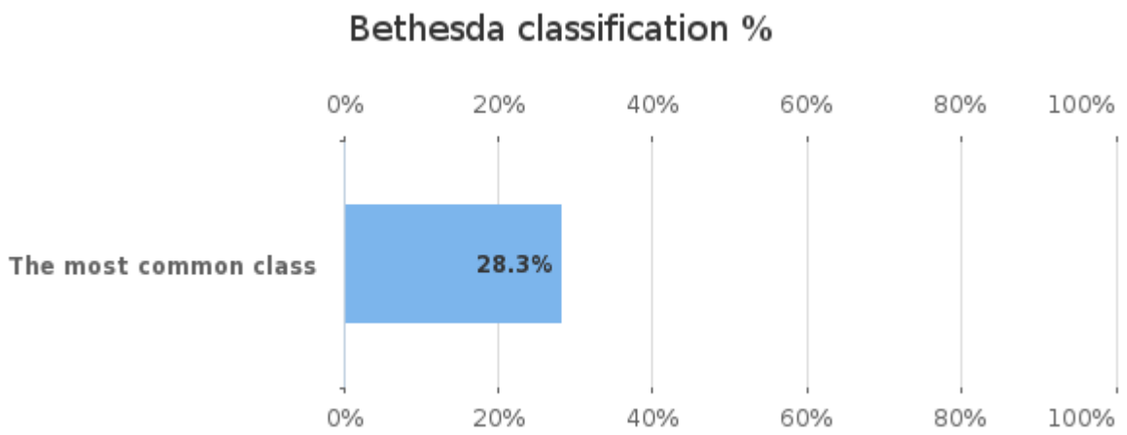
Case 3 | Bethesda classification | Paris Irene - Desmirean Minodora





Bethesda classification	n
Negative for intraepithelial lesion and malignancy, NILM	16
Atypical squamous cells of undetermined significance, ASC-US	9
Atypical squamous cells, cannot exclude HSIL, ASC-H	23
Low grade squamous cell intraepithelial lesion (LSIL)	3
High grade squamous cell intraepithelial lesion (HSIL)	60
Atypical glandular cells of undetermined significance, AGC-NOS	18
Atypical glandular endocervical cells of undetermined significance, AGC-NOS	29
Atypical glandular endometrial cells of undetermined significance, AGC-NOS	2
Atypical glandular cells, favour neoplastic, AGC-FN	14
Atypical glandular endocervical cells, favour neoplastic, AGC-FN	21
Atypical glandular endometrial cells, favour neoplastic, AGC-FN	2
Adenocarcinoma in situ, AIS	11
Cervical adenocarcinoma	4
Total	**212**

Agreement percentage of the responses	%
The most common class	28.3

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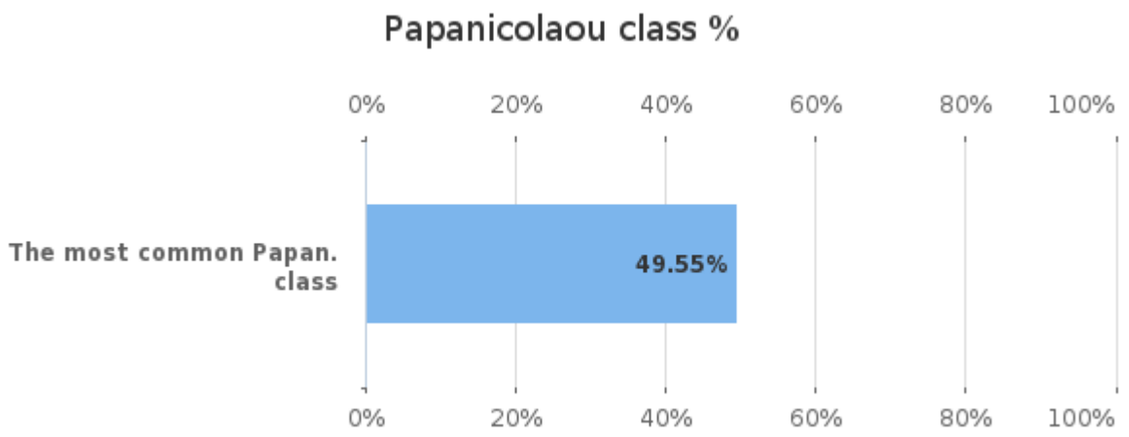
Case 3 | Papanicolaou class | Paris Irene - Desmirean Minodora



Papanicolaou class	n
1 (normal)	8
2 (benign atypia)	6
3 (suspect)	40
4 (clearly suspect)	55
5 (malignant)	2
Total	**111**

Agreement percentage of the responses	%
The most common Papan. class	49.55

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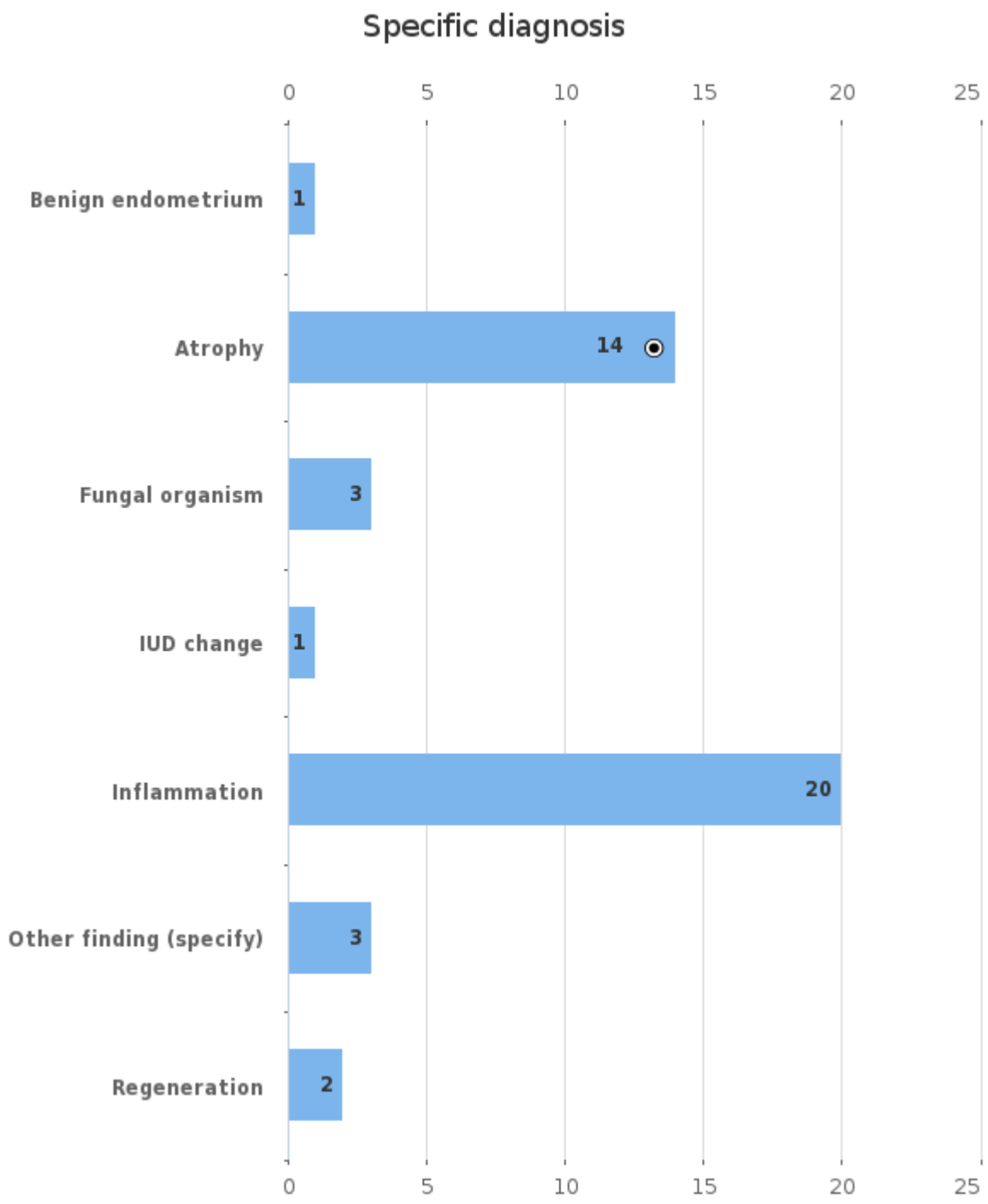
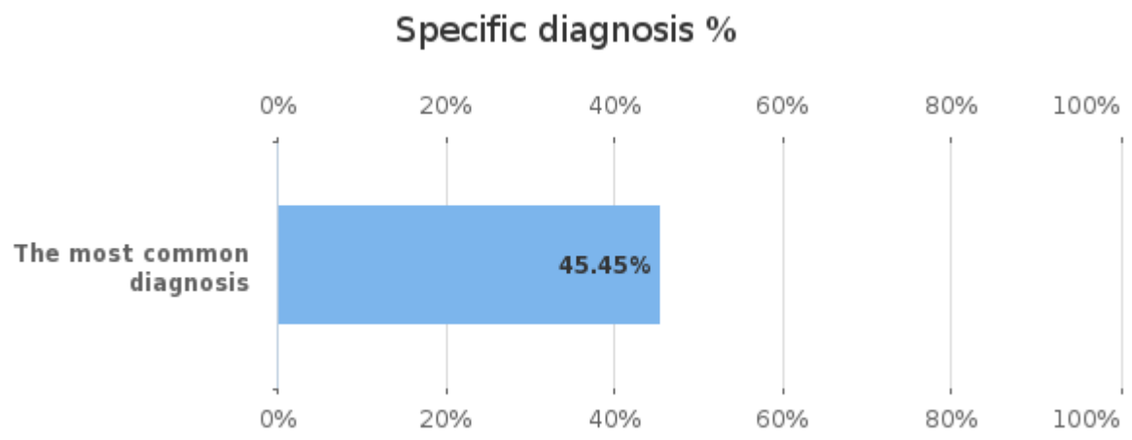
Case 3 | Specific diagnosis | Paris Irene - Desmirean Minodora





Specific diagnosis	n
Benign endometrium	1
Atrophy	14
Fungal organism	3
IUD change	1
Inflammation	20
Other finding (specify)	3
Regeneration	2
Total	**44**

Agreement percentage of the responses	%
The most common diagnosis	45.45

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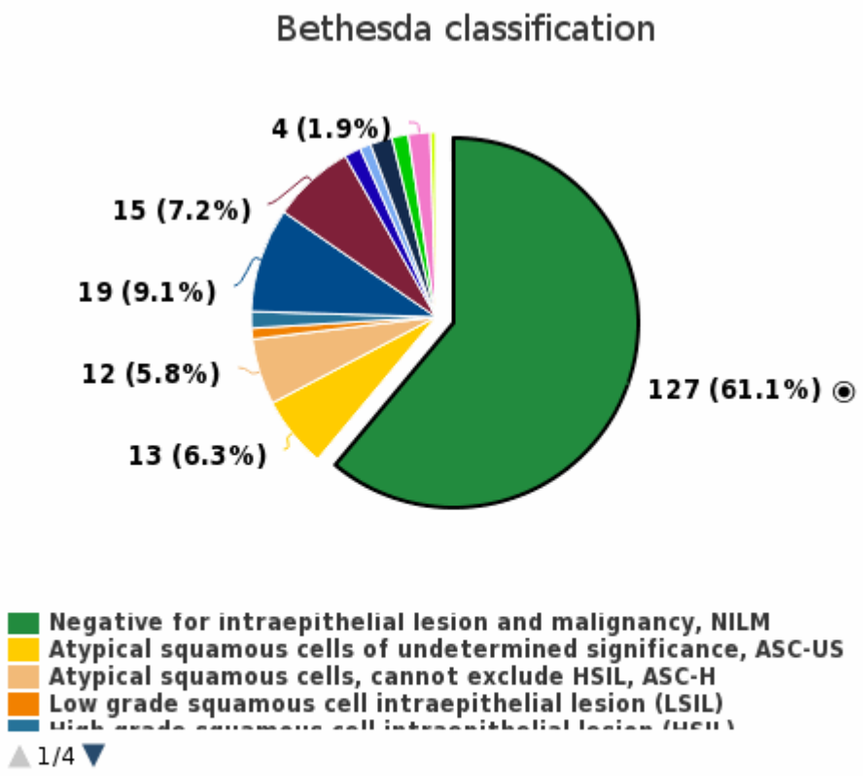
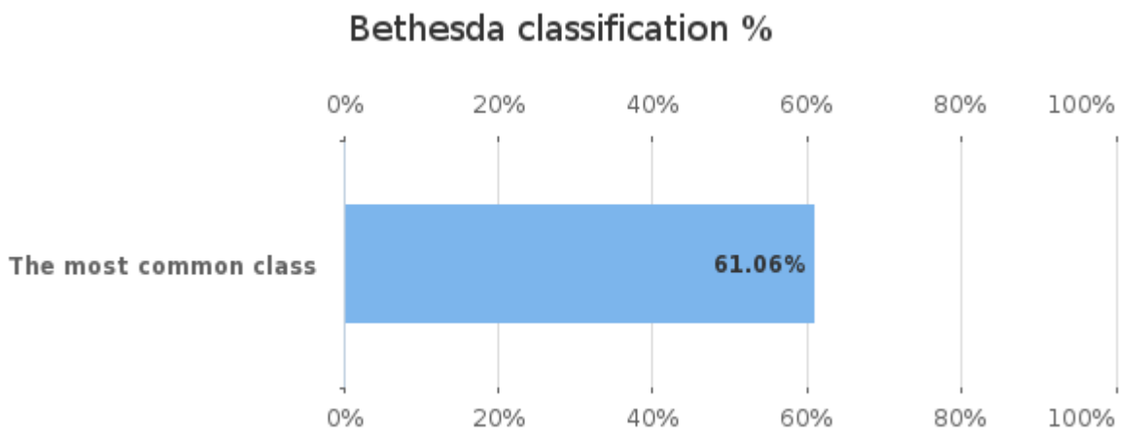
Case 4 | Bethesda classification | Paris Irene - Desmirean Minodora





Bethesda classification	n
Negative for intraepithelial lesion and malignancy, NILM	127
Atypical squamous cells of undetermined significance, ASC-US	13
Atypical squamous cells, cannot exclude HSIL, ASC-H	12
Low grade squamous cell intraepithelial lesion (LSIL)	2
High grade squamous cell intraepithelial lesion (HSIL)	3
Atypical glandular cells of undetermined significance, AGC-NOS	19
Atypical glandular endocervical cells of undetermined significance, AGC-NOS	15
Atypical glandular endometrial cells of undetermined significance, AGC-NOS	3
Atypical glandular cells, favour neoplastic, AGC-FN	2
Atypical glandular endocervical cells, favour neoplastic, AGC-FN	4
Atypical glandular endometrial cells, favour neoplastic, AGC-FN	3
Cervical adenocarcinoma	4
Endometrial adenocarcinoma	1
Total	**208**

Agreement percentage of the responses	%
The most common class	61.06

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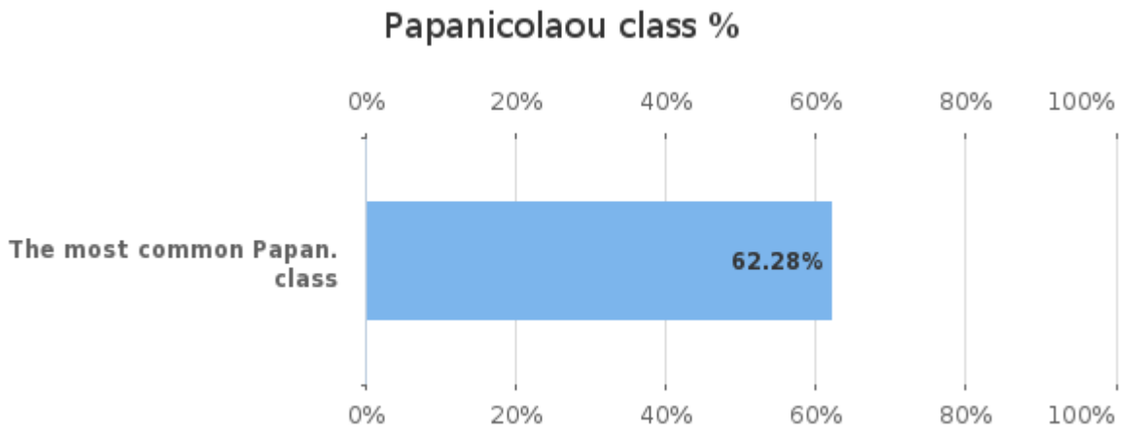
Case 4 | Papanicolaou class | Paris Irene - Desmirean Minodora



