Appendix A

**Table A-1**. Measurements of each feature per disease state. Data is presented as mean, standard error, (range) of the median measurement of all volumes in that category.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | **Morphologic Features** | | **Mean Attenuation Coefficient** | | | | **Stratification** | | |
|  | **Sample size** | **Average age** | **Epithelium depth** | **Loss of epithelial-stromal boundary visualization** | | **Overall** | **Epithelium** | **Stroma** | | **Epithelial-Stromal** | **Intra-**  **epithelial** |
|  | # | [years] | [µm] | [%] | | [mm-1] | [mm-1] | [mm-1] | | [a.u.] | [a.u.] |
| Contralateral | 31 | 58 | 160  10  (120-260) | 1  0  (0-4) | | 3.45  0.11  (2.26-4.17) | 1.20  0.03  (0.99-1.74) | 3.97  0.15  (2.43-5.64) | | -0.52  0.02  -(0.69-0.27) | -0.18  0.01  -(0.28-0.10) |
| Benign | 5 | 73 | 200  20  (140-280) | 8  4  (1-18) | | 2.88  0.20  (2.30-3.44) | 1.38  0.11  (1.13-1.66) | 3.19  0.23  (2.60-3.85) | | -0.41  0.03  -(0.50-0.32) | -0.17  0.02  -(0.22-0.11) |
| D1 | 8 | 47 | 210  10  (160-290) | 5  3  (0-23) | | 3.62  0.14  (3.23-4.19) | 1.36  0.09  (1.13-1.71) | 4.35  0.18  (3.74-5.26) | | -0.53  0.02  -(0.62-0.42) | -0.21  0.01  -(0.25-0.16) |
| D2 | 10 | 58 | 320  70  (150-790) | 22  10  (0-99) | | 3.44  0.19  (2.55-4.60) | 1.80  0.21  (1.20-3.36) | 4.01  0.25  (2.91-5.70) | | -0.41  0.05  -(0.58-0.12) | -0.12  0.04  -(0.29-0.09) |
| D3/CIS | 7 | 59 | 250  30  (180-360) | 15  4  (0-27) | | 3.13  0.13  (2.61-3.71) | 1.56  0.06  (1.25-1.71) | 3.70  0.17  (3.15-4.53) | | -0.43  0.03  -(0.57-0.35) | -0.16  0.03  -(0.25-0.08) |
| Carcinoma | 9 | 56 | 560  80  (200-800) | 77  9  (21-100) | | 3.05  0.12  (2.29-3.38) | 2.48  0.22  (1.63-3.32) | 3.56  0.18  (2.46-4.27) | | -0.35  0.04  -(0.51-0.18) | -0.07  0.03  -(0.20-0.05) |

**Table A-2**. Mean measurements of each feature per disease state and sex. Data is presented as mean, standard error, (range) of the median measurement of all volumes in that category.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  | **Morphologic Features** | | **Mean Attenuation Coefficient** | | | | **Stratification** | | |
|  | **Sex** | **Sample size** | **Average age** | **Epithelium depth** | **Loss of epithelial-stromal boundary visualization** | | **Overall** | **Epithelium** | **Stroma** | | **Epithelial-Stromal** | **Intra-**  **epithelial** |
|  | M  F | # | [years] | [µm] | [%] | | [mm-1] | [mm-1] | [mm-1] | | [a.u.] | [a.u.] |
| Contralateral | M | 14 | 56 | 180  10  (120-260) | 1  0  (0-4) | | 3.29  0.17  (2.26-4.71) | 1.21  0.04  (1.00-1.50) | 3.79  0.22  (2.43-5.64) | | -0.50  0.02  -(0.69-0.35) | -0.17  0.01  -(0.27-0.10) |
| F | 17 | 60 | 140  10  (120-200) | 0  0  (0-1) | | 3.58  0.14  (2.36-4.61) | 1.19  0.05  (0.99-1.74) | 4.12  0.20  (2.45-5.51) | | -0.54  0.02  -(0.68-0.27) | -0.19  0.01  -(0.28-0.11) |
