CAID

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##CAID Summary Statistics

|  |  |
| --- | --- |
| Characteristic | All (n=2250) |
| **TPO Ab: Baseline Positive** |  |
| POS | 307 (14%) |
| NEG | 1165 (52%) |
| closest outside of 6mo window | 278 (12%) |
| never tested | 500 (22%) |
| **Thyroglobulin Ab: Baseline Positive** |  |
| POS | 157 (7%) |
| NEG | 787 (35%) |
| closest outside of 6mo window | 100 (4%) |
| never tested | 1206 (54%) |
| **TTG IgA: Baseline Positive** |  |
| POS | 224 (10%) |
| NEG | 2014 (90%) |
| closest outside of 6mo window | 7 (0%) |
| never tested | 5 (0%) |
| **21-OH: Baseline Positive** |  |
| POS | 17 (1%) |
| NEG | 2150 (96%) |
| closest outside of 6mo window | 6 (0%) |
| never tested | 77 (3%) |

**Table 1: Demographics by ANY CAID (thyroid, celiac or addison’s)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Characteristic | All (n=2217) | 0 (n=1979) | 1 (n=238) | P Value |
| **Age at Diabetes Dx, years** | 9.82Â±4.22 | 9.81Â±4.24 | 9.61Â±4.11 | 0.4906 |
| **Gender** |  |  |  | 0.0092 |
| F | 1006 (45%) | 859 (43%) | 125 (53%) |  |
| M | 1244 (55%) | 1120 (57%) | 113 (47%) |  |
| **Race/Ethnicity** |  |  |  | 0.1159 |
| Hispanic | 349 (16%) | 297 (15%) | 45 (19%) |  |
| Non-Hispanic Black | 92 (4%) | 87 (4%) | 4 (2%) |  |
| Non-Hispanic White | 1558 (69%) | 1367 (69%) | 168 (71%) |  |
| Other | 124 (6%) | 113 (6%) | 11 (5%) |  |
| Unknown | 127 (6%) | 115 (6%) | 10 (4%) |  |
| **BMI at Dx** | 17.41Â±4.15 | 17.44Â±4.17 | 17.16Â±3.83 | 0.3026 |
| **MIAA Result** |  |  |  | 0.5746 |
| NEG | 1024 (46%) | 897 (45%) | 113 (47%) |  |
| POS | 1226 (54%) | 1082 (55%) | 125 (53%) |  |
| **GADA Result** |  |  |  | 0.2427 |
| NEG | 645 (29%) | 575 (29%) | 60 (25%) |  |
| POS | 1604 (71%) | 1403 (71%) | 178 (75%) |  |
| **IA-2 Result** |  |  |  | 0.4873 |
| NEG | 608 (27%) | 527 (27%) | 69 (29%) |  |
| POS | 1641 (73%) | 1451 (73%) | 169 (71%) |  |
| **ZnT8RW Result** |  |  |  | 0.6175 |
| NEG | 765 (34%) | 670 (34%) | 85 (36%) |  |
| POS | 1485 (66%) | 1309 (66%) | 153 (64%) |  |
| **TPO Ab: Ever Positive** |  |  |  | <0.0001 |
| NEG | 1381 (61%) | 1279 (65%) | 92 (39%) |  |
| never tested | 500 (22%) | 447 (23%) | 44 (18%) |  |
| POS | 369 (16%) | 253 (13%) | 102 (43%) |  |
| **Thyroglobulin Ab: Ever Positive** |  |  |  | <0.0001 |
| NEG | 867 (39%) | 813 (41%) | 44 (18%) |  |
| never tested | 1206 (54%) | 1030 (52%) | 158 (66%) |  |
| POS | 177 (8%) | 136 (7%) | 36 (15%) |  |
| **TTG IgA: Ever Positive**\*\* |  |  |  | <0.0001 |
| NEG | 2019 (90%) | 1849 (93%) | 145 (61%) |  |
| never tested | 5 (0%) | 5 (0%) | 0 (0%) |  |
| POS | 226 (10%) | 125 (6%) | 93 (39%) |  |
| **21-OH: Ever Positive**\*\* |  |  |  | <0.0001 |
| NEG | 2156 (96%) | 1910 (97%) | 214 (90%) |  |
| never tested | 77 (3%) | 60 (3%) | 16 (7%) |  |
| POS | 17 (1%) | 9 (0%) | 8 (3%) |  |
| **TPO Ab: Baseline Positive** |  |  |  | <0.0001 |
| POS | 307 (14%) | 210 (11%) | 87 (37%) |  |
| NEG | 1165 (52%) | 1086 (55%) | 69 (29%) |  |
| closest outside of 6mo window | 278 (12%) | 236 (12%) | 38 (16%) |  |
| never tested | 500 (22%) | 447 (23%) | 44 (18%) |  |
| **Thyroglobulin Ab: Baseline Positive** |  |  |  | <0.0001 |
| POS | 157 (7%) | 125 (6%) | 30 (13%) |  |
| NEG | 787 (35%) | 742 (37%) | 36 (15%) |  |
| closest outside of 6mo window | 100 (4%) | 82 (4%) | 14 (6%) |  |
| never tested | 1206 (54%) | 1030 (52%) | 158 (66%) |  |
| **TTG IgA: Baseline Positive**\*\* |  |  |  | <0.0001 |
| POS | 224 (10%) | 126 (6%) | 91 (38%) |  |
| NEG | 2014 (90%) | 1844 (93%) | 145 (61%) |  |
| closest outside of 6mo window | 7 (0%) | 4 (0%) | 2 (1%) |  |
| never tested | 5 (0%) | 5 (0%) | 0 (0%) |  |
| **21-OH: Baseline Positive**\*\* |  |  |  | <0.0001 |
| POS | 17 (1%) | 9 (0%) | 8 (3%) |  |
| NEG | 2150 (96%) | 1904 (96%) | 214 (90%) |  |
| closest outside of 6mo window | 6 (0%) | 6 (0%) | 0 (0%) |  |
| never tested | 77 (3%) | 60 (3%) | 16 (7%) |  |