Papanicolaou class	n
1 (normal)	11
2 (benign atypia)	71
3 (suspect)	17
4 (clearly suspect)	10
5 (malignant)	5
Total	**114**

Agreement percentage of the responses	%
The most common Papan. class	62.28

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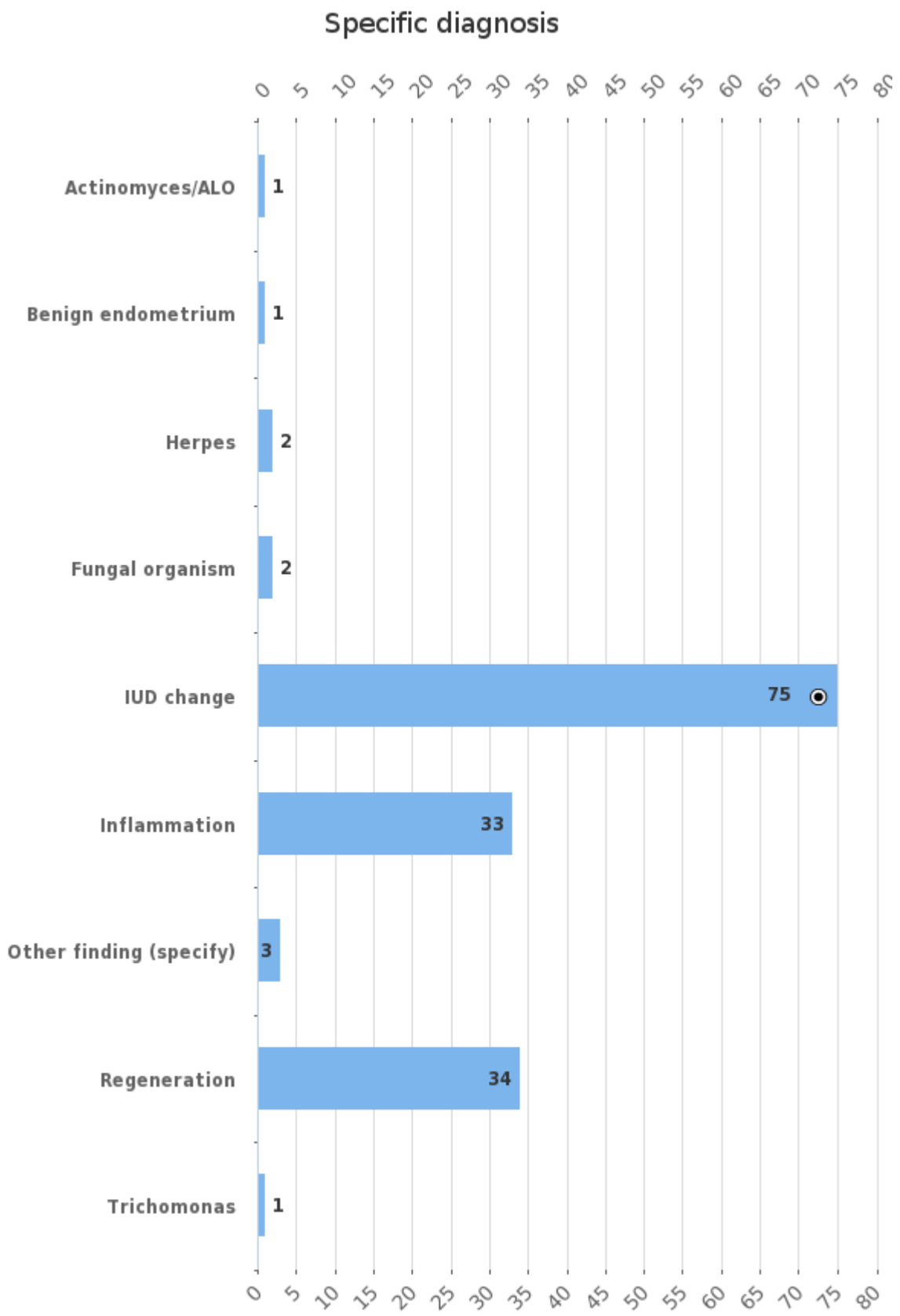
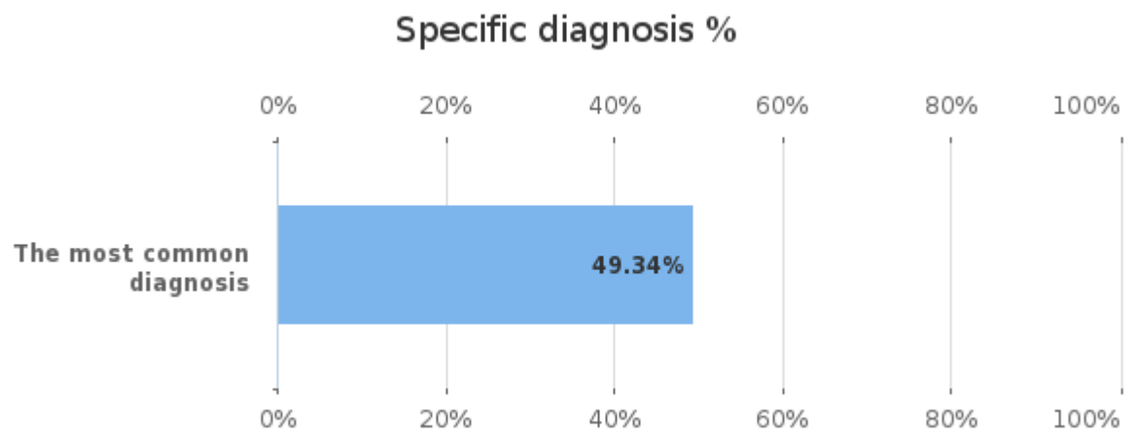
Case 4 | Specific diagnosis | Paris Irene - Desmirean Minodora





Specific diagnosis	n
Actinomyces/ALO	1
Benign endometrium	1
Herpes	2
Fungal organism	2
IUD change	75
Inflammation	33
Other finding (specify)	3
Regeneration	34
Trichomonas	1
Total	**152**

Agreement percentage of the responses	%
The most common diagnosis	49.34

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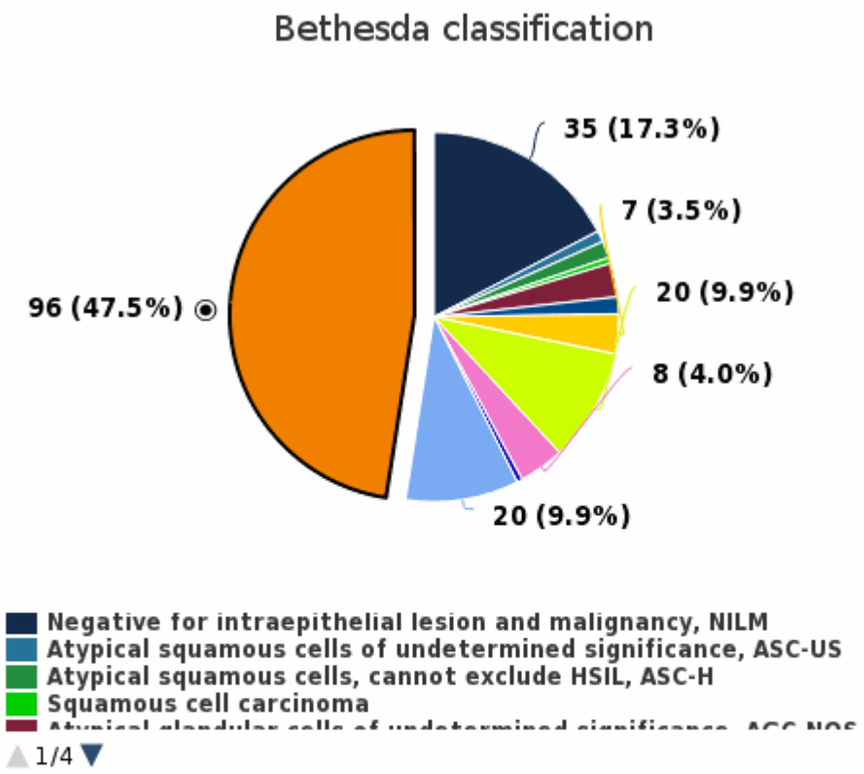
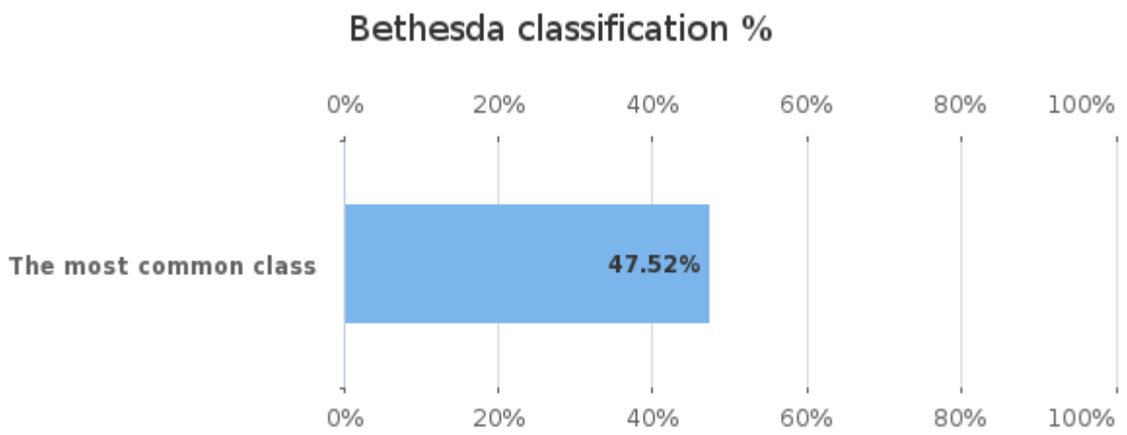
Case 5 | Bethesda classification | Paris Irene - Desmirean Minodora





Bethesda classification	n
Negative for intraepithelial lesion and malignancy, NILM	35
Atypical squamous cells of undetermined significance, ASC-US	2
Atypical squamous cells, cannot exclude HSIL, ASC-H	3
Squamous cell carcinoma	1
Atypical glandular cells of undetermined significance, AGC-NOS	6
Atypical glandular endocervical cells of undetermined significance, AGC-NOS	3
Atypical glandular endometrial cells of undetermined significance, AGC-NOS	7
Atypical glandular cells, favour neoplastic, AGC-FN	20
Atypical glandular endometrial cells, favour neoplastic, AGC-FN	8
Adenocarcinoma in situ, AIS	1
Endometrial adenocarcinoma	20
Other malignant neoplasm	96
Total	**202**

Agreement percentage of the responses	%
The most common class	47.52

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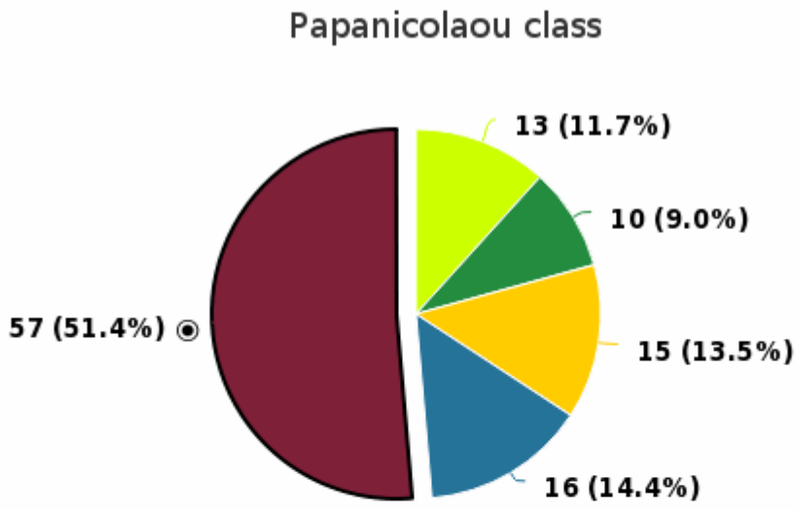
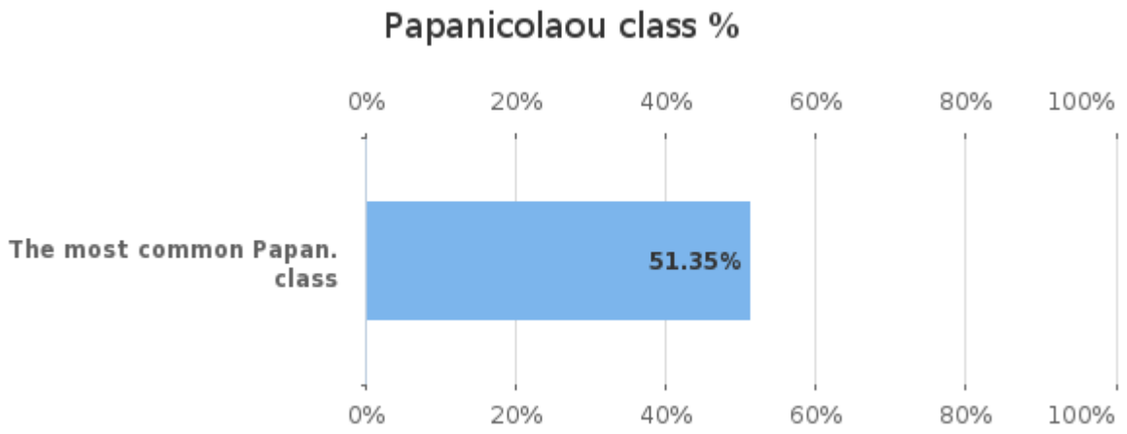
Case 5 | Papanicolaou class | Paris Irene - Desmirean Minodora





Papanicolaou class	n
1 (normal)	13
2 (benign atypia)	10
3 (suspect)	15
4 (clearly suspect)	16
5 (malignant)	57
Total	**111**

Agreement percentage of the responses	%
The most common Papan. class	51.35

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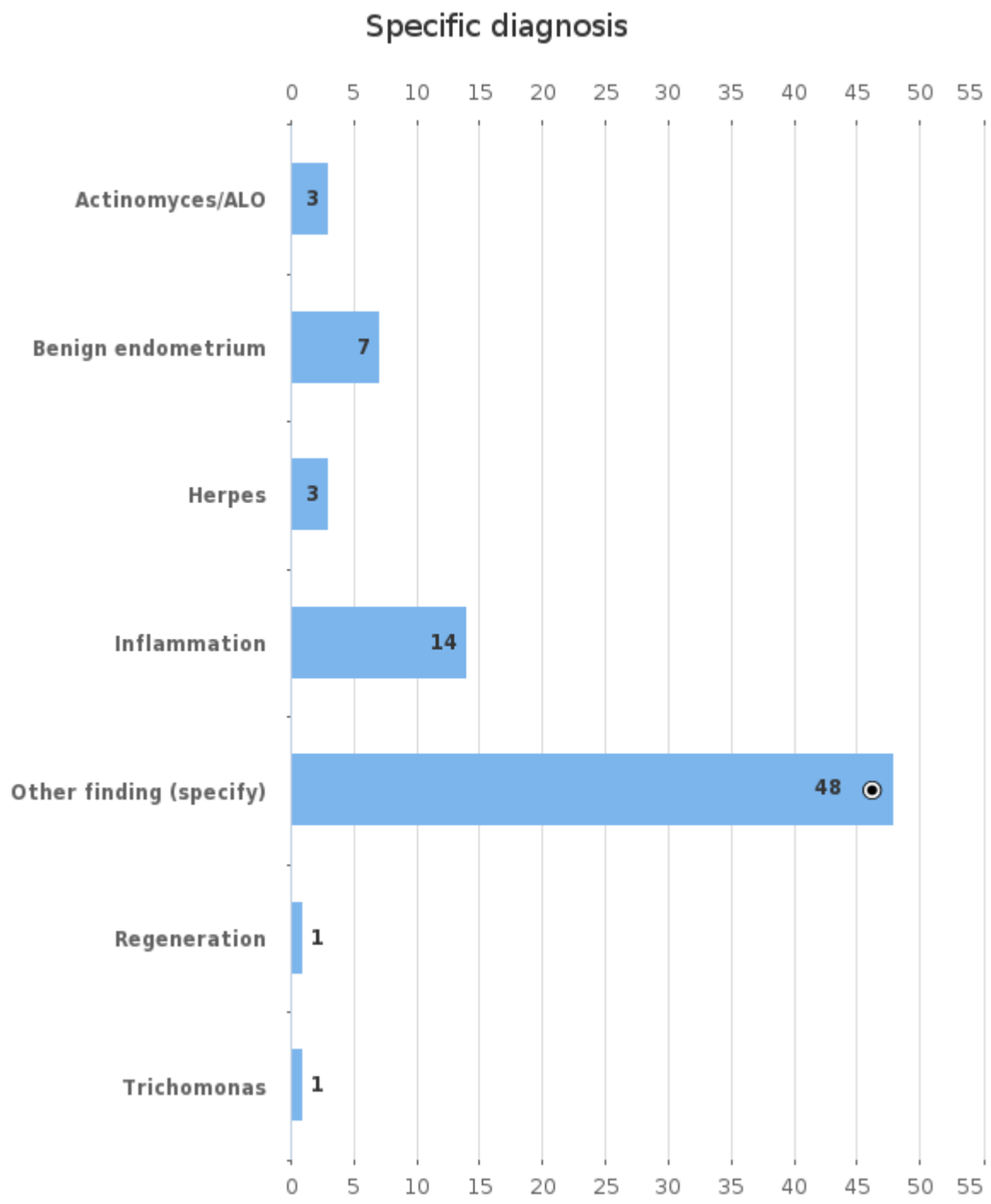
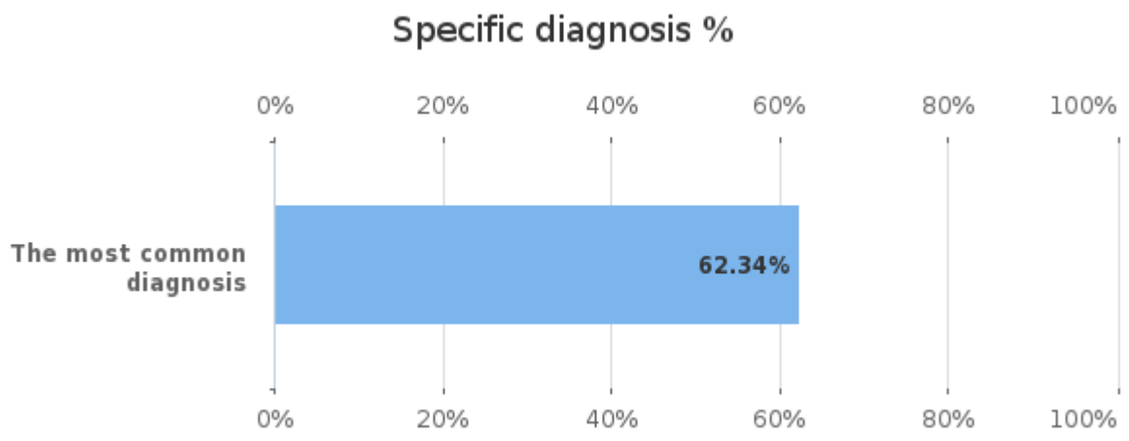
Case 5 | Specific diagnosis | Paris Irene - Desmirean Minodora