| Benign | M | 3 | 79 | 220  30  (190-280) | 13  5  (3-18) | | 2.76  0.27  (2.30-3.24) | 1.49  0.14  (1.21-1.66) | 3.07  0.28  (2.60-3.58) | | -0.37  0.03  -(0.40-0.32) | -0.18  0.02  -(0.22-0.14) |
| F | 2 | 65 | 150  10  (140-170) | 2  1  (1-3) | | 3.06  0.38  (2.69-3.44) | 1.21  0.07  (1.13-1.28) | 3.38  0.48  (2.90-3.85) | | -0.47  0.03  -(0.50-0.45) | -0.17  0.05  -(0.22-0.11) |
| D1 | M | 3 | 52 | 240  30  (180-290) | 4  4  (0-11) | | 3.37  0.09  (3.23-3.53) | 1.33  0.15  (1.15-1.63) | 4.09  0.11  (3.89-4.24) | | -0.52  0.05  -(0.57-0.42) | -0.20  0.03  -(0.25-0.17) |
| F | 5 | 44 | 200  10  (163-230) | 6  4  (0-23) | | 3.76  0.19  (3.24-4.19) | 1.37  0.13  (1.13-1.71) | 4.51  0.27  (3.74-5.26) | | -0.54  0.02  -(0.62-0.50) | -0.21  0.01  -(0.24-0.16) |
| D2 | M | 4 | 64 | 390  140  (230-790) | 35  22  (3-99) | | 3.18  0.15  (2.86-3.49) | 2.06  0.43  (1.55-3.63) | 3.64  0.18  (3.40-4.17) | | -0.33  0.07  -(0.43-0.12) | -0.07  0.06  -(0.18-0.09) |
| F | 6 | 54 | 280  90  (150-710) | 13  9  (0-52) | | 3.60  0.28  (2.55-4.60) | 1.62  0.21  (1.20-2.28) | 4.26  0.39  (2.91-5.70) | | -0.46  0.07  -(0.58-0.22) | -0.15  0.04  -(0.29-0.02) |
| D3/  CIS | M | 3 | 52 | 220  20  (180-240) | 12  7  (0-26) | | 3.40  0.17  (3.12-3.71) | 1.51  0.14  (1.25-1.71) | 4.05  0.29  (3.52-4.53) | | -0.47  0.06  -(0.57-0.37) | -0.15  0.04  -(0.20-0.08) |
| F | 4 | 65 | 280  40  (210-360) | 17  5  (6-27) | | 2.93  0.11  (2.61-3.13) | 1.60  0.05  (1.48-1.70) | 3.44  0.11  (3.15-3.65) | | -0.40  0.02  -(0.44-0.35) | -0.17  0.04  -(0.25-0.08) |
| Carcinoma | M | 6 | 47 | 510  120  (200-800) | 74  13  (21-100) | | 3.05  0.16  (2.29-3.31) | 2.28  0.27  (1.63-3.17) | 3.60  0.27  (2.46-4.27) | | -0.37  0.05  -(0.51-0.18) | -0.09  0.05  -(0.20-0.05) |
| F | 3 | 76 | 670  60  (600-900) | 82  11  (60-95) | | 3.06  0.23  (2.62-3.38) | 2.89  0.25  (2.44-3.32) | 3.48  0.11  (3.26-3.64) | | -0.31  0.03  -(0.36-0.24) | -0.03  0.01  -(0.05-0.02) |

**Table A-3**. Measurements of other pathologic results in contralaterals. Data is presented as mean, standard error, (range) of the median measurement of all volumes in that category.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | **Morphologic Features** | | **Mean Attenuation Coefficient** | | | | | **Stratification** | |
|  | **Sample size** | **Average age** | **Epithelium depth** | **Loss of epithelial-stromal boundary visualization** | | **Overall** | **Epithelium** | **Stroma** | **Epithelial-Stromal** | | **Intra-**  **epithelial** |
|  | # | [years] | [µm] | [%] | | [mm-1] | [mm-1] | [mm-1] | [a.u.] | | [a.u.] |
| Acanthosis | 13 | 57 | 170  10  (120-260) | 1  0  (0-4) | | 3.42  0.16  (2.37-4.57) | 1.18  0.05  (0.99-1.50) | 3.96  0.21  (2.56-5.42) | -0.53  0.02  -(0.68-0.36) | | -0.19  0.01  -(0.27-0.13) |
