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INTERINE REPORT PHASE IV STUDY: APPLICATION OF GYNEC-DX FOR MOLECULAR DIAGNOSTIC OF ENDOMETRIAL CANCER ON ENDOMETRIAL ASPIRATE SAMPLES CLASSIFIED BY THE PATHOLOGIST OF "INSUFFICIENT SAMPLE

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INTRODUCTION

The differential diagnosis of **endometrial cancer** by endometrial pipelle aspiration and histopathological analysis of the biopsy often do not have a conclusive diagnostic. The medical device for the diagnosis of endometrial cancer **GynEC®-DX** has proven to work on representative aspirate samples.

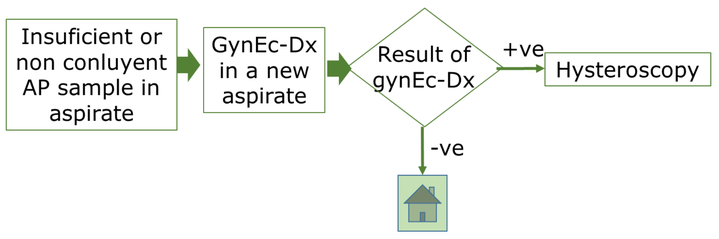
GynEC®-DX is an innovative non-invasive *in vitro* diagnostic test for endometrial cancer, already validated for triage of women with symptoms of EC (AUB), with a high degree of confidence: **Negative Predictive Value (NPV) of 97%** (with a IC95% 0.948 – 0.985%).

The insufficient tissue sample for diagnosis in aspirate biopsy can reach 25%. This non-invasive accurate molecular test that does not depend of interpretation and it use in clinical practice will result in cost-savings simplifying diagnosis and treatment algorithm and reducing the number of unnecessary hytseroscopies and preventive surgeries.

AIM

Objective: estimate, in the subgroup of pipelle endometrial samples aspirate without a conclusive pathology diagnostic, the percentage of samples that have a diagnostic with GynEC-Dx.

The final classification of molecular diagnostic is in two grups: Patients affected endometrial cancer or Women without evidence of cancer



MATERIAL & METHODS

Methodology: Multicentric prospective study including patients with a non conclusive anatomo-phatological result in aspirate biopsy

Inclusion factors:

- postmenopausal symptomatic (AUB) woman with endometrial thickness >5mm
- Postmenopausal symptomatic woman with endometrial thickness less than 5 mm with repetitive AUB
- Postmenopausal asymptomatic patients endometrium greater than 8 mm and with at least one risk factor
- Perimenopausal with AUB or abnormal endometrium and at lest one risk factor

n:335

Diagnostic efficacy of GynEC-Dx is determined using a second sample of endometrial pipelle aspirate, after failure of the pathologic classification.

RESULTS

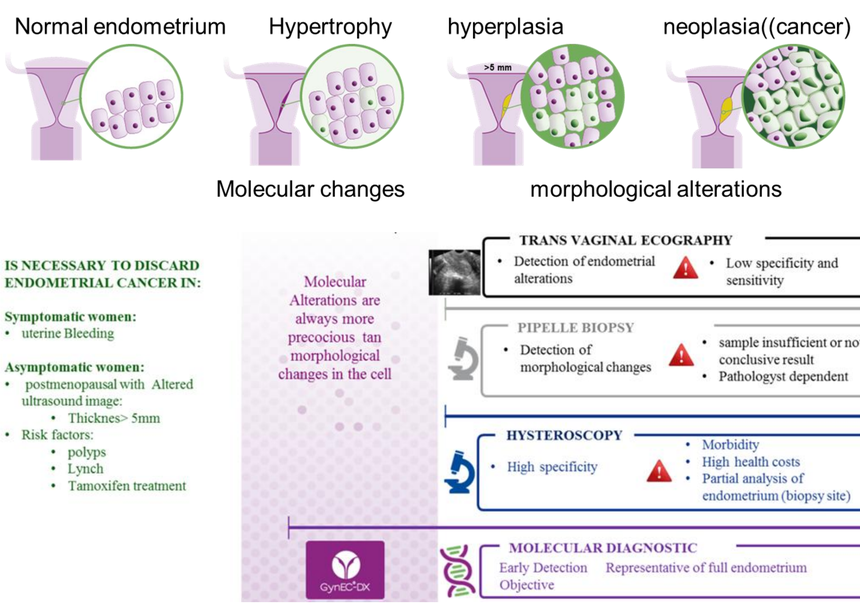
Results so far, when part of the samples of study has been recruited, have shown that **87%** of samples that do not have an initial conclusive pathological diagnostic, has a result using the molecular diagnostic (Table 1).