Specific diagnosis	n
Actinomyces/ALO	3
Benign endometrium	7
Herpes	3
Inflammation	14
Other finding (specify)	48
Regeneration	1
Trichomonas	1
Total	**77**

Agreement percentage of the responses	%
The most common diagnosis	62.34

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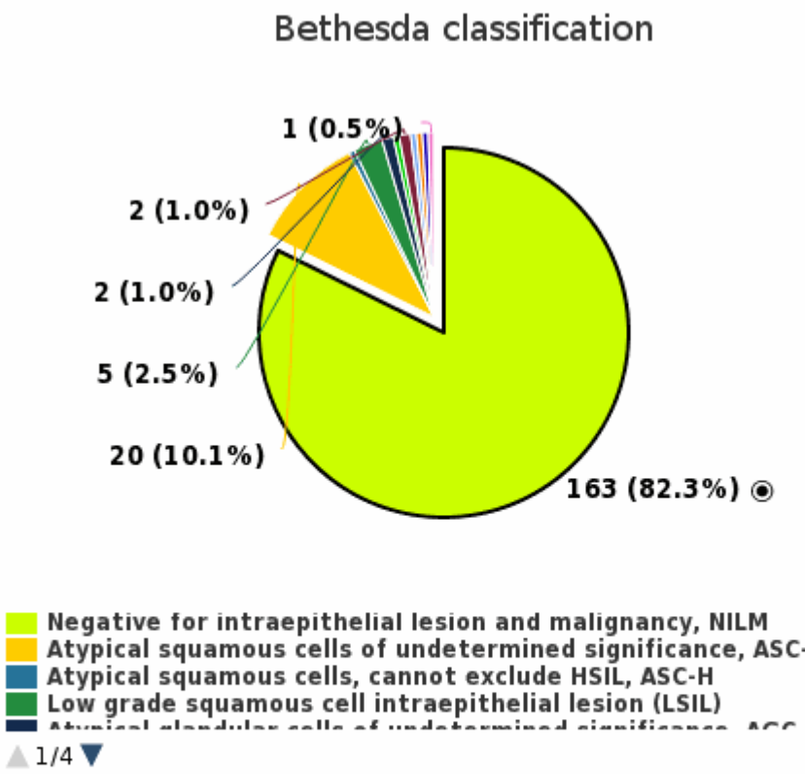
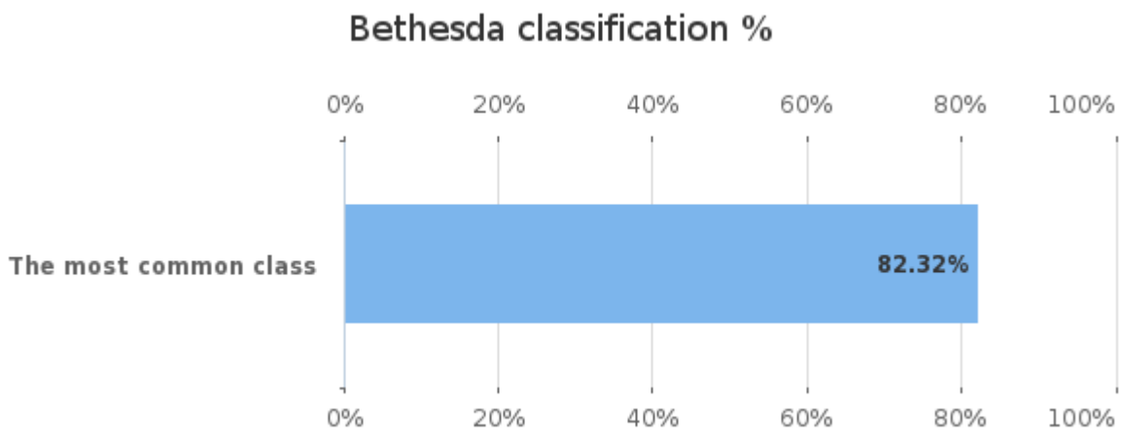
Case 6 | Bethesda classification | Paris Irene - Desmirean Minodora





Bethesda classification	n
Negative for intraepithelial lesion and malignancy, NILM	163
Atypical squamous cells of undetermined significance, ASC-US	20
Atypical squamous cells, cannot exclude HSIL, ASC-H	1
Low grade squamous cell intraepithelial lesion (LSIL)	5
Atypical glandular cells of undetermined significance, AGC-NOS	2
Atypical glandular endocervical cells of undetermined significance, AGC-NOS	1
Atypical glandular endometrial cells of undetermined significance, AGC-NOS	2
Atypical glandular cells, favour neoplastic, AGC-FN	1
Atypical glandular endocervical cells, favour neoplastic, AGC-FN	1
Endometrial adenocarcinoma	1
Other malignant neoplasm	1
Total	**198**

Agreement percentage of the responses	%
The most common class	82.32

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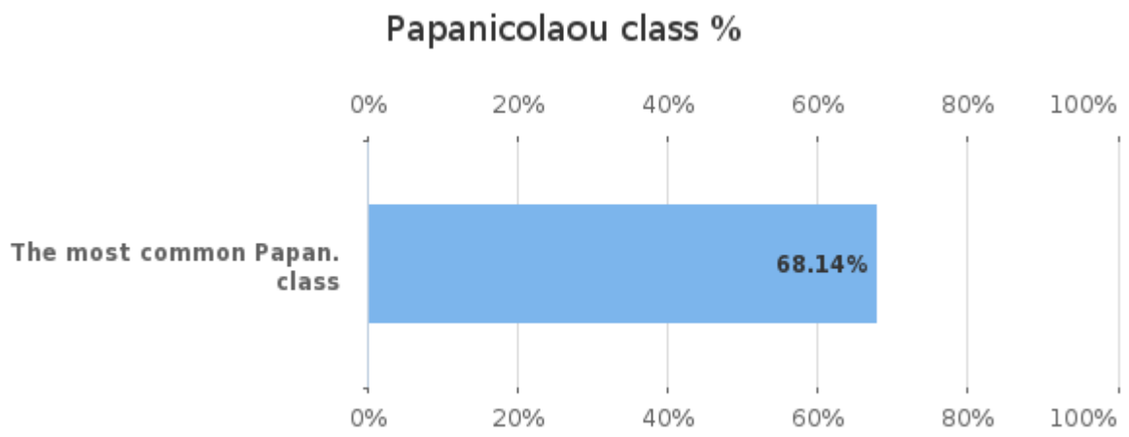
Case 6 | Papanicolaou class | Paris Irene - Desmirean Minodora



Papanicolaou class	n
1 (normal)	19
2 (benign atypia)	77
3 (suspect)	14
4 (clearly suspect)	2
5 (malignant)	1
Total	**113**

Agreement percentage of the responses	%
The most common Papan. class	68.14

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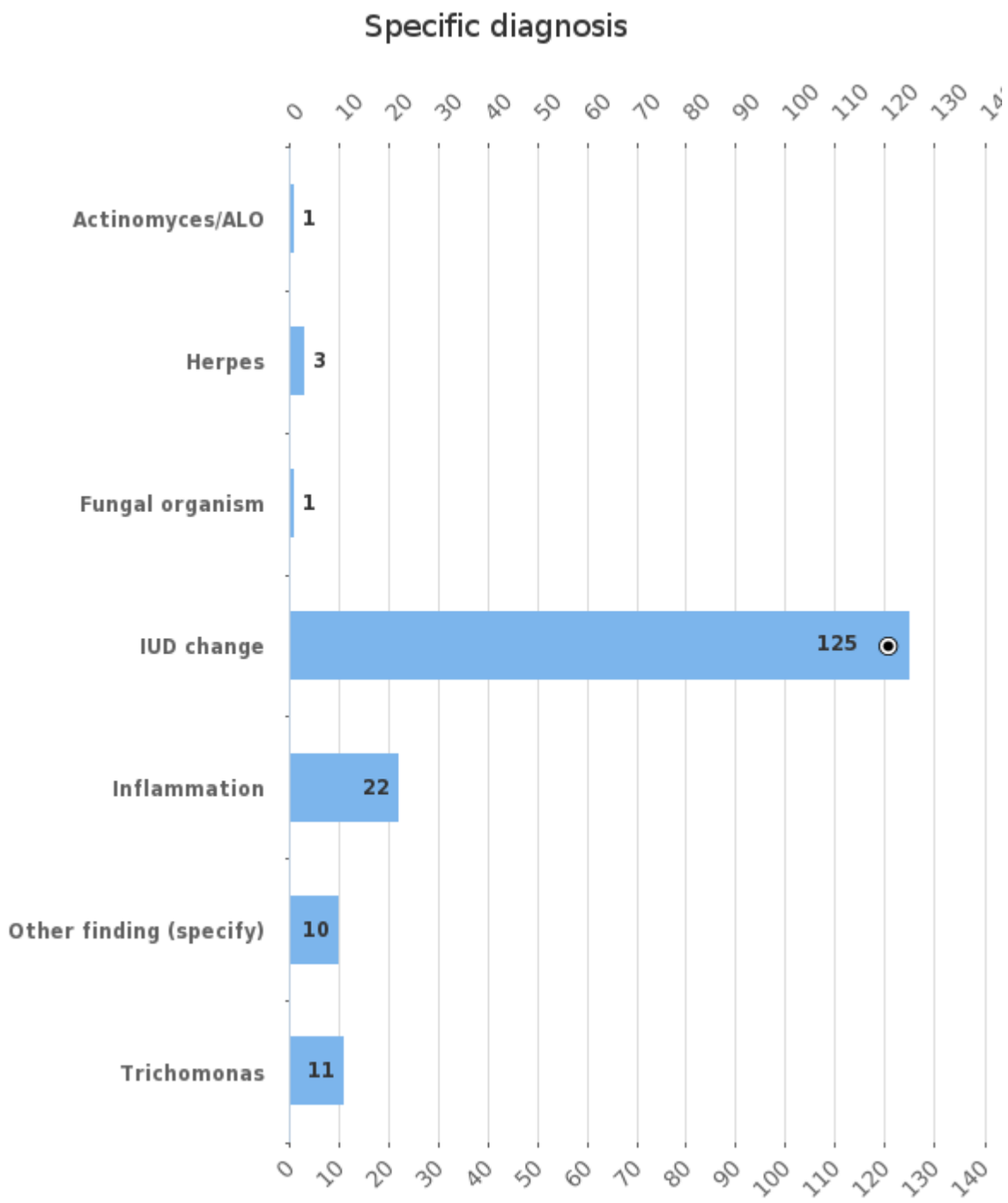
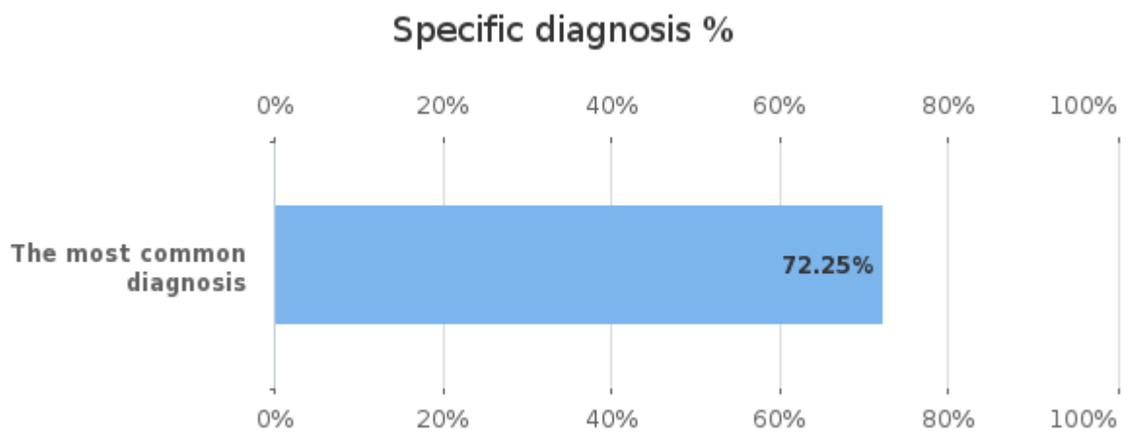
Case 6 | Specific diagnosis | Paris Irene - Desmirean Minodora





Specific diagnosis	n
Actinomyces/ALO	1
Herpes	3
Fungal organism	1
IUD change	125
Inflammation	22
Other finding (specify)	10
Trichomonas	11
Total	**173**

Agreement percentage of the responses	%
The most common diagnosis	72.25

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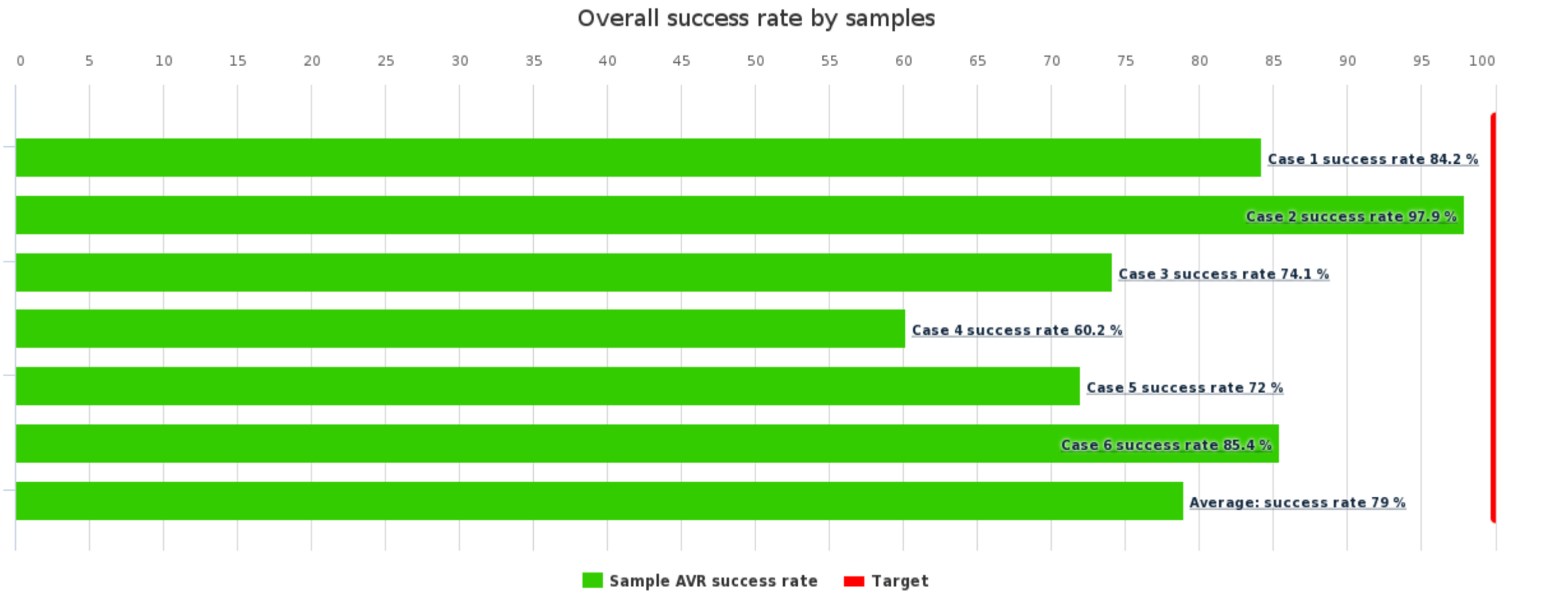
Gynaecological cytology (smear), virtual microscopy, March, 1-2023