**Table 1a: Demographics by Thyroid Disease**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Characteristic | All (n=2227) | 0 (n=2105) | 1 (n=122) | P Value |
| **Age at Diabetes Dx, years** | 9.82Â±4.22 | 9.73Â±4.23 | 10.7Â±3.95 | 0.0097 |
| **Gender** |  |  |  | 0.0003 |
| F | 1006 (45%) | 916 (44%) | 74 (61%) |  |
| M | 1244 (55%) | 1189 (56%) | 48 (39%) |  |
| **Race/Ethnicity** |  |  |  | 0.0082 |
| Hispanic | 349 (16%) | 308 (15%) | 33 (27%) |  |
| Non-Hispanic Black | 92 (4%) | 88 (4%) | 4 (3%) |  |
| Non-Hispanic White | 1558 (69%) | 1470 (70%) | 73 (60%) |  |
| Other | 124 (6%) | 118 (6%) | 6 (5%) |  |
| Unknown | 127 (6%) | 121 (6%) | 6 (5%) |  |
| **BMI at Dx** | 17.41Â±4.15 | 17.38Â±4.13 | 17.63Â±4.18 | 0.529 |
| **MIAA Result** |  |  |  | 0.991 |
| NEG | 1024 (46%) | 956 (45%) | 56 (46%) |  |
| POS | 1226 (54%) | 1149 (55%) | 66 (54%) |  |
| **GADA Result** |  |  |  | 0.0812 |
| NEG | 645 (29%) | 612 (29%) | 26 (21%) |  |
| POS | 1604 (71%) | 1492 (71%) | 96 (79%) |  |
| **IA-2 Result** |  |  |  | 0.9723 |
| NEG | 608 (27%) | 564 (27%) | 32 (26%) |  |
| POS | 1641 (73%) | 1540 (73%) | 90 (74%) |  |
| **ZnT8RW Result** |  |  |  | 0.9875 |
| NEG | 765 (34%) | 718 (34%) | 41 (34%) |  |
| POS | 1485 (66%) | 1387 (66%) | 81 (66%) |  |
| **TPO Ab: Ever Positive** |  |  |  | <0.0001 |
| NEG | 1381 (61%) | 1360 (65%) | 18 (15%) |  |
| never tested | 500 (22%) | 479 (23%) | 11 (9%) |  |
| POS | 369 (16%) | 266 (13%) | 93 (76%) |  |
| **Thyroglobulin Ab: Ever Positive** |  |  |  | <0.0001 |
| NEG | 867 (39%) | 846 (40%) | 19 (16%) |  |
| never tested | 1206 (54%) | 1117 (53%) | 72 (59%) |  |
| POS | 177 (8%) | 142 (7%) | 31 (25%) |  |