17% of these samples are classified as positive and 70% of the samples are classified as negative (non-cancer).

GynEc-Dx detected as positive samples at **early stage**, including (Table 2):

- Type II adenocarcinoma, as well as Type I in early stage
- Samples classified after a hysteroscopy biopsy as complex hyperplasia with atypia, that port-surgical analysis confirmed that it was a carcinoma
- Polyp with pre-neoplasic alteration

GynEC®-DX biomarkers show high sensitivity and specificity to initial stages of endometrial carcinomas. As molecular changes in cells always occur before morphological alterations, it has therefore the potential to detect premalignant changes.



With the molecular diagnostic, tumour focus will be detected wherever it is in the corpus uteri cavity.

Table 1: total samples analyzed in the interine study, and % of molecular diagnostic achieved after non conclusive pathological diagnostic

n	116
cancer detection	20 17%
Non-cancer	81 70%
no enough sample	15 13%

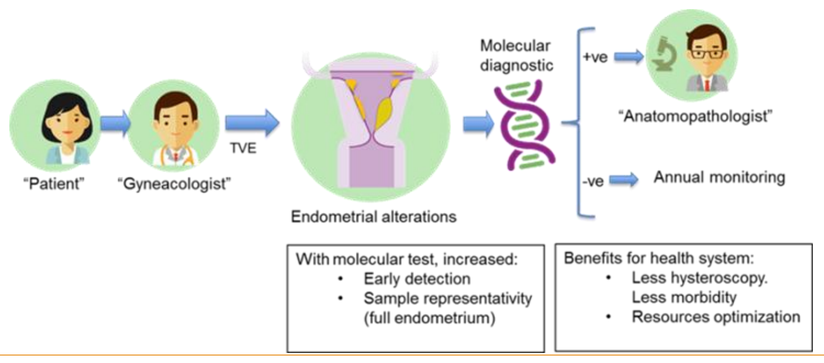
total samples with molecular diagnostic: 87%

Table 2: anatomophatological result of samples with a positive molecular test

n	Positive samples		
2	Carcinoma type I, FIGO	Ia	
1	Carcinoma type I, FIGO	Ib	
1	Carcinoma type II, FIGO	Ib	mucinous
1	Carcinoma type II, FIGO	II	
1	Epidermoid carcinoma		
1	Hyperplasia without atipia		
1	Proliferative endometrium		
4	Atrophic endometrium		
3	Polyp		
1	No cancer detection		
1	no enougth material		
3	results pending		

age: 68 ± 12
IMC: 31 ± 10
endometrial thickness: 13.4 ± 9 mm

- Most frequent risk factor was obesity
- Mean of endometrial thickness of all population was 9.0 ± 7 mm
- 7 patients were treated with tamoxifen (1 positive)
- 1 patient was a Lynch syndrome (positive)



SUMMARY / CONCLUSION

✓ GynEC®-DX can discriminate with high efficiency patients without endometrial cancer in a risk population and is effective in the early diagnostic of endometrial cancer in the pipelle aspirate sample.

✓ All samples with anatomophatological positive cancer detection, had a positive molecular diagnostic.

✓ Two participating centers performed hysteroscopy to all patients participating in the study, all with a negative anatomopathological result, achieve also a negative molecular diagnostic. In the other centers where hysteroscopy was not performed if the result of molecular assay was negative, none patient had symptoms compatible with cancer, so far.

✓ Molecuar diagnostic detect early stages of type I and II endometrial cancer. Some samples, maybe corresponding to pre-neoplasic lesions are positives in the molecular diagnostic, nevertheless phatologyst are not able to detect cancer evidence.

✓ GynEC®-DX will allow preventing iatrogenic effects, permitting caregivers to take optimal medical decisions and reduce the cost of diagnosis and treatment algorithms.

ACKNOWLEDGEMENTS

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