Conclusions
Population-based BRCA-testing is cost-effective in HIC and potentially in UMIC depending on the local willingness-to-pay thresholds. Genetic-testing costs need to fall further for LMIC cost-effectiveness. Population-testing can prevent tens-of-thousands more breast/ovarian-cancers than the current clinical strategy.

Abstract 11 Table 1

<table>
<thead>
<tr>
<th></th>
<th>ARGENTINA</th>
<th>BRAZIL</th>
<th>COLOMBIA</th>
<th>MEXICO</th>
<th>PANAMA</th>
<th>PERU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total tested in tumor tissue</td>
<td>576</td>
<td>105</td>
<td>101</td>
<td>74</td>
<td>64</td>
<td>22</td>
</tr>
<tr>
<td>BRCAm tissue N (%)</td>
<td>112 (29.78%)</td>
<td>34 (32.4%)</td>
<td>27 (26.7%)</td>
<td>17 (23%)</td>
<td>18 (40.9%)</td>
<td>3 (13.6%)</td>
</tr>
<tr>
<td>gBRCA™ N (%)</td>
<td>67 (39.62%)</td>
<td>24 (70.6%)</td>
<td>17 (61%)</td>
<td>5 (29.4%)</td>
<td>16 (88.9%)</td>
<td>1 (33.3%)</td>
</tr>
<tr>
<td>sBRCA™ N (%)</td>
<td>32 (10.57%)</td>
<td>7 (20.6%)</td>
<td>4 (14.3%)</td>
<td>12 (70.6%)</td>
<td>0 (0%)</td>
<td>2 (66.6%)</td>
</tr>
<tr>
<td>Inconclusive</td>
<td>13 (1.6%)</td>
<td>3 (8.8%)</td>
<td>6 (22.2%)</td>
<td>0 (0%)</td>
<td>2 (11.1%)</td>
<td>0 (0%)</td>
</tr>
</tbody>
</table>

Objectives
Previously described prevalence of BRCA mutated OC is 14% for germline BRCA mutations (gBRCA™), that could increase to 20% considering somatic BRCA mutations (sBRCA™). Latinamerican population is a paradigm of poly-ethnicity and ancestries and the prevalence of BRCAm is unknown.

FLABRA is a cross-sectional, multi-center study designed to determine the prevalence of BRCAm, either sBRCA™ or gBRCA™ in high grade serous OC LA patients, with a new approach of start testing in tumor. We also aimed to describe current genetic counselling and treatment approach at frontline in this population.

Methods
We enrolled 407 patients from Argentina, Brazil, Colombia, Mexico, Peru and Panama, diagnosed with OC within the last 120 days. Archived tumor blocks or 10-μm sections were used for BRCA testing in tissue (Myriad Tumor BRACAnalysis CDx™). Patients who were positive in tumor, were analysed in blood to determine if the mutation was from germline (Myriad Single Site BRACAnalysis™). In gBRCA™, genetic counseling was advised. Patients medical records were reviewed for data relevant to medical history, OC diagnosis, counseling approach, and treatment plan.

Results
Results from 376 patients who already completed the study: BRCA mutations prevalence detected in tumor was 30%.

Conclusions
Our data show a high prevalence of sBRCAM and gBRCAM in LA OC pts. Additionally, this new approach of start testing the tumor may prove to be more cost effective, leading to a more conclusive result; so refinement of this technique is a must. The high prevalence of sBRCAM in certain regions of LA needs to be further investigated.
Methods Thirty-five aGCTs were subjected to massively parallel sequencing targeting 468 cancer-related genes (7 primary aGCTs that did not recur >4 years, 9 primary and matched recurrent aGCTs, 10 recurrent aGCTs). These cases and additional 12 aGCTs (n=3, primary aGCTs that did not recur; n=9, recurrent aGCTs) were subjected to Sanger sequencing of the TERT promoter.

Results All aGCTs included harbored the FOXL2 p.C134W hotspot mutation. A significantly higher frequency of TERT promoter mutations was found in recurrent (64%) than in primary aGCTs (26%; p=0.017). Moreover, aGCT recurrences harbored a higher frequency of somatic KMT2D and TP53 mutations (16%, each) than primary aGCTs with subsequent recurrences (11% and 0%) and primary aGCTs without subsequent recurrences (14% and 0%). We identified a higher frequency of CDKN2A/B homozygous deletions in recurrent (16%) than in primary aGCTs (6%), and other gene alterations restricted to recurrent aGCTs. Pathway analysis revealed that aGCTs are underpinned by genetic alterations affecting the cell cycle pathway. Clonal decomposition of matched primary and recurrent aGCTs showed that aGCTs display multiple clones at diagnosis and relapse.

Conclusions Our findings suggest that although FOXL2 plays a crucial role in the tumorigenesis of aGCTs, recurrences might be associated with genetic alterations affecting TERT, cell cycle-related genes such as TP53 and CDKN2A/B, and other cancer-related genes, including KMT2D, TET2 and EPHA5.

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IGCS19-0511

MUCINOUS OVARIAN CARCINOMA: THERAPEUTIC OPTIONS OLD AND NEW

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IGCS19-0583


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Objectives To compare the long-term oncologic outcomes after minimally invasive surgery (robot assisted/laparoscopic radical hysterectomy) (MIS) versus abdominal radical hysterectomy (ARH) for early-stage cervical cancer (CC).

Methods This is a large single center retrospective study. From our institution’s patient registry, we identified a total of 587 early-stage cervical cancer patients who underwent either MIS or ARH between 2000 and 2017. We excluded the following patients from the final analysis: (1) received neo-adjuvant treatment prior to surgery; (2) had histologic types other than squamous cell carcinoma, adenocarcinoma, or adenosquamous carcinoma; (3) were double primary cancer cases; (4) had stages higher than stageIB1 (FIGO 2009). We included only patients who underwent radical hysterectomy for early-stage cervical cancer and radical parametrectomy for stumps cancer patients in our study population.

Results In total, 230 and 357 patients were assigned to the MIS and ARH groups, retrospectively. There were no significant differences for any demographics including age, stage, histology. Five-year recurrence free survival was 88.6% (95% CI, 83.4%- 92.3%) and 93.5% (95% CI, 90.4%- 95.7%), (p=0.04) respectively in the MIS and ARH group, and the five-year cancer specific survival was 95.4% (95% CI, 90.9%-97.7%) and 97.4% (95% CI, 95.1%- 98.7%), (p=0.12) in the MIS and ARH group, respectively. MIS group have more peritoneal-combined relapses comparing ARH (p=0.02). The relapse rate tended to be highest for squamous cell carcinoma in MIS group (p=0.09). Disease free survival and cancer specific survival were worse in the MIS group p= 0.04 and 0.12 respectively.