GLOBAL REPORT

	No of participants	No of responded participants	Response percentage
Gynaecological cytology (smear), virtual microscopy, March, 1-2023	169	164	97 %

Summary



Summary	AVR success rate
Case 1	84.2 %
Case 2	97.9 %
Case 3	74.1 %
Case 4	60.2 %
Case 5	72 %
Case 6	85.4 %
Average:	79 %

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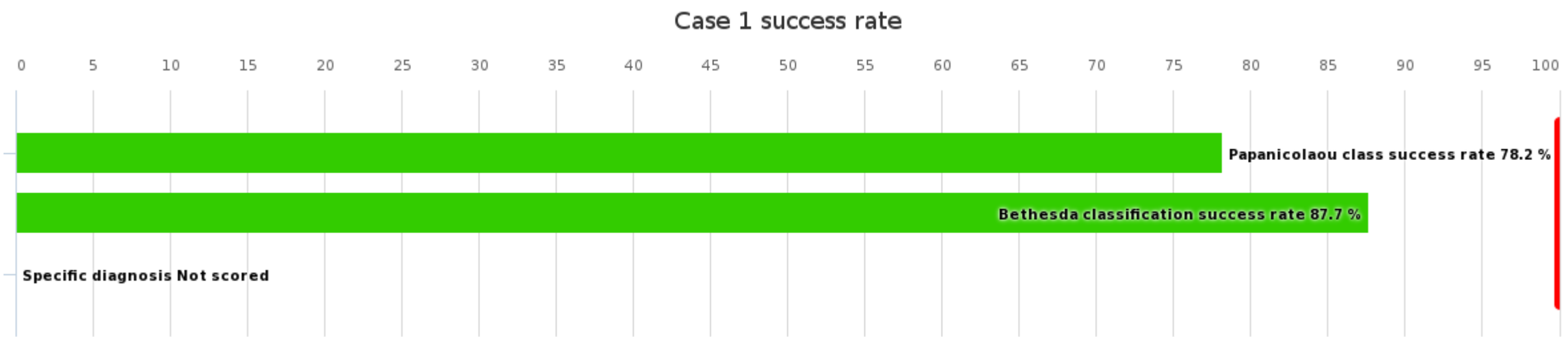
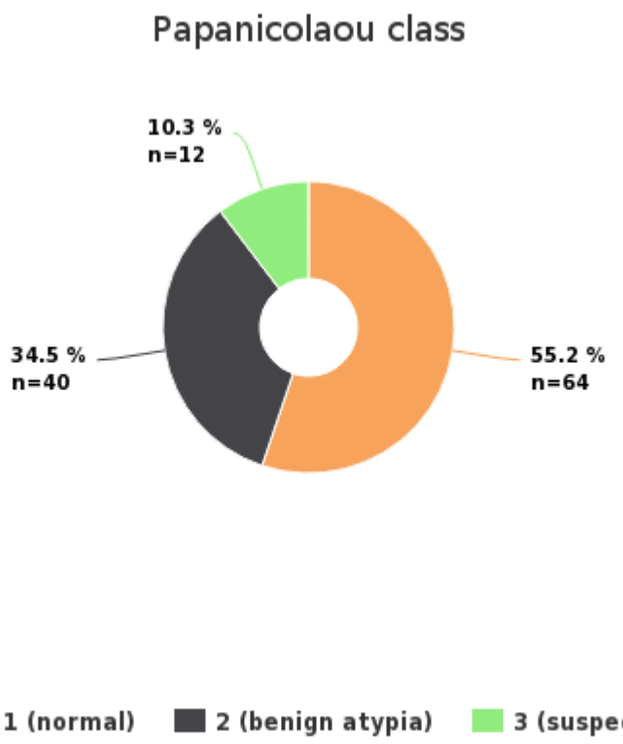
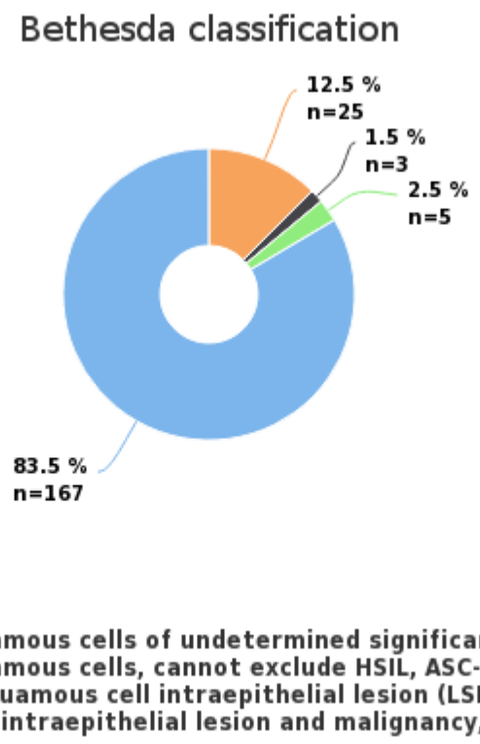
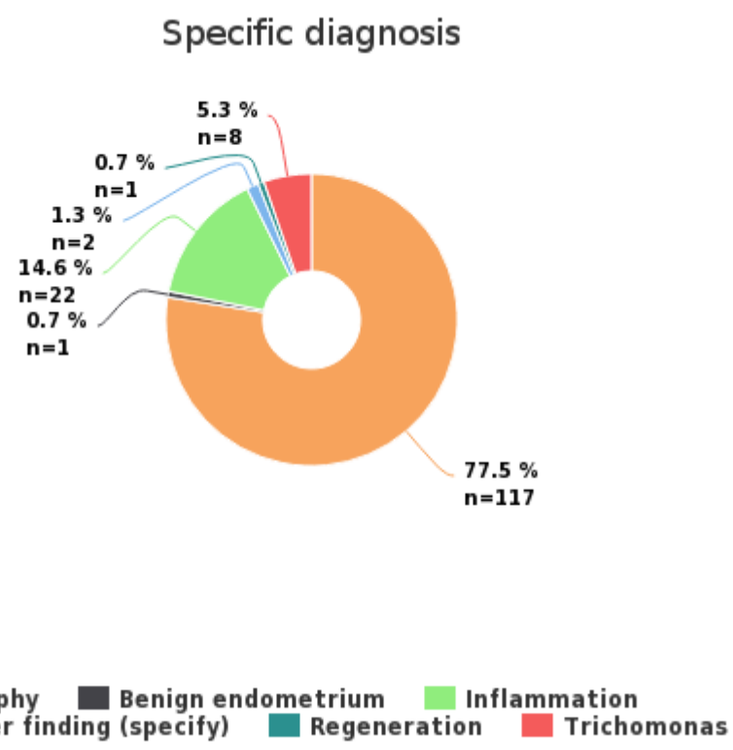
Case 1

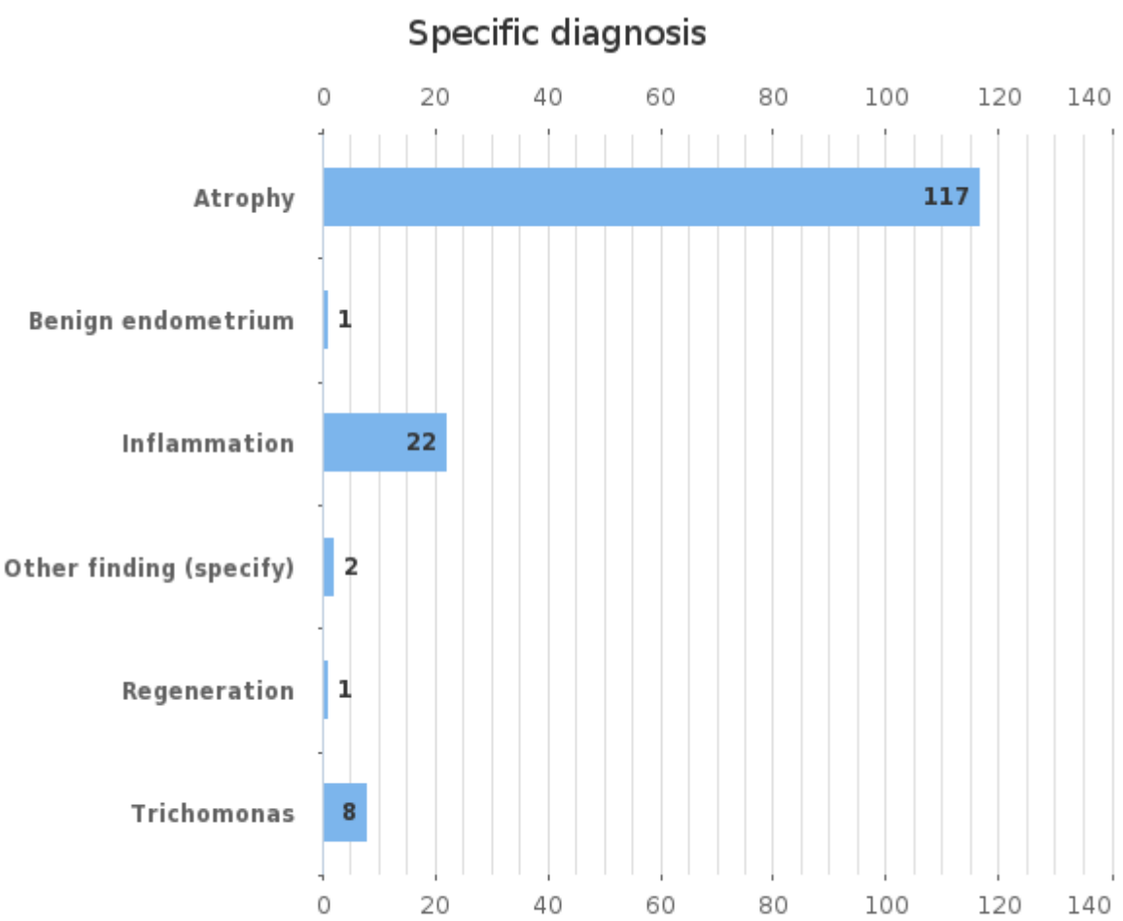


Case 1 results	Responded	AVR success rate	Count
	Papanicolaou class	78.2 %	116
	Bethesda classification	87.7 %	200
	Specific diagnosis	-	151
Total:		84.2 %	467









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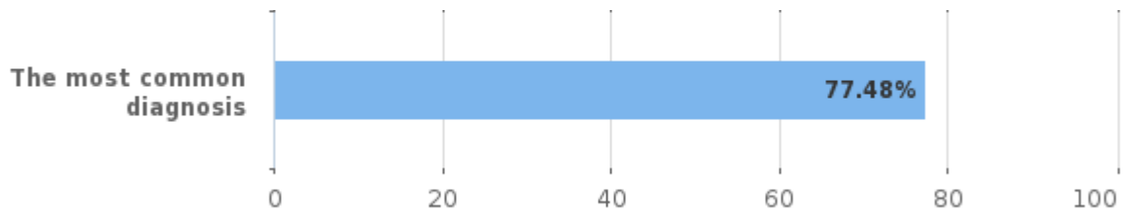
Gynaecological cytology (smear), virtual microscopy, March, 1-2023



Papanicolaou class	n	AVR success rate	Score
1 (normal)	64	100 %	3
2 (benign atypia)	40	66.7 %	2
3 (suspect)	12	0 %	0
Total:	116	78.2 %	

Bethesda classification	n	AVR success rate	Score
Atypical squamous cells of undetermined significance, ASC-US	25	33.3 %	1
Atypical squamous cells, cannot exclude HSIL, ASC-H	3	0 %	0
Low grade squamous cell intraepithelial lesion (LSIL)	5	0 %	0
Negative for intraepithelial lesion and malignancy, NILM	167	100 %	3
Total:	200	87.7 %	

Specific diagnosis	n	AVR success rate	Score
Atrophy	117	-	-
Benign endometrium	1	-	-
Inflammation	22	-	-
Other finding (specify)	2	-	-
Regeneration	1	-	-
Trichomonas	8	-	-
Total:	151		

