through massive sequencing techniques or using Single-Gene strategies such as Sanger sequencing.

The lack of a cost-effective Gold-Standard has prompted the development of new techniques so that this determination can be carried out routinely in most centers.

In this study we intend to explore the diagnostic accuracy of a novel technology called MODAPLEX that combines multiplex-qPCR and capillary-electrophoresis in order to study POLE mutations in endometrial carcinomas.

**Methodology** A total of 76 patients diagnosed with endometrial cancer with available histological and molecular classification, were selected, obtaining a paraffin block with adequate viability and tumor representation. From each case, eight sections of 10 μm thickness were obtained, subsequently isolating DNA. Those samples with a concentration over 10 ng/μl were tested by MODAPLEX. Any positive result was reconfirmed by Sanger sequencing.

**Result(s)** A total of 76 samples were finally submitted to the test; 10 were POLE mutated, 20 CNL, 29 CNH and 20 MSI. MODAPLEX identified a total of 11 samples with mutations in POLE: V411L(4), P286R(3), S297F(1), A456P(1), T278M(1) and L424V(1). All these mutations were located in the exonuclease domain and had a functional impact on the protein. Ten mutations were confirmed afterwards by Sanger sequencing, except one sample harboring the T278M mutation, which were considered a false positive result of MODAPLEX.

MODAPLEX demonstrated a sensitivity of 100%, a specificity of 98.5%, a Positive Predictive Value of 90.9% and a Negative of 100%.

**Conclusion** MODAPLEX is a promising technology still in development that allows the determination of the main ‘Hotspot’ mutations in POLE gene in a fast, practical and efficient way.

Following a Single-Gene approach and in this clinical context, this technology could compete with Sanger sequencing for the study of POLE mutations.

This test could emerge as a valid and fast alternative to Next – Generation Sequencing, especially in those centers where they do not have access to massive sequencing techniques.
simultaneous determination of 37 different proteins with the Luminex xMAP™ multiplexing technology.

**Result(s)** The case group comprised 38 patients with endometrioid EC, with mean age 65.9 ± 8.2 years and mean body mass index (BMI) of 31.8 ± 6.1 kg/m². Lymphovascular invasion (LVI) was present in five patients while deep myometrial invasion (DMI) was present in 12 patients. The control group included 38 patients with mean age 66.8 ± 8.3 years and mean BMI of 27.6 ± 3.9 kg/m². There was a significant difference in the BMI distribution between the case and control group (p < 0.01). The plasma levels of sTie-2 and G-CSF were significantly decreased in EC patients compared to those of control patients, while the plasma levels of leptin were significantly higher in EC patients. Within the EC group, Tie-2 levels were lower in patients with LVI and DMI; however, these differences did not reach statistical significance. Additionally, follistatin, IL-8 and neuropilin-1 were also showing promising results.

**Conclusion** The results of our study indicate that the plasma levels of different AFs might be involved in the growth of endometrioid EC. The plasma levels of G-CSF, Tie-2, and leptin significantly differ between EC and control patients. The plasma concentrations of these AFs could represent an important additional diagnostic tool for the early detection and characterization of EC and could guide the decision-making regarding the extent of surgery. Further validation studies with larger patient numbers are currently ongoing.

