

**Table S1.** Distribution of benign gynecologic and adnexal conditions in the study cohort (N = 165). The most frequently observed diagnoses included fibroma (13.33%), cysts (11.52%), and endometrioid cysts (10.3%). The table encompasses a range of benign neoplasms, cystic lesions, hyperplastic conditions, and findings associated with hereditary cancer syndromes.

| <b>Benign conditions</b>                                                                     | <b>Count</b> | <b>%</b>     |
|----------------------------------------------------------------------------------------------|--------------|--------------|
| fibroma                                                                                      | 22           | 13.3         |
| cyst                                                                                         | 19           | 11.5         |
| endometrioid cyst                                                                            | 17           | 10.3         |
| Serous cystadenoma                                                                           | 12           | 7.3          |
| mature teratoma                                                                              | 11           | 6.7          |
| serous cyst                                                                                  | 10           | 6.0          |
| benign adnexal mass                                                                          | 8            | 4.8          |
| atypical hyperplasia                                                                         | 7            | 4.2          |
| follicular cyst                                                                              | 6            | 3.6          |
| serous cystadenofibroma                                                                      | 5            | 3.0          |
| Leiomyoma                                                                                    | 4            | 2.4          |
| dermoid cyst                                                                                 | 4            | 2.4          |
| mucinous cystadenoma                                                                         | 3            | 1.8          |
| benign                                                                                       | 3            | 1.8          |
| serous papillary cystadenoma                                                                 | 3            | 1.8          |
| endometrioid cystadenoma                                                                     | 3            | 1.8          |
| benign—therapeutic bilateral salpingo-oophorectomy, breast CA <sub>2</sub><br>BRCA2 positive |              | 1.2          |
| serous cysts                                                                                 | 1            | 0.6          |
| adenomyosis, leiomyoma                                                                       | 2            | 1.2          |
| tecofibroma                                                                                  | 2            | 1.2          |
| thecoma                                                                                      | 2            | 1.2          |
| fibrothecoma                                                                                 | 2            | 1.2          |
| endometrial polyp                                                                            | 2            | 1.2          |
| endometrial hyperplasia, adenomyosis                                                         | 1            | 0.6          |
| cystadenoma                                                                                  | 1            | 0.6          |
| benign—therapeutic bilateral salpingo-oophorectomy, breast CA <sub>1</sub><br>ER/PR positive |              | 0.6          |
| benign—therapeutic bilateral salpingo-oophorectomy, breast CA <sub>1</sub><br>BRCA1 positive |              | 0.6          |
| benign—BRCA2 positive                                                                        | 1            | 0.6          |
| typical hyperplasia, endometrial polyp                                                       | 1            | 0.6          |
| benign—history of stage IIA ovarian adenocarcinoma                                           | 1            | 0.6          |
| hyperplasia                                                                                  | 1            | 0.6          |
| Adenofibroma                                                                                 | 1            | 0.6          |
| adenomyosis                                                                                  | 1            | 0.6          |
| chronic endometritis                                                                         | 1            | 0.6          |
| typical hyperplasia, adenomyosis                                                             | 1            | 0.6          |
| benign—history of breast cancer, BRCA2 positive                                              | 1            | 0.6          |
| epithelial metaplasia                                                                        | 1            | 0.6          |
| cystadenofibroma                                                                             | 1            | 0.6          |
| <b>Grand Total</b>                                                                           | <b>165</b>   | <b>100.0</b> |

**Table S2.** Gastrointestinal (GI) conditions in the study cohort (N = 49). Ulcerative colitis and Crohn's disease were the most prevalent diagnoses, each accounting for 42.9% of cases. Less common conditions included diverticulitis with complications, chronic inflammation, and other GI pathologies.

| GI Conditions                                                                                         | Count     | %            |
|-------------------------------------------------------------------------------------------------------|-----------|--------------|
| Ulcerative colitis                                                                                    | 21        | 42.9         |
| Crohn's disease                                                                                       | 21        | 42.9         |
| Diverticulitis                                                                                        | 2         | 4.1          |
| Ruptured sigmoid diverticulitis with abscess formation and dense fibrous adhesions                    | 1         | 2.0          |
| Diverticulitis with pericolic abscess formation and adhesions, involving the fallopian tube and ovary | 1         | 2.0          |
| Acute and chronic inflammation                                                                        | 1         | 2.0          |
| Crohn's colitis, negative for dysplasia                                                               | 1         | 2.0          |
| Active chronic gastritis                                                                              | 1         | 2.0          |
| <b>Grand Total</b>                                                                                    | <b>49</b> | <b>100.0</b> |

**Table S3.** Age distribution by clinical group within the cohort (N = 509). Groups include benign conditions, late- and early-stage OC, healthy controls, and gastrointestinal (GI) disorders. Age is presented as counts by category (<50, 50–59, 60–69, 70+), along with the number of unknown entries, mean age, standard deviation (StDev), and total participants per group.

| Age Distribution by Group |     |       |       |     |         |       |       |       |        |
|---------------------------|-----|-------|-------|-----|---------|-------|-------|-------|--------|
| Group                     | <50 | 50–59 | 60–69 | 70+ | Unknown | Mean  | StDev | Total | %      |
| Benign                    | 70  | 56    | 24    | 15  | 0       | 33    | 29.1  | 165   | 32.4%  |
| Late-Stage OC             | 26  | 43    | 41    | 24  | 0       | 26.8  | 17.3  | 134   | 26.3%  |
| Early-Stage OC            | 13  | 28    | 25    | 14  | 1       | 16.2  | 10.8  | 81    | 15.9%  |
| Healthy                   | 25  | 36    | 17    | 2   | 0       | 16    | 15.3  | 80    | 15.7%  |
| GI Disorder               | 25  | 4     | 9     | 4   | 7       | 9.8   | 8.8   | 49    | 9.6%   |
| Total                     | 159 | 167   | 116   | 59  | 8       | 101.8 | 67.7  | 509   | 100.0% |

**Table S4.** Distribution of serous ovarian cancer cases by histological stage. High-grade and low-grade serous ovarian cancer cases (n = 151) are stratified by pathological stage (I–IV and unstaged) within the cohort. This breakdown highlights the predominance of late-stage presentation in high-grade serous cases, consistent with established clinical patterns.

| Serous Ovarian Cancer | Pathological Stage |    |     |    |          | Total |
|-----------------------|--------------------|----|-----|----|----------|-------|
|                       | I                  | II | III | IV | Unstaged |       |
| High-Grade Serous     | 17                 | 15 | 95  | 13 | 1        | 141   |
| Low-Grade Serous      | 1                  | 1  | 7   | 1  |          | 10    |