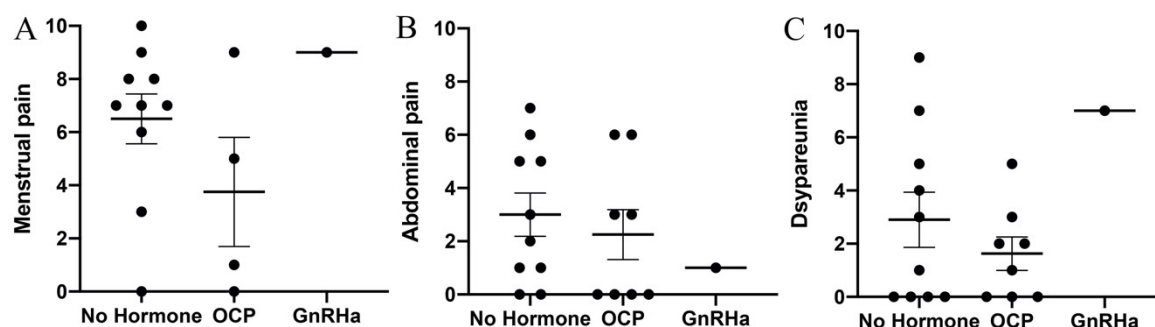**Supplementary Figures and Tables**

Supplementary Figure S1. Relationship between pain and hormonal treatment. Comparison of (**A**) menstrual pain, (**B**) abdominal pain, and (**C**) dyspareunia scores between samples derived from women who were not taking hormonal treatments compared to samples from women who were taking hormonal treatments split into oral contraceptive pill (OCP) and gonadotropin-releasing hormonal analogue (GnRHa), which showed a general decrease in pain compared to women who were not taking hormonal treatments (mo hormone), although the sample size was not sufficient for this to be accurately analysed statistically.

Supplementary Table S1. Parameters used by object classifier to identify cell type.

List of Parameters Used for Machine-Based Cell Detection
1 Centroid X μm
2 Centroid Y μm
3 Nucleus: Area
4 Nucleus: Perimeter
5 Nucleus: Circularity
6 Nucleus: Max calliper
7 Nucleus: Min calliper
8 Nucleus: Eccentricity
9 Nucleus: Haematoxylin OD mean
10 Nucleus: Haematoxylin OD sum
11 Nucleus: Haematoxylin OD std dev
12 Nucleus: Haematoxylin OD max
13 Nucleus: Haematoxylin OD min
14 Nucleus: Haematoxylin OD range
15 Nucleus: DAB OD mean
16 Nucleus: DAB OD sum
17 Nucleus: DAB OD std dev
18 Nucleus: DAB OD max
19 Nucleus: DAB OD min
20 Nucleus: DAB OD range
21 Cell: Area
22 Cell: Perimeter
23 Cell: Circularity
24 Cell: Max calliper
25 Cell: Min calliper
26 Cell: Eccentricity

27 Cell: Haematoxylin OD mean
28 Cell: Haematoxylin OD std dev
29 Cell: Haematoxylin OD max
30 Cell: Haematoxylin OD min
31 Cell: DAB OD mean
32 Cell: DAB OD std dev
33 Cell: DAB OD max
34 Cell: DAB OD min
35 Cytoplasm: Haematoxylin OD mean
36 Cytoplasm: Haematoxylin OD std dev
37 Cytoplasm: Haematoxylin OD max
38 Cytoplasm: Haematoxylin OD min
39 Cytoplasm: DAB OD mean
40 Cytoplasm: DAB OD std dev
41 Cytoplasm: DAB OD max
42 Cytoplasm: DAB OD min
43 Nucleus/Cell area ratio