**Table 1b: Demographics by Celiac’s Disease**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Characteristic | All (n=2238) | 0 (n=2117) | 1 (n=121) | P Value |
| **Age at Diabetes Dx, years** | 9.82Â±4.22 | 9.9Â±4.22 | 8.27Â±3.98 | <0.0001 |
| **Gender** |  |  |  | 0.6399 |
| F | 1006 (45%) | 942 (44%) | 57 (47%) |  |
| M | 1244 (55%) | 1175 (56%) | 64 (53%) |  |
| **Race/Ethnicity**\*\* |  |  |  | 0.0382 |
| Hispanic | 349 (16%) | 338 (16%) | 11 (9%) |  |
| Non-Hispanic Black | 92 (4%) | 90 (4%) | 1 (1%) |  |
| Non-Hispanic White | 1558 (69%) | 1450 (68%) | 98 (81%) |  |
| Other | 124 (6%) | 118 (6%) | 6 (5%) |  |
| Unknown | 127 (6%) | 121 (6%) | 5 (4%) |  |
| **BMI at Dx** | 17.41Â±4.15 | 17.47Â±4.19 | 16.52Â±3.34 | 0.004 |
| **MIAA Result** |  |  |  | 1 |
| NEG | 1024 (46%) | 964 (46%) | 55 (45%) |  |
| POS | 1226 (54%) | 1153 (54%) | 66 (55%) |  |
| **GADA Result** |  |  |  | 0.6614 |
| NEG | 645 (29%) | 608 (29%) | 32 (26%) |  |
| POS | 1604 (71%) | 1508 (71%) | 89 (74%) |  |
| **IA-2 Result** |  |  |  | 0.4269 |
| NEG | 608 (27%) | 568 (27%) | 37 (31%) |  |
| POS | 1641 (73%) | 1548 (73%) | 84 (69%) |  |
| **ZnT8RW Result** |  |  |  | 0.2019 |
| NEG | 765 (34%) | 711 (34%) | 48 (40%) |  |
| POS | 1485 (66%) | 1406 (66%) | 73 (60%) |  |
| **TTG IgA: Ever Positive**\*\* |  |  |  | <0.0001 |
| NEG | 2019 (90%) | 1980 (94%) | 33 (27%) |  |
| never tested | 5 (0%) | 5 (0%) | 0 (0%) |  |
| POS | 226 (10%) | 132 (6%) | 88 (73%) |  |

**Celiac Groups**

|  |  |
| --- | --- |
| Characteristic | All (n=2250) |
| **Celiac Groups** |  |
| Grp1. Celiac Disease, Positive Biopsy | 68 (35%) |
| Grp2. Celiac Disease, Gluten Free Diet | 45 (23%) |
| Grp3. Celiac Disease, Gluten Free Diet, Negative Biopsy | 8 (4%) |
| Grp4. Abnormal panel, no celiac disease, no biopsy | 58 (30%) |
| Grp5. Abnormal panel, no celiac disease, negative biopsy | 15 (8%) |