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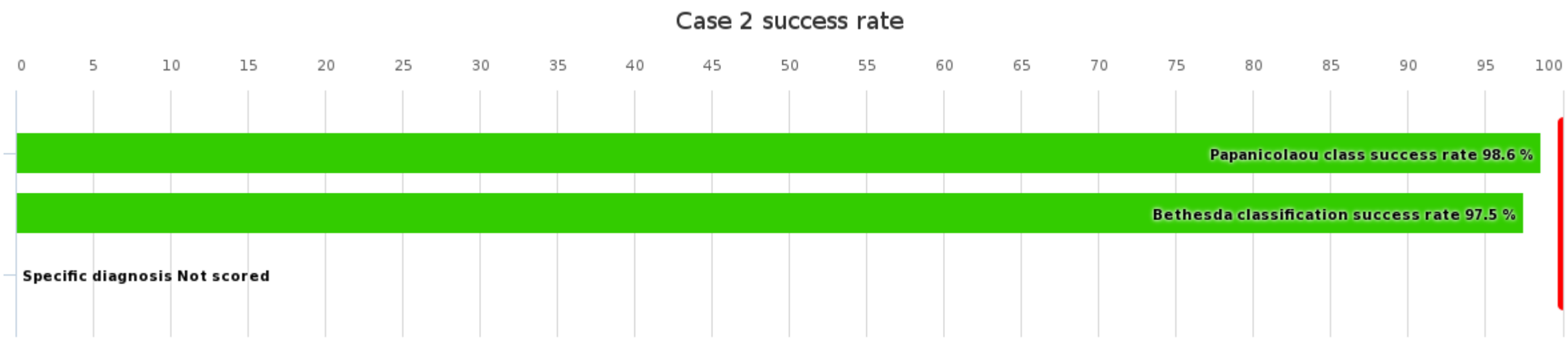
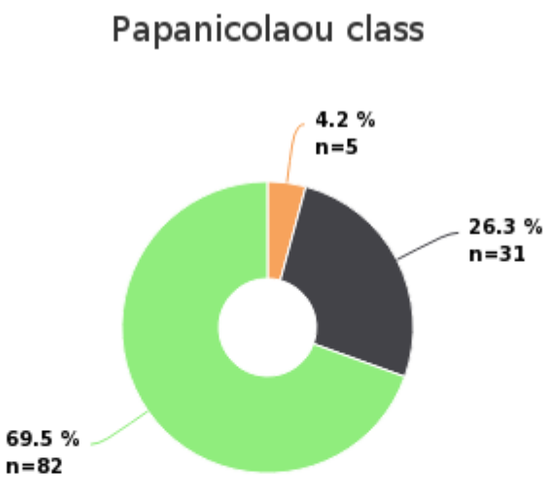
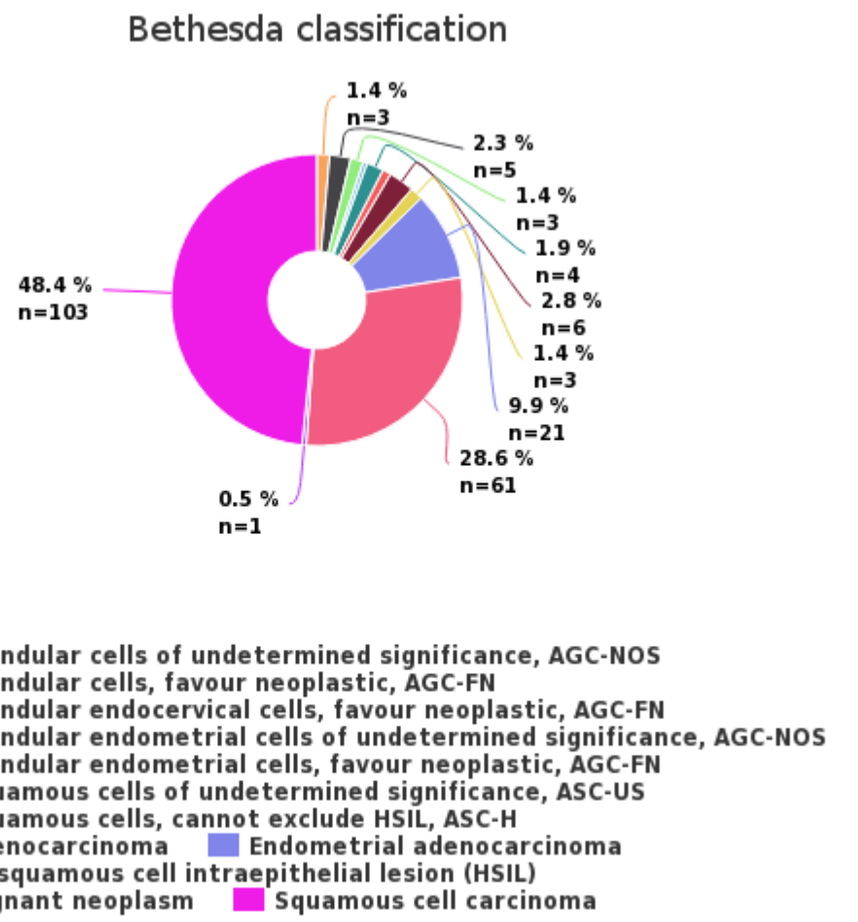
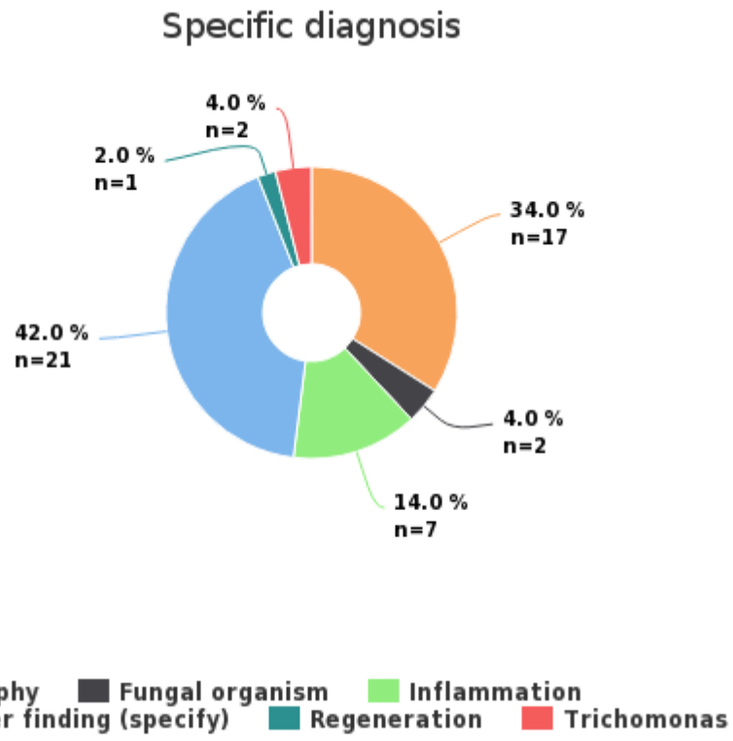
Case 2

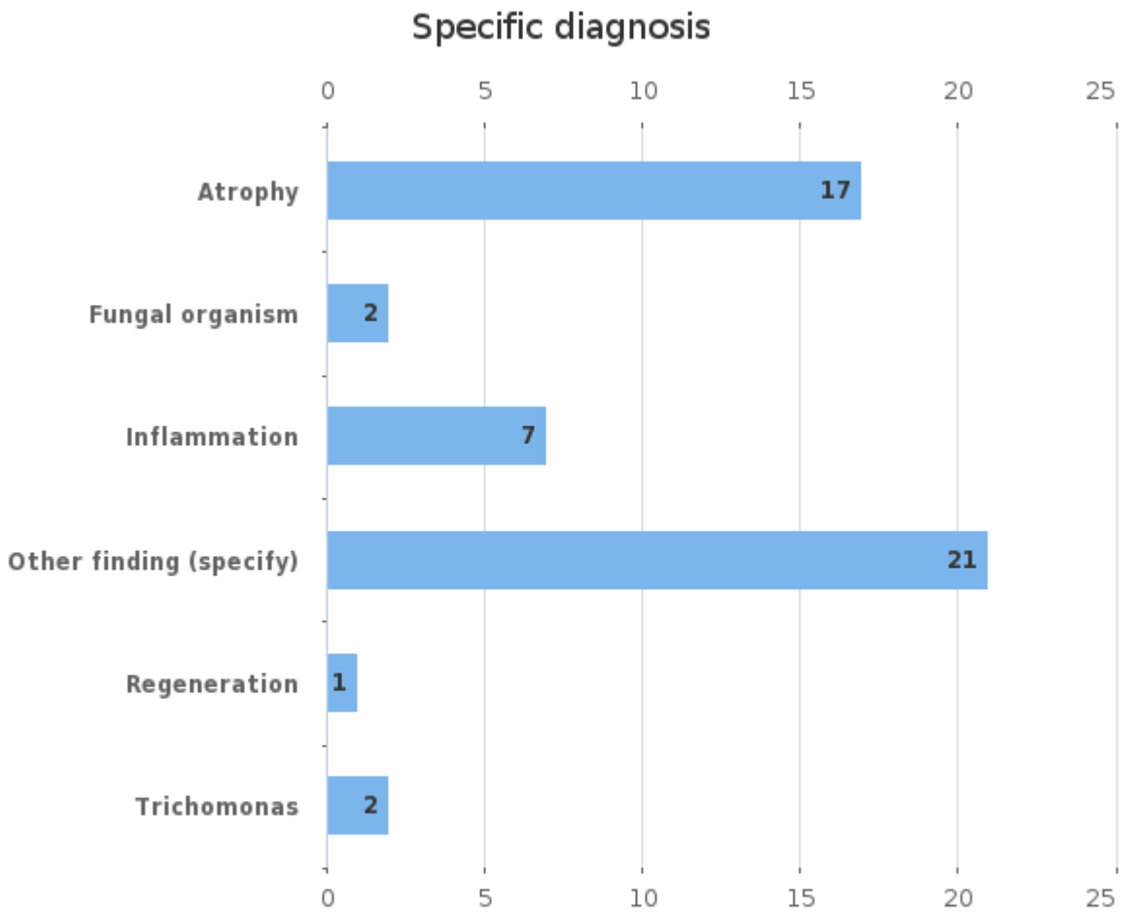


Case 2 results	Responded	AVR success rate	Count
	Papanicolaou class	98.6 %	118
	Bethesda classification	97.5 %	213
	Specific diagnosis	-	50
Total:		97.9 %	381









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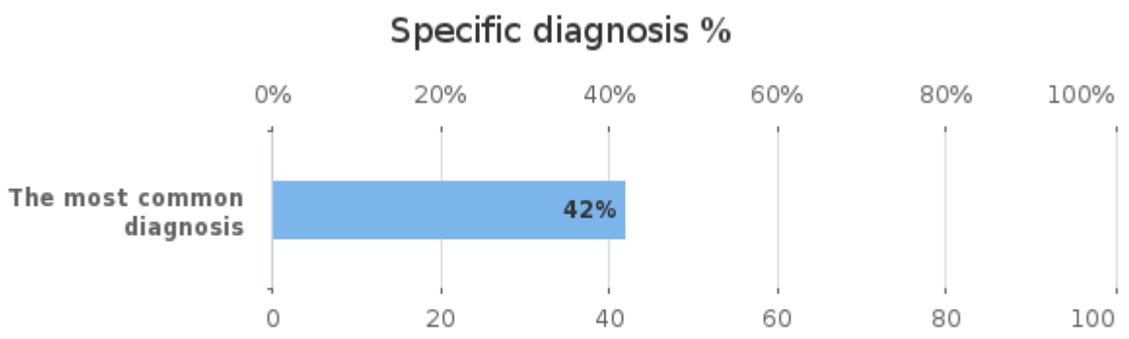

Papanicolaou class	n	AVR success rate	Score
3 (suspect)	5	66.7 %	2
4 (clearly suspect)	31	100 %	3
5 (malignant)	82	100 %	3
Total:	118	98.6 %	

Bethesda classification	n	AVR success rate	Score
Atypical glandular cells of undetermined significance, AGC-NOS	3	66.7 %	2
Atypical glandular cells, favour neoplastic, AGC-FN	5	100 %	3
Atypical glandular endocervical cells, favour neoplastic, AGC-FN	3	100 %	3
Atypical glandular endometrial cells of undetermined significance, AGC-NOS	1	66.7 %	2
Atypical glandular endometrial cells, favour neoplastic, AGC-FN	4	100 %	3
Atypical squamous cells of undetermined significance, ASC-US	2	0 %	0
Atypical squamous cells, cannot exclude HSIL, ASC-H	6	66.7 %	2
Cervical adenocarcinoma	3	100 %	3
Endometrial adenocarcinoma	21	100 %	3
High grade squamous cell intraepithelial lesion (HSIL)	61	100 %	3
Other malignant neoplasm	1	100 %	3
Squamous cell carcinoma	103	100 %	3
Total:	213	97.5 %	

Specific diagnosis	n	AVR success rate	Score
Atrophy	17	-	-
Fungal organism	2	-	-
Inflammation	7	-	-
Other finding (specify)	21	-	-
Regeneration	1	-	-
Trichomonas	2	-	-
Total:	50		

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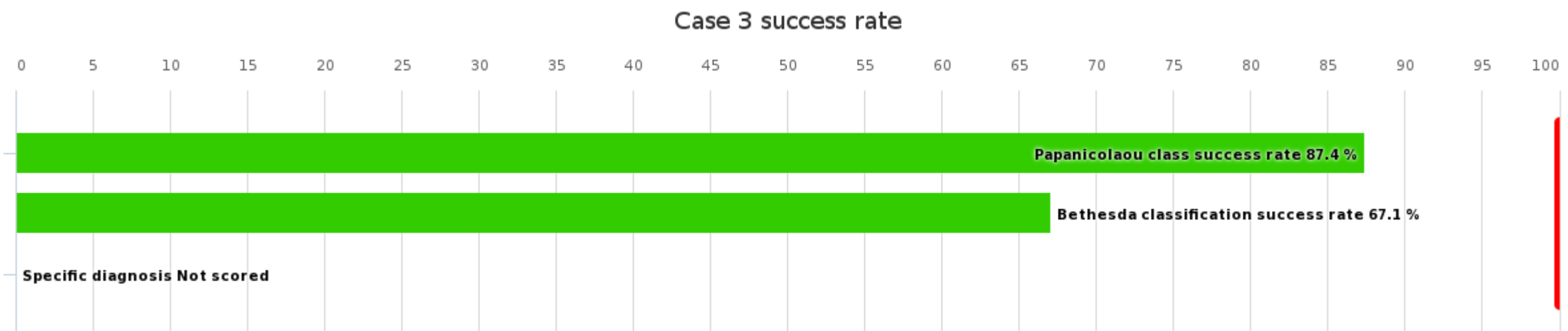
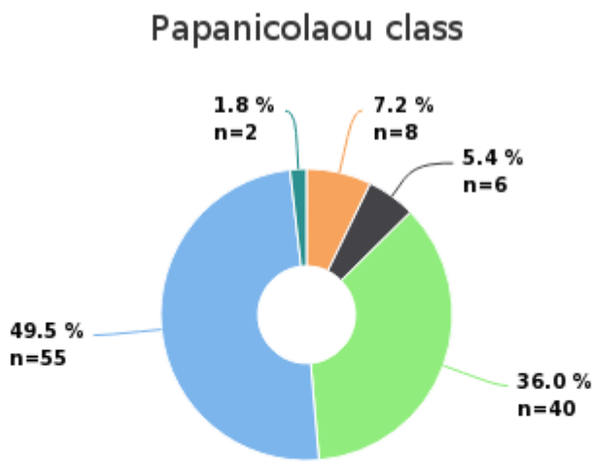
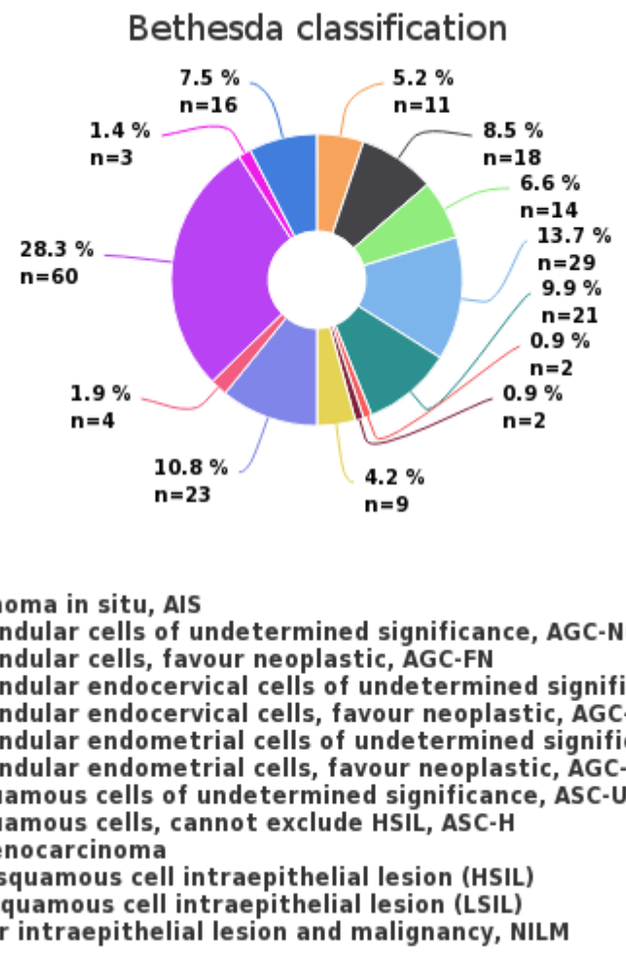
Case 3



Case 3 results	Responded	AVR success rate	Count
	Papanicolaou class	87.4 %	111
	Bethesda classification	67.1 %	212
	Specific diagnosis	-	44
Total:		74.1 %	367





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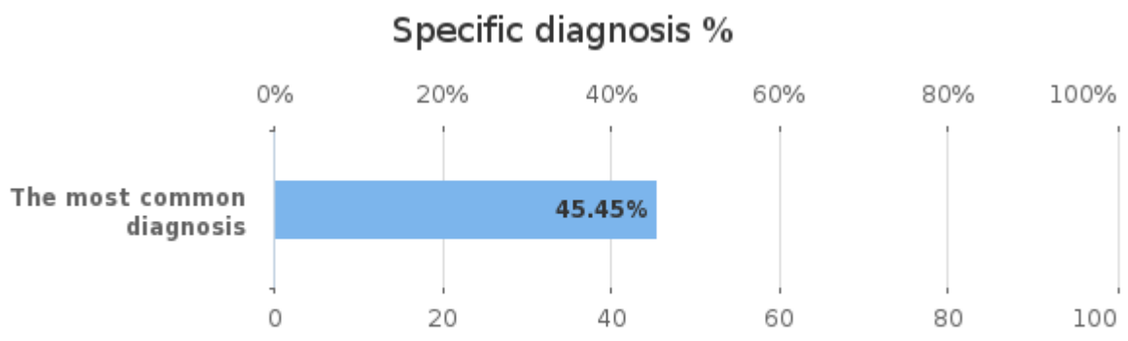

Papanicolaou class	n	AVR success rate	Score
1 (normal)	8	0 %	0
2 (benign atypia)	6	33.3 %	1
3 (suspect)	40	100 %	3
4 (clearly suspect)	55	100 %	3
5 (malignant)	2	0 %	0
Total:	111	87.4 %	

Bethesda classification	n	AVR success rate	Score
Adenocarcinoma in situ, AIS	11	33.3 %	1
Atypical glandular cells of undetermined significance, AGC-NOS	18	66.7 %	2
Atypical glandular cells, favour neoplastic, AGC-FN	14	66.7 %	2
Atypical glandular endocervical cells of undetermined significance, AGC-NOS	29	66.7 %	2
Atypical glandular endocervical cells, favour neoplastic, AGC-FN	21	66.7 %	2
Atypical glandular endometrial cells of undetermined significance, AGC-NOS	2	0 %	0
Atypical glandular endometrial cells, favour neoplastic, AGC-FN	2	0 %	0
Atypical squamous cells of undetermined significance, ASC-US	9	0 %	0
Atypical squamous cells, cannot exclude HSIL, ASC-H	23	100 %	3
Cervical adenocarcinoma	4	0 %	0
High grade squamous cell intraepithelial lesion (HSIL)	60	100 %	3
Low grade squamous cell intraepithelial lesion (LSIL)	3	33.3 %	1
Negative for intraepithelial lesion and malignancy, NILM	16	0 %	0
Total:	212	67.1 %	