**Abstract 632 Table 1**

| Surgical approach                  | <75      | ≥75      | Total    | p-value |
|------------------------------------|----------|----------|----------|---------|
| Laparoscopy (N, %)                 | 145 (78, 4%) | 65 (88, 5%) | 210 (81, 9%) | 0.04    |
| Laparotomy (N, %)                  | 31 (16, 8%)  | 6 (6, 3%)  | 37 (13, 2%) |         |
| Vaginal (N, %)                     | 1 (0, 5%)   | 2 (2, 1%)   | 3 (1, 1%)   |         |
| Conversion to laparotomy (N, %)    | 8 (4, 3%)   | 3 (3, 1%)   | 11 (3, 9%)  |         |
| Type of surgery (N, %)             |          |          | <0.01    |         |
| HT + DA only                       | 75 (40, 5%) | 60 (61, 2%) | 135 (47, 5%) |         |
| + LFDP                              | 22 (11, 9%) | 13 (13, 2%) | 35 (12, 4%)  |         |
| + LFDP + LFDP + PA                 | 43 (23, 1%) | 9 (9, 2%)  | 52 (18, 4%)  |         |
| + LFDP + LFDP + PA + Omentectomy   | 42 (22, 7%) | 13 (13, 3%) | 55 (19, 4%)  |         |
| + Omentectomy only                 | 3 (1, 6%)   | 3 (3, 1%)   | 6 (2, 2%)   |         |
| Nodal dissection                   |          |          | <0.01    |         |
| Pelvic lymphadenectomy (N, %)      | 107 (57, 8%) | 35 (36, 5%) | 142 (50, 5%) |         |
| Pelvic nodes dissected (mean, SD)  | 13,4 (7,7)  | 11,8 (7,6)  | 12,9 (7,7)  | 0.24    |
| Aortic lymphadenectomy (N, %)      | 85 (45, 9%) | 22 (22, 9%) | 107 (38, 1%) | <0.01   |
| Aortic nodes dissected (mean, SD)  | 10,6 (7,8)  | 6,7 (6,3)   | 9,5 (7,7)   | 0.01    |
| Duration of surgery (mean, SD)     | 175,4 (89,2)| 152,2 (76,1)| 167,4 (85,4)| 0.03    |
| Estimated blood loss (median, min-max) | 150 (10-2500) | 100 (10-2500) | 100 (10-2500) | 0.30    |
| Complications (N, %)               |          |          |          |         |
| Intraoperative                     | 12 (6, 5%)  | 12 (12, 4%) | 24 (8, 5%)  | 0.12    |
| Post-operative                     | 25 (13, 9%) | 20 (20, 6%) | 45 (16, 0%) | 0.13    |
| Early post-operative               | 22 (11, 9%) | 20 (20, 6%) | 42 (14, 9%) | 0.06    |
| Late post-operative                | 7 (3, 8%)   | 1 (1, 1%)   | 8 (2, 9%)   | 0.27    |
| Clavien-Dindo classification (N, %) |          |          | 0.51     |         |
| I                                  | 2 (1, 1%)   | 1 (1, 1%)   | 3 (1, 1%)   |         |
| II                                 | 14 (7, 7%)  | 9 (9, 5%)   | 23 (8, 3%)  |         |
| III                                | 8 (4, 4%)   | 7 (7, 4%)   | 15 (5, 5%)  |         |
| IV                                 | 1 (0, 5%)   | 0           | 1 (0, 4%)   |         |
| V                                  | 0           | 1 (1, 1%)   | 1 (0, 4%)   |         |
| Blood transfusion (N, %)           | 9 (4, 9%)   | 8 (8, 2%)   | 17 (6, 0%)  | 0.30    |
| Number of CH (median, min-max)     | 2 (1-6)    | 2 (1-4)    | 2 (1-6)    | 0.67    |
| Abdominal drainage (N, %)          | 121 (68, 4%)| 53 (55, 2%) | 174 (63, 7%)| 0.03    |
| Time drainage removal (median, min-max) | 5 (1-14) | 3 (1-28) | 3 (1-28) | 0.24    |
| Need for reintervention (N, %)     | 8 (4, 5%)   | 4 (4, 3%)   | 12 (4, 3%)  | 1.00    |
| Length of hospital stay (median, min-max) | 4 (1-137) | 4 (1-32) | 4 (1-137) | 0.87    |
| Disease-specific survival          |          |          |          |         |
| 5-year DSS                         | 86,0% (0, 4%)  | 66,9% (0, 7) | 78,8% (0, 8) | 0.02    |