| No  Acanthosis | 18 | 58 | 150  10  (120-260) | 1  0  (0-4) | | 3.44  0.16  (2.26-4.71) | 1.22  0.04  (1.02-1.74) | 3.95  0.22  (2.43-5.64) | -0.52  0.03  -(0.69-0.27) | | -0.17  0.01  -(0.28-0.10) |
| Keratosis | 15 | 55 | 160  10  (120-260) | 1  0  (0-4) | | 3.63  0.15  (2.92-4.71) | 1.17  0.04  (0.99-1.50) | 4.23  0.19  (3.24-5.64) | -0.56  0.02  -(0.69-0.44) | | -0.19  0.01  -(0.27-0.11) |
| No  keratosis | 16 | 60 | 160  10  (120-200) | 1  0  (0-4) | | 3.24  0.16  (2.26-4.21) | 1.23  0.05  (1.02-1.74) | 3.68  0.21  (2.43-4.95) | -0.49  0.03  -(0.63-0.27) | | -0.17  0.01  -(0.28-0.10) |

**Table A-4**. Measurements against future progression status for mild and moderate dysplastic lesions (P = progressors, NP = non-progressors). Data is presented as mean, standard error, (range) of the median measurement of all volumes in that category. ‘Difference’ is the pairwise subtraction of contralateral median value from lesion median value for each volume.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  | **Morphologic Features** | | **Mean Attenuation Coefficient** | | | | **Stratification** | | |
|  | **Progression status** | **Sample size** | **Average age** | **Epithelium depth** | **Loss of epithelial-stromal boundary visualization** | | **Overall** | **Epithelium** | **Stroma** | | **Epithelial-Stromal** | **Intra-**  **epithelial** |
|  | P  NP | # | [years] | [µm] | [%] | | [mm-1] | [mm-1] | [mm-1] | | [a.u.] | [a.u.] |
| Contralateral | P | 4  (1 D1, 3 D2) | 55 | 150  20  (120-200) | 0  0  (0) | | 3.32  0.16  (2.99-3.60) | 1.09  0.07  (0.99-1.29) | 3.77  0.18  (3.45-4.10) | | -0.55  0.03  -(0.60-0.46) | -0.18  0.02  -(0.21-0.14) |
| NP | 11  (6 D1, 5 D2) | 54 | 160  10  (120-260) | 1  0  (0-3) | | 3.81  0.16  (3.05-4.61) | 1.18  0.05  (1.00-1.50) | 4.47  0.20  (3.47-5.51) | | -0.58  0.02  -(0.68-0.44) | -0.18  0.01  -(0.24-0.13) |
| Lesion | P | 4  (1 D1, 3 D2) | 55 | 190  20  (160-230) | 7  5  (0-21) | | 3.45  0.19  (3.02-3.86) | 1.32  0.13  (1.13-1.70) | 4.04  0.24  (3.56-4.59) | | -0.51  0.04  -(0.56-0.38) | -0.18  0.01  -(0.21-0.16) |
| NP | 11  (6 D1, 5 D2) | 54 | 220  20  (150-290) | 5  2  (0-22) | | 3.60  0.15  (2.86-4.60) | 1.47  0.10  (1.13-2.25) | 4.35  0.21  (3.40-5.70) | | -0.50  0.03  -(0.62-0.28) | -0.18  0.02  -(0.29-0.03) |
| Difference | P | 4  (1 D1, 3 D2) | 55 | 40  20  (30-50) | 7  5  (0-21) | | 0.13  0.19  (0.03-0.27) | 0.24  0.13  (0.13-0.41) | 0.27  0.24  (0.11-0.51) | | 0.04  0.04  (0.01-0.07) | 0.005  0.01  (-0.04-0.05) |
| NP | 11  (6 D1, 5 D2) | 54 | 60  20  (-80-140) | 5  2  (-3-22) | | -0.21  0.15  (-0.60-0.36) | 0.30  0.10  (-0.12-1.15) | -0.12  0.21  (-0.77-0.26) | | 0.08  0.03  (-0.05-0.32) | 0.003  0.02  (-0.09-0.18) |