Specific diagnosis	n	AVR success rate	Score
Atrophy	14	-	-
Benign endometrium	1	-	-
Fungal organism	3	-	-
Inflammation	20	-	-
IUD change	1	-	-
Other finding (specify)	3	-	-
Regeneration	2	-	-
Total:	44		

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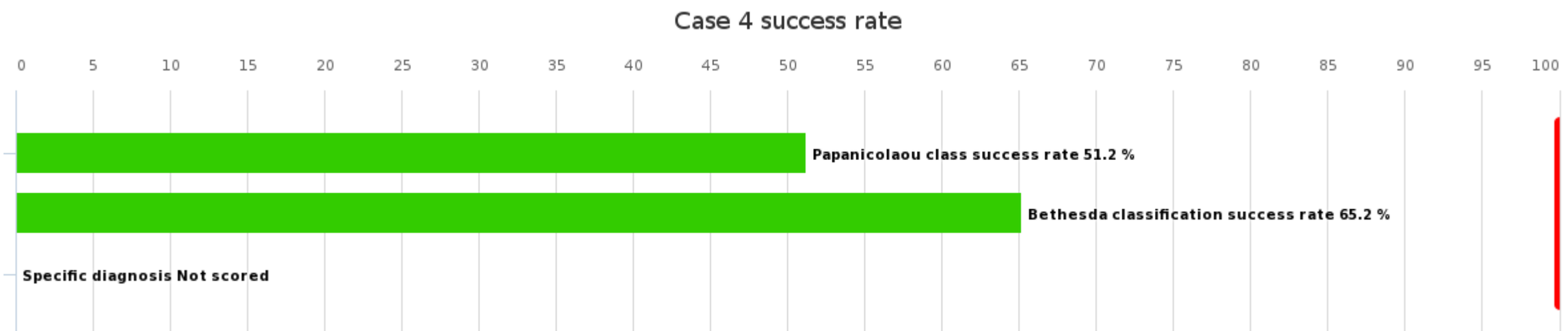
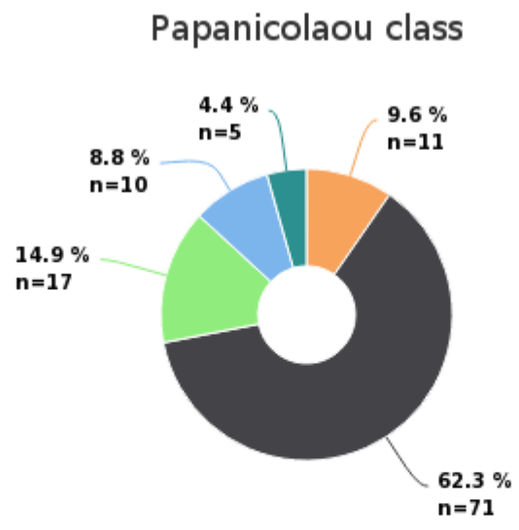
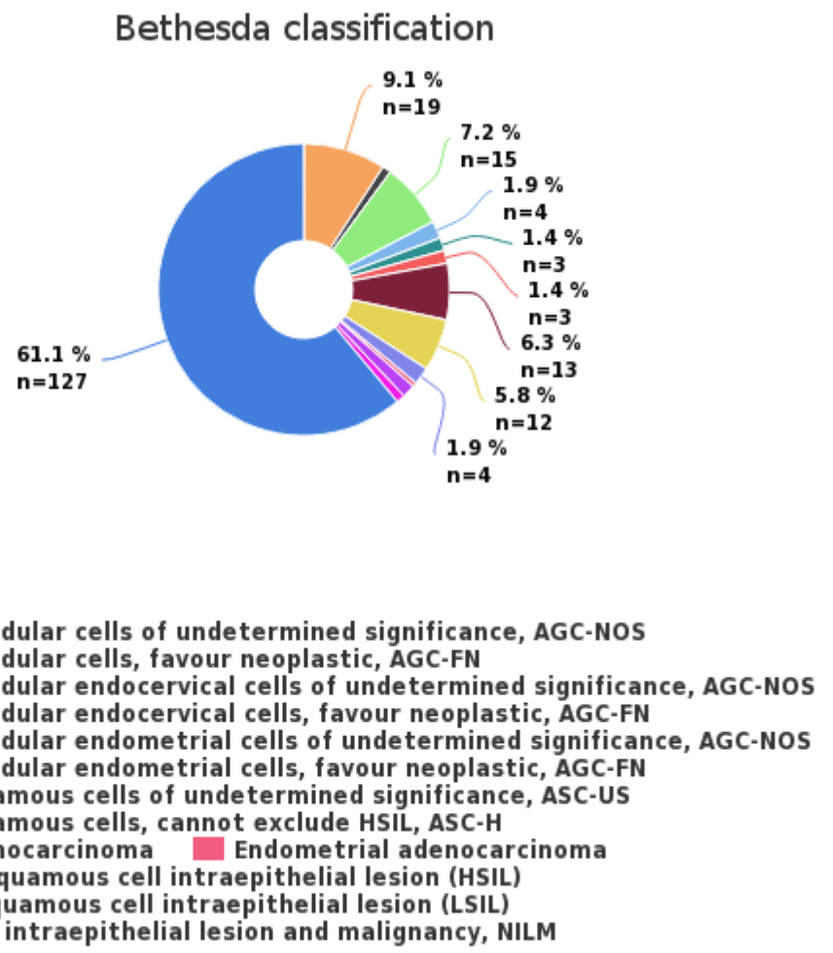
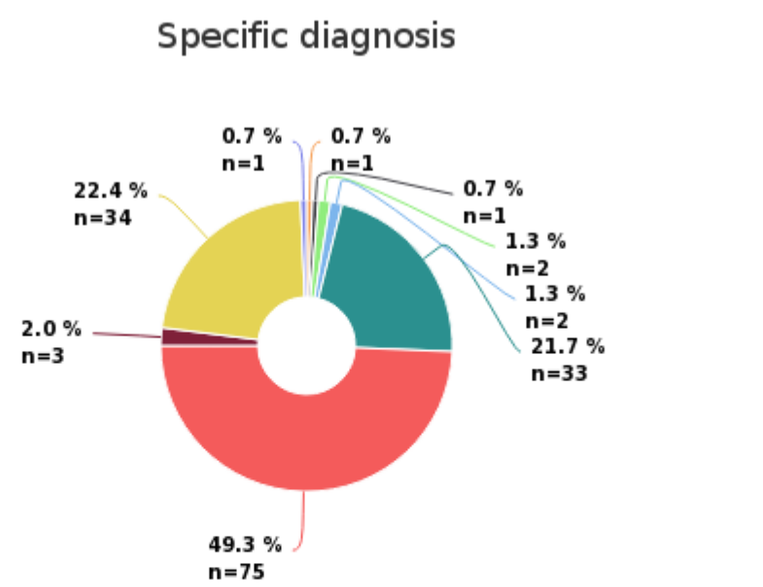
Case 4

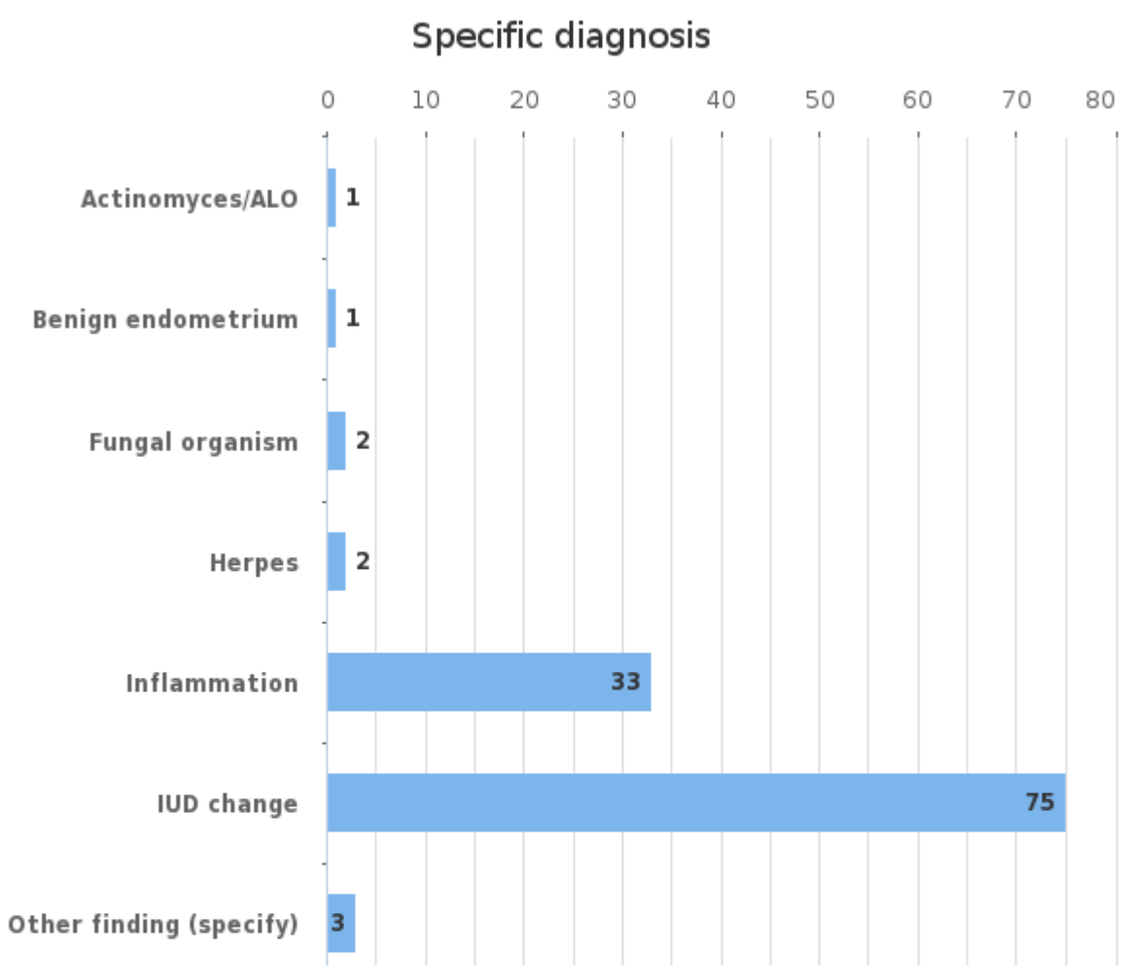


Case 4 results	Responded	AVR success rate	Count
	Papanicolaou class	51.2 %	114
	Bethesda classification	65.2 %	208
	Specific diagnosis	-	152
Total:		60.2 %	474









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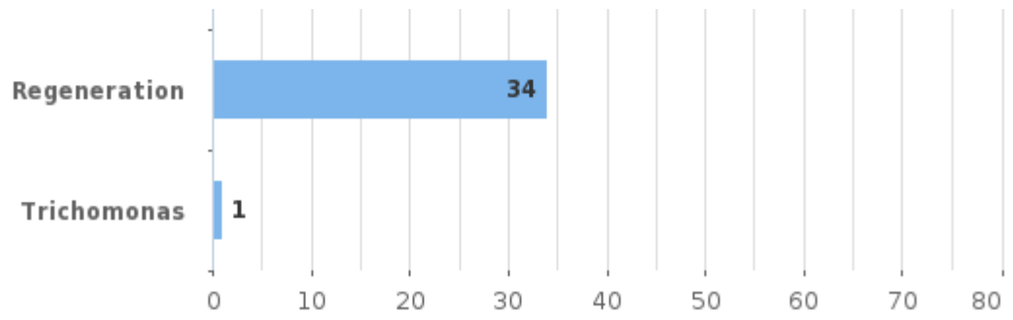

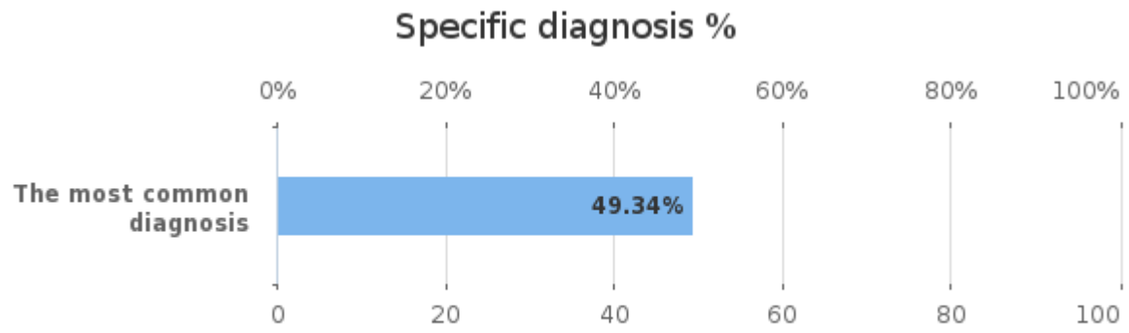

Papanicolaou class	n	AVR success rate	Score
1 (normal)	11	100 %	3
2 (benign atypia)	71	66.7 %	2
3 (suspect)	17	0 %	0
4 (clearly suspect)	10	0 %	0
5 (malignant)	5	0 %	0
Total:	114	51.2 %	

Bethesda classification	n	AVR success rate	Score
Atypical glandular cells of undetermined significance, AGC-NOS	19	0 %	0
Atypical glandular cells, favour neoplastic, AGC-FN	2	0 %	0
Atypical glandular endocervical cells of undetermined significance, AGC-NOS	15	0 %	0
Atypical glandular endocervical cells, favour neoplastic, AGC-FN	4	0 %	0
Atypical glandular endometrial cells of undetermined significance, AGC-NOS	3	0 %	0
Atypical glandular endometrial cells, favour neoplastic, AGC-FN	3	0 %	0
Atypical squamous cells of undetermined significance, ASC-US	13	66.7 %	2
Atypical squamous cells, cannot exclude HSIL, ASC-H	12	0 %	0
Cervical adenocarcinoma	4	0 %	0
Endometrial adenocarcinoma	1	0 %	0
High grade squamous cell intraepithelial lesion (HSIL)	3	0 %	0
Low grade squamous cell intraepithelial lesion (LSIL)	2	0 %	0
Negative for intraepithelial lesion and malignancy, NILM	127	100 %	3
Total:	208	65.2 %	

Specific diagnosis	n	AVR success rate	Score
Actinomyces/ALO	1	-	-
Benign endometrium	1	-	-
Fungal organism	2	-	-
Herpes	2	-	-
Inflammation	33	-	-
IUD change	75	-	-
Other finding (specify)	3	-	-
Regeneration	34	-	-
Trichomonas	1	-	-
Total:	152		

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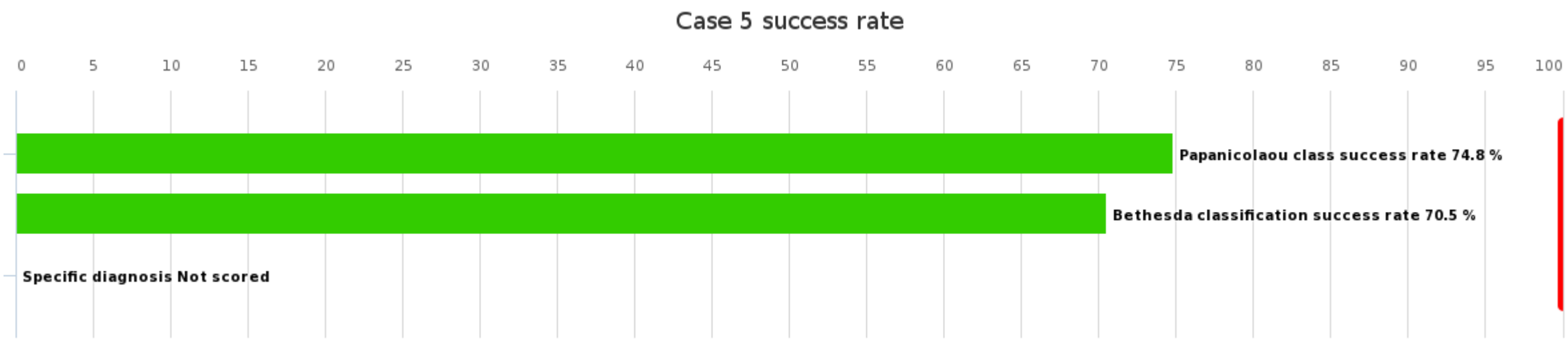
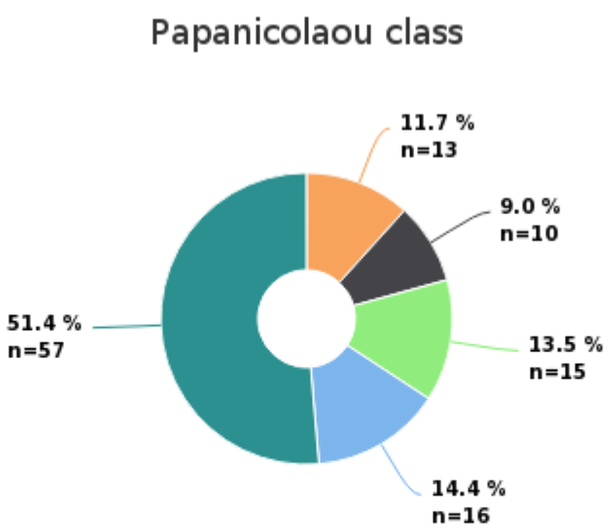
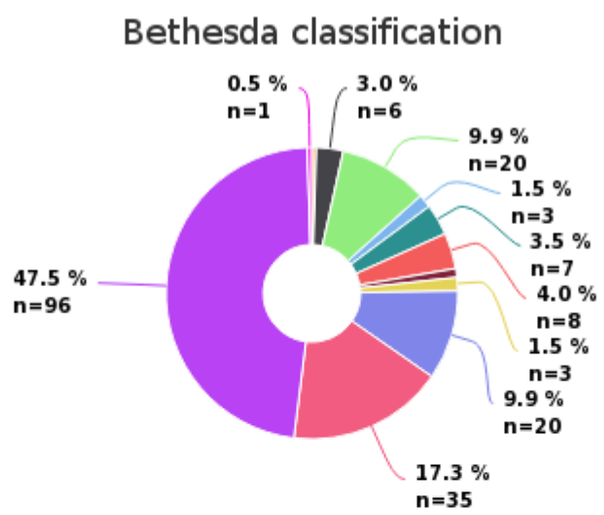
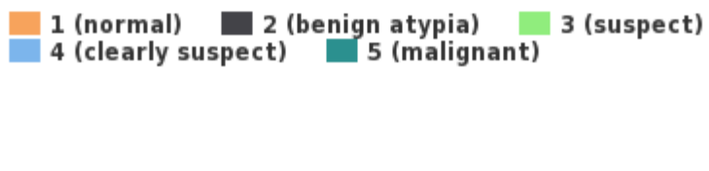
Case 5

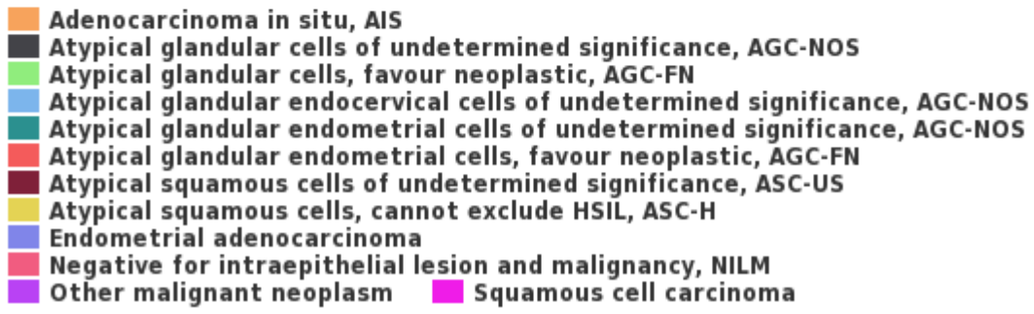


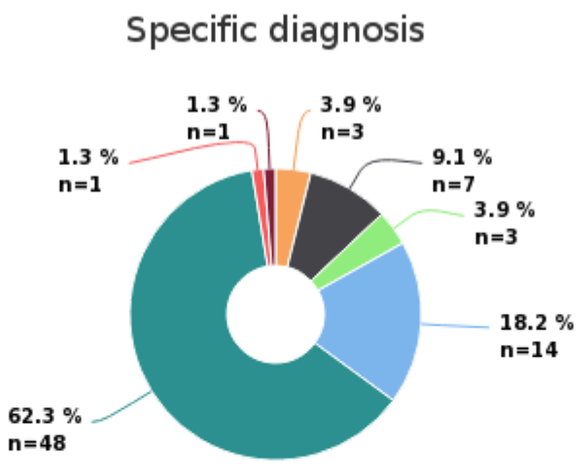
Case 5 results	Responded	AVR success rate	Count
	Papanicolaou class	74.8 %	111
	Bethesda classification	70.5 %	202
	Specific diagnosis	-	77
Total:		72 %	390

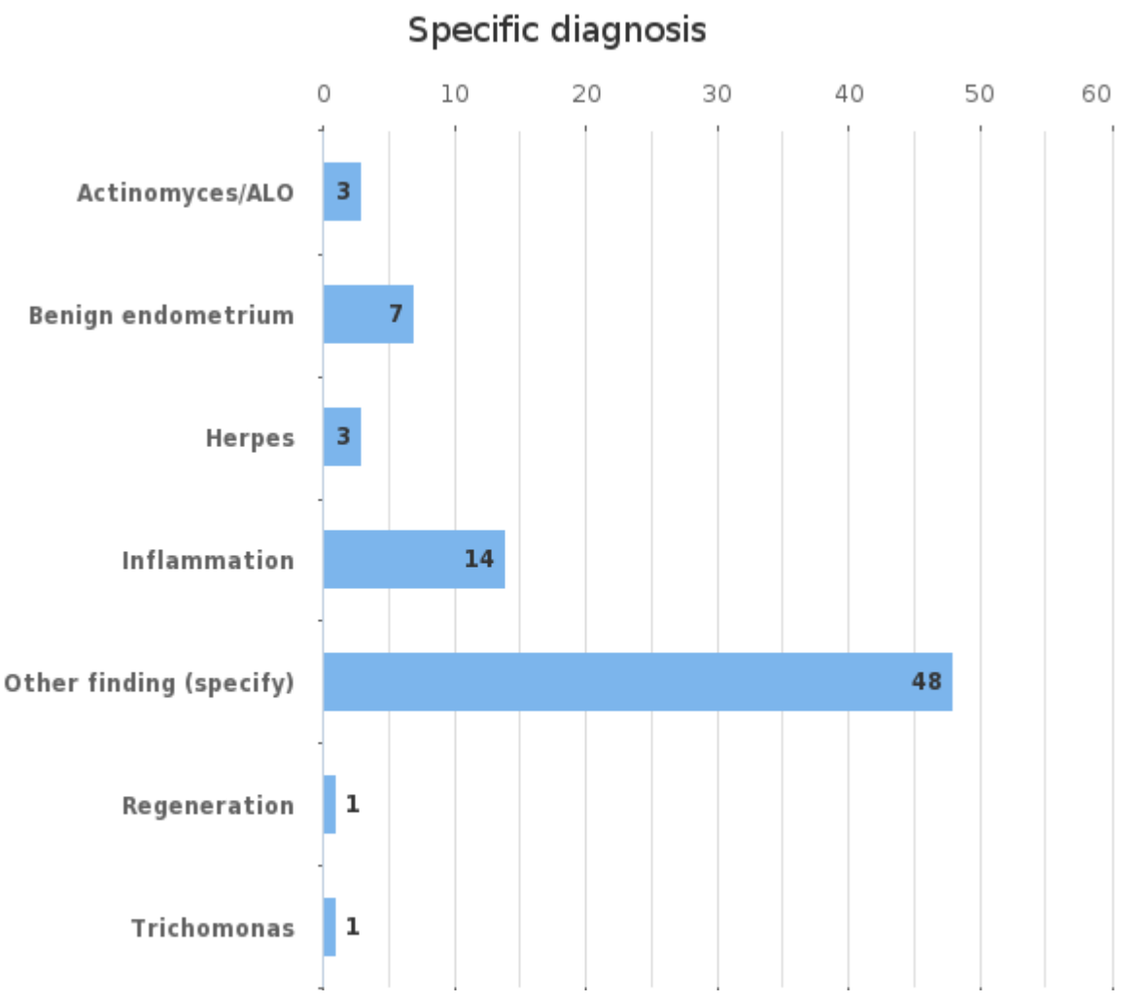


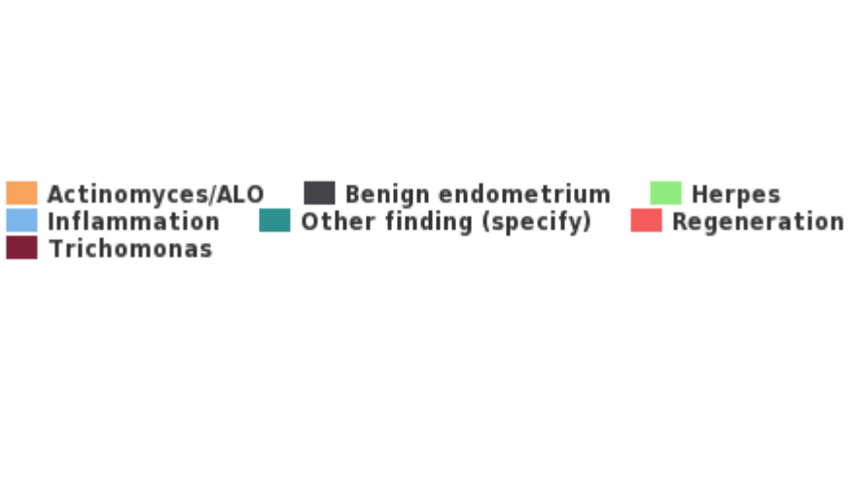












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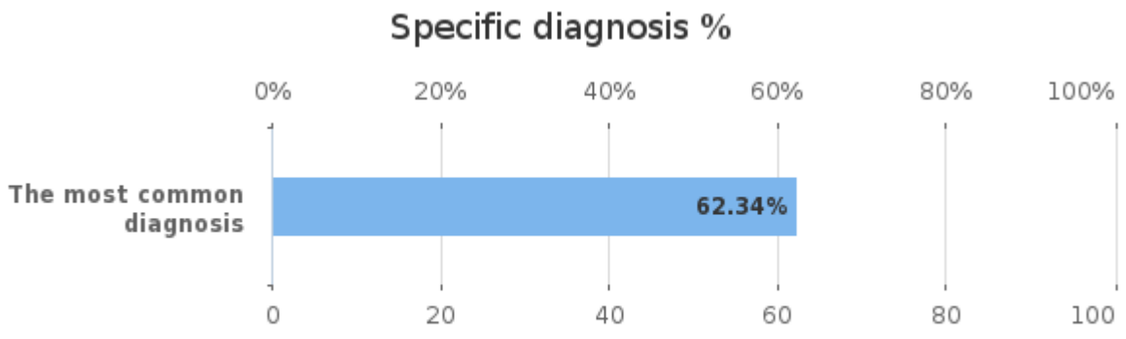

Papanicolaou class	n	AVR success rate	Score
1 (normal)	13	0 %	0
2 (benign atypia)	10	0 %	0
3 (suspect)	15	66.7 %	2
4 (clearly suspect)	16	100 %	3
5 (malignant)	57	100 %	3
Total:	111	74.8 %	

Bethesda classification	n	AVR success rate	Score
Adenocarcinoma in situ, AIS	1	66.7 %	2
Atypical glandular cells of undetermined significance, AGC-NOS	6	33.3 %	1
Atypical glandular cells, favour neoplastic, AGC-FN	20	100 %	3
Atypical glandular endocervical cells of undetermined significance, AGC-NOS	3	33.3 %	1
Atypical glandular endometrial cells of undetermined significance, AGC-NOS	7	33.3 %	1
Atypical glandular endometrial cells, favour neoplastic, AGC-FN	8	66.7 %	2
Atypical squamous cells of undetermined significance, ASC-US	2	0 %	0
Atypical squamous cells, cannot exclude HSIL, ASC-H	3	33.3 %	1
Endometrial adenocarcinoma	20	66.7 %	2
Negative for intraepithelial lesion and malignancy, NILM	35	0 %	0
Other malignant neoplasm	96	100 %	3
Squamous cell carcinoma	1	66.7 %	2
Total:	202	70.5 %	

Specific diagnosis	n	AVR success rate	Score
Actinomyces/ALO	3	-	-
Benign endometrium	7	-	-
Herpes	3	-	-
Inflammation	14	-	-
Other finding (specify)	48	-	-
Regeneration	1	-	-
Trichomonas	1	-	-
Total:	77		

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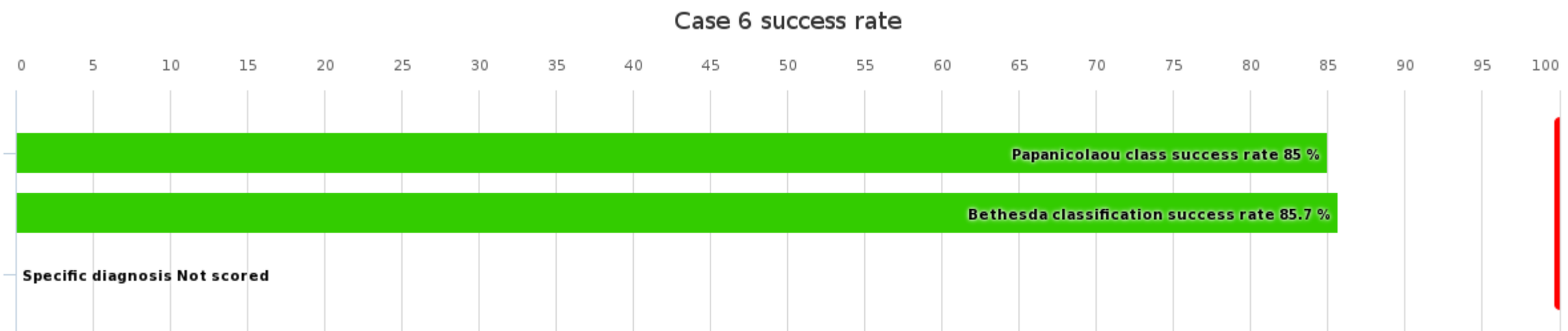
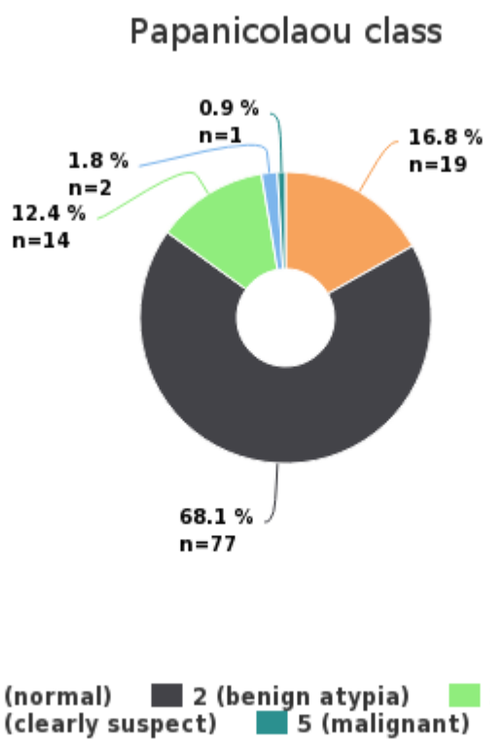
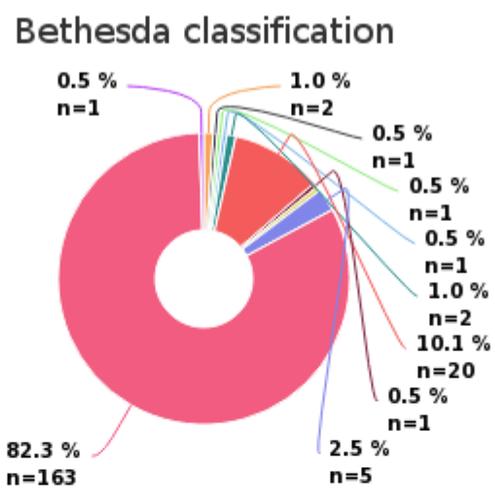
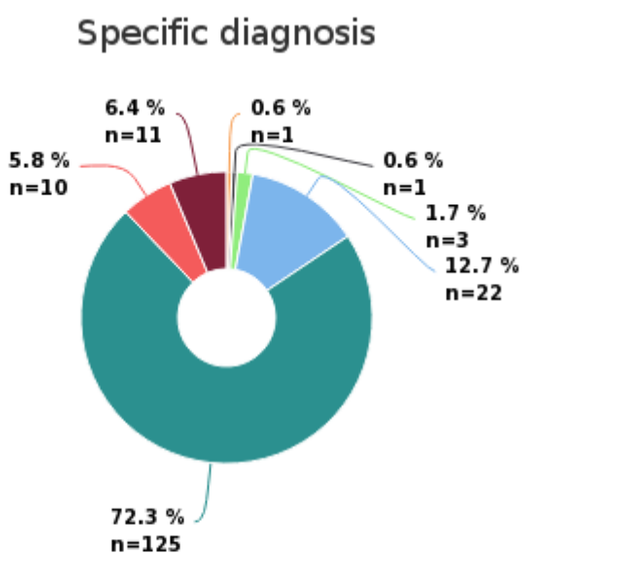
Case 6

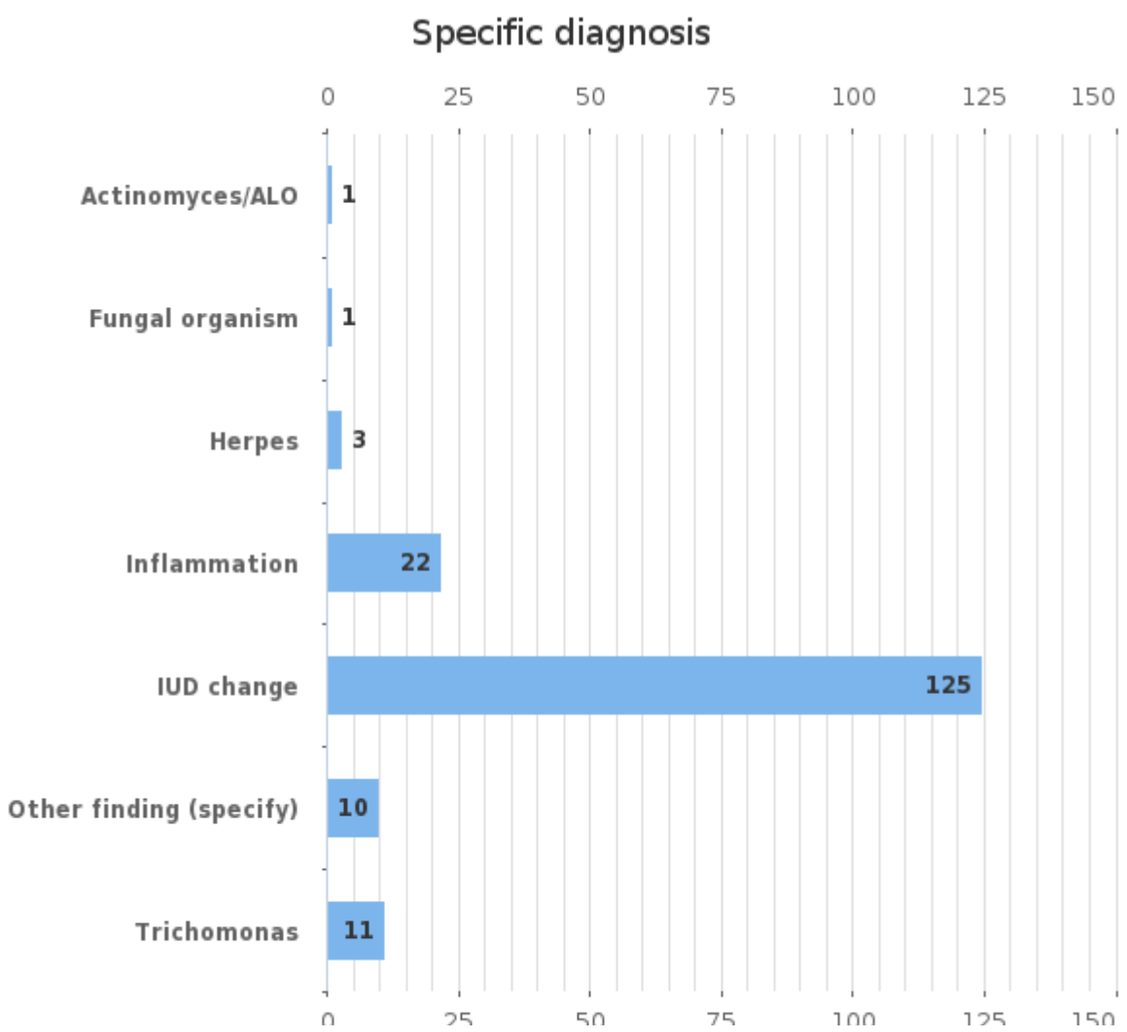


Case 6 results	Responded	AVR success rate	Count
	Papanicolaou class	85 %	113
	Bethesda classification	85.7 %	198
	Specific diagnosis	-	173
Total:		85.4 %	484









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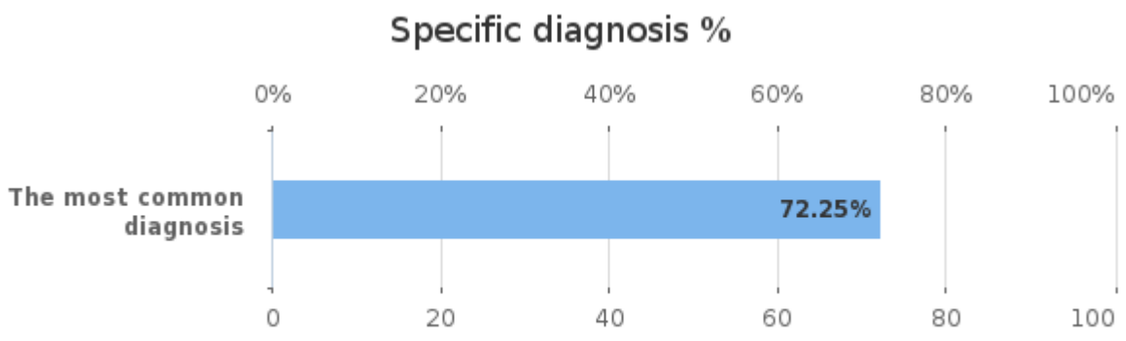
Gynaecological cytology (smear), virtual microscopy, March, 1-2023



Papanicolaou class	n	AVR success rate	Score
1 (normal)	19	100 %	3
2 (benign atypia)	77	100 %	3
3 (suspect)	14	0 %	0
4 (clearly suspect)	2	0 %	0
5 (malignant)	1	0 %	0
Total:	113	85 %	

Bethesda classification	n	AVR success rate	Score
Atypical glandular cells of undetermined significance, AGC-NOS	2	0 %	0
Atypical glandular cells, favour neoplastic, AGC-FN	1	0 %	0
Atypical glandular endocervical cells of undetermined significance, AGC-NOS	1	0 %	0
Atypical glandular endocervical cells, favour neoplastic, AGC-FN	1	0 %	0
Atypical glandular endometrial cells of undetermined significance, AGC-NOS	2	0 %	0
Atypical squamous cells of undetermined significance, ASC-US	20	33.3 %	1
Atypical squamous cells, cannot exclude HSIL, ASC-H	1	0 %	0
Endometrial adenocarcinoma	1	0 %	0
Low grade squamous cell intraepithelial lesion (LSIL)	5	0 %	0
Negative for intraepithelial lesion and malignancy, NILM	163	100 %	3
Other malignant neoplasm	1	0 %	0
Total:	198	85.7 %	

Specific diagnosis	n	AVR success rate	Score
Actinomyces/ALO	1	-	-
Fungal organism	1	-	-
Herpes	3	-	-
Inflammation	22	-	-
IUD change	125	-	-
Other finding (specify)	10	-	-
Trichomonas	11	-	-
Total:	173		

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LABQUALITY

External Quality Assessment Scheme

Clinical cytology, virtual microscopy: Gynaecological cytology (smear) Round 1, 2023

Specimens
Samples S001 – S006 (LQ778223011 – LQ778223016) were gynaecological, Papanicolaou stained cytology Pap smear samples seen as virtual microscopy images. Papanicolaou stained cytological slides were chosen from routine material of a pathology laboratory. Age of the patient and information about point of menstrual cycle, hormone therapy, contraception and clinical history were given when available. The samples were available only as virtual images on this round.

Report info
It is important to read the Final report first, because it contains important information of the samples and results in each round. The final report contains distribution of diagnoses and diagnostic agreement. Laboratory's own result is marked with a black radio button (⊙). Common instruction guidelines, how to interpret the reports can be found under "LabScala user instructions" in LabScala.

It is important to consider that this external quality assurance scheme does not evaluate cytological examination as a medical consultation. It is intended for interlaboratory comparison including features that may vary between respondents. Only the most important parameters, especially cellular atypia, have been chosen to obtain a comprehensible final report.

Comments – EQA Coordinator
According to customer wishes, scoring is planned for this product starting in 2024. For this, a new Global report template has been created, which will be presented in this round alongside the current Global report.

A short customer survey about scoring is also included. https://link.webropolsurveys.com/S/A48F2F22323778A6 Survey is open until **2023-09-15**.

You can compare the scores given in the report with your own result and thus evaluate how your unit would have performed in this round.

In this round the Bethesda classification and the Papanicolaou classification are scored. The scoring criteria are as follows:

3	Same diagnosis or cytological class/interpretation as the reference interpretation, correct diagnosis or at most a slight academic difference due to the classification method, same benign/malign group
2	Slight difference in diagnosis or interpretation of findings within the same disease or tumor group, same benign/malignant group
1	Different diagnosis or interpretation of findings, but disease or tumor group or interpretation close to the reference interpretation, same benign/malignant group
0	Wrong histopathological diagnosis or cytological interpretation, disease or tumor group differs from the reference interpretation, different benign/malign group.

2023-06-28

FINAL REPORT

Product no. 6700

Subcontracting: Image service

Samples sent	2023-04-05
Round closed	2023-05-03
Final report	2023-06-28

Request for correction
Typing errors in laboratory's result forms are on laboratory's responsibility. Labquality accepts responsibility only for result processing. Requests must be notified by writing within three weeks from the date of this letter.

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FINAS
Finnish Accreditation Service
PT02 (EN ISO/IEC 17043)

Quality Management LQP ISO 9001:2015

Comments – Expert
In total 169 laboratories participated in the round, and the number of respondents was 164 (response rate 97.04%). It was possible to display responses according to Bethesda classification (recommended), as a Papanicolaou Class, and in addition there was a selection of specific diagnoses and a free comment option. All the distributions of the responses are shown in the tables and graphs. The average consensus was 58.07% for the Bethesda Classification system, 59.44% for Papanicolaou Classes, and 62.75% for general specific diagnoses. The reference diagnosis is presented in the comments.

S001: LQ778223011
60-year-old woman. HPV primary screening positive for HPV genotype other than 16 or 18. Trichomonas treated earlier. Otherwise, no abnormality.

Reference Diagnosis:
Bethesda classification: Negative for Intraepithelial Lesion or Malignancy (NILM)
Papanicolaou class: 1
Specific diagnosis: Atrophy

There is normal, but atrophic cellular finding without any atypia on the slide.

The accepted answer according to Bethesda system is Negative for Intraepithelial Lesion or Malignancy (NILM), it was answered by 167 (83.5 %) participants. The accepted Pap Class was Class 1 (normal) answered by 64 (55.17 %) participants. Atrophy as specific diagnosis was given by 117 (77.48 %) participants. In HPV primary screening programme, same follow-up would be also for Bethesda ASC-US cases. ASC-US diagnoses were given by 25 (12.5 %) participants. Pap Class 2 was answered by 40 (34.48 %) participants.

S002: LQ778223012
61-year-old woman. Case 1 control sample. HPV genotype other than 16 or 18 positive. Abundant bloody leakage lately. Diabetes and persistent yeast infection.

Reference Diagnosis:
Bethesda classification: Squamous cell carcinoma; Atypical endocervical cells, favor neoplastic.
Papanicolaou class: 5
Specific diagnosis: No other changes than epithelial atypia.

High-grade atypical changes are visible both in squamous and glandular cell component. Squamous cell atypia is consistent with squamous cell carcinoma criteria. Histologically, adenosquamous carcinoma was diagnosed.

An acceptable response according to the Bethesda classification is squamous cell carcinoma, high-grade squamous intraepithelial lesion (HSIL), unspecified glandular atypia/endocervial atypia/endometrial atypia, suspicious for neoplasia (AGC-FN) and cervix/corpus adenocarcinoma, other malignant tumour, and their combinations including squamous and glandular epithelial changes. The diagnsosis of squamous cell carcinoma received the highest number of responses (103, 48.36%). The second most common response was HSIL among 61 (28.64%) respondents, and 21 (9.86%) responded with the diagnosis of uterine corpus adenocarcinoma. Papanicolaou's acceptable answers were Pap Class 4 and 5, which were answered by 31 (26.27%) and 82 (69.49%) participants, respectively.

S003: LQ778223013
60-year-old woman. Local estrogen treatment 2 days ago. Otherwise, no abnormality. HPV primary screening HPV genotype 16 positive.

Reference Diagnosis:
Bethesda classification: Atypical squamous cells, cannot exclude HSIL (ASC-H)
Papanicolaou class: 3
Specific diagnosis: No other changes than epithelial atypia.

Squamous cell atypia is seen in the sample: the endocervical smear has dense cell groups with hyperchromatic nuclei and nuclear overlapping. Histologically, a CIN3 level change was observed (according to the current WHO classification histological HSIL).

An acceptable correct answer according to the Bethesda classification is Atypical squamous cells, HSIL cannot be excluded (ASC-H) and high-grade squamous intraepithelial lesion (HSIL). HSIL received the most responses (60 responses, 28.3%). The second most common response was unspecified endocervical glandular atypia, AGC-NOS (29 responses, 13.68%) and the third most common was ASC-H (23 responses, 10.85%). Papanicolaou's acceptable answers were Pap Class 3 and 4, which were answered by 40 (36.04%) and 55 (49.55%) participants, respectively.

S004: LQ778223014
42-year-old woman. Cervix clean. Normal fluor. Copper IUD prevention, now appointment for planned replacement. Pap smear taken.

Reference Diagnosis:
Bethesda classification: NILM
Papanicolaou class: 1
Specific diagnosis: Regeneration

Atypical regeneration is seen in the sample. In the follow-up, NILM finding.

Acceptable correct answers according to Bethesda's classification were ASC-US and NILM, which were answered by 140 (67.31%) participants. There were 127 NILM responses (61.06%) and 13 ASC-US responses (6.25%). Papanicolaou's acceptable correct answers were Pap Class 1 and 2, answered by 82 (71.93%) participants. Pap Class 1 was answered by 11 (9.65%) participants and Pap Class 2 was answered by 71 (62.28%) participants. Regeneration as a specific diagnosis was responded by 34 (22.37%) participants.

S005: LQ778223015
45-year-old woman. Cycle 30-31 days. Dydrogesterone in use. When sampling, mucous discharge, mucous membranes bleed sensitively. Pap smear taken. Sample mucous and bloody.

Reference Diagnosis:
Bethesda classification: Other malignancy
Papanicolaou class: 5
Specific diagnosis: No other changes than epithelial atypia.

The sample shows numerous psammoma bodies embedded among atypical glandular epithelial cells. Later the patient was diagnosed with high-grade serous carcinoma of the peritoneum, tumor immunohistochemistry indicated ovarian/tubal origin.

Acceptable correct answers according to Bethesda's classification were Other malignancy (96 responses, 47.52%), unspecified glandular atypia, suspicious for neoplasia (20 responses, 9.90%). Papanicolaou's correct answer were Pap Class 5 and 4, which were answered by a total of 73 (65.77%) participants. Pap Class 5 was answered by 57 (51.35%) participants and Pap Class 4 by 16 participants (14.41%). As a free-field commentary, 110 participants mentioned seeing psammoma bodies and contemplating an extracervical tumor, primarily of the ovarian origin.

S006: LQ778223016
30-year-old woman. A year ago, a hormone IUD was installed. No discharge, status OK. Pap smear taken.

Reference Diagnosis:
Bethesda classification: Negative for Intraepithelial Lesion or Malignancy (NILM)
Papanicolaou class: 1
Specific diagnosis: Cellular changes caused by intrauterine contraceptive device.

The sample shows a normal cellular finding without atypia. In addition to that, the change caused by the IUD is found. Later 5x NILM diagnoses and hysterectomy histological specimen without diagnostic changes.

An acceptable correct answer according to Bethesda's classification is NILM, which answered 167 (82.32%) participants. The correct acceptable answer was Pap class 1 (normal), which responded 19 (16.81%) participants, and Pap Class 2, which answered 77 (68.14%) participants. The cellular change caused by IUD as a specific diagnosis has been responded by 125 (72.25%) participants.

End of report

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