**Table 1c: Demographics by Addison’s Disease**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Characteristic | All (n=2249) | 0 (n=2243) | 1 (n=6) | P Value |
| **Age at Diabetes Dx, years** | 9.82Â±4.22 | 9.82Â±4.22 | 9.07Â±4.43 | 0.6944 |
| **Gender**\*\* |  |  |  | 0.2337 |
| F | 1006 (45%) | 1005 (45%) | 1 (17%) |  |
| M | 1244 (55%) | 1238 (55%) | 5 (83%) |  |
| **Race/Ethnicity**\*\* |  |  |  | 0.5978 |
| Hispanic | 349 (16%) | 348 (16%) | 1 (17%) |  |
| Non-Hispanic Black | 92 (4%) | 92 (4%) | 0 (0%) |  |
| Non-Hispanic White | 1558 (69%) | 1554 (69%) | 4 (67%) |  |
| Other | 124 (6%) | 123 (5%) | 1 (17%) |  |
| Unknown | 127 (6%) | 126 (6%) | 0 (0%) |  |
| **BMI at Dx** | 17.41Â±4.15 | 17.41Â±4.15 | 17.1Â±3.51 | 0.836 |
| **MIAA Result**\*\* |  |  |  | 0.0986 |
| NEG | 1024 (46%) | 1019 (45%) | 5 (83%) |  |
| POS | 1226 (54%) | 1224 (55%) | 1 (17%) |  |
| **GADA Result**\*\* |  |  |  | 0.3627 |
| NEG | 645 (29%) | 642 (29%) | 3 (50%) |  |
| POS | 1604 (71%) | 1600 (71%) | 3 (50%) |  |
| **IA-2 Result**\*\* |  |  |  | 0.3532 |
| NEG | 608 (27%) | 605 (27%) | 3 (50%) |  |
| POS | 1641 (73%) | 1637 (73%) | 3 (50%) |  |
| **ZnT8RW Result**\*\* |  |  |  | 1 |
| NEG | 765 (34%) | 763 (34%) | 2 (33%) |  |
| POS | 1485 (66%) | 1480 (66%) | 4 (67%) |  |
| **21-OH: Ever Positive**\*\* |  |  |  | <0.0001 |
| NEG | 2156 (96%) | 2153 (96%) | 3 (50%) |  |
| never tested | 77 (3%) | 76 (3%) | 0 (0%) |  |
| POS | 17 (1%) | 14 (1%) | 3 (50%) |  |

**Table 2: Family History**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Diagnosis | Any Family Member | 1st Degree Family Member | Non-1st Degree Family Member |
| 6 | Thyroid.Disease | 886 (57%) | 311 (20%) | 716 (46%) |
| 3 | Diabetes.type.1 | 777 (50%) | 169 (11%) | 667 (43%) |
| 2 | Celiac | 376 (24%) | 50 (3%) | 339 (22%) |
| 8 | Other | 283 (18%) | 98 (6%) | 212 (14%) |
| 5 | Rheumatoid.Arthritis | 174 (11%) | 21 (1%) | 159 (10%) |
| 4 | Hypothyroidism | 169 (11%) | 87 (6%) | 117 (8%) |
| 1 | Addison.s.disease | 99 (6%) | 3 (0%) | 96 (6%) |
| 7 | Vitiligo | 77 (5%) | 10 (1%) | 68 (4%) |

**Table 3: Timing of Events**

|  |  |
| --- | --- |
| Characteristic | All (n=2250) |
| **Months from Onset to first CAID** | 1.13Â±1.51 |
| **Timing of Thyroid Disease** |  |
| After Diabetes Onset | 122 (84%) |
| At Diabetes Onset | 1 (1%) |
| Before Diabetes Onset | 22 (15%) |
| **Months from Onset to Thryoid Disease** | 12.75Â±20.5 |
| **Timing of celiac Disease** |  |
| After Diabetes Onset | 121 (91%) |
| At Diabetes Onset | 3 (2%) |
| Before Diabetes Onset | 9 (7%) |
| **Months from Onset to Celiac Disease** | 14.84Â±14.95 |
| **Timing of Addison’s Disease** |  |
| After Diabetes Onset | 6 (100%) |
| **Months from Onset to Addison Disease** | 10.79Â±19.64 |
| **Years of Follow-up for no CAIDs** | 3.01Â±2.11 |

**Table 4: Lab Results**

|  |  |
| --- | --- |
| Characteristic | All (n=2250) |
| **TTG IgA: Ever Positive** |  |
| NEG | 2019 (90%) |
| never tested | 5 (0%) |
| POS | 226 (10%) |
| **TTG IgA: timing** |  |
| After Diabetes Onset | 194 (86%) |
| At Diabetes Onset | 25 (11%) |
| Before Diabetes Onset | 7 (3%) |
| **TTG IgA: timing vs. celiac’s** |  |
| Celiac -> TTG -> Onset | 2 (2%) |
| Onset->TTG=Celiac | 1 (1%) |
| Onset -> Celiac -> TTG | 1 (1%) |
| Onset -> TTG -> Celiac | 75 (80%) |
| Onset=TTG->Celiac | 9 (10%) |
| Onset=TTG=Celiac | 1 (1%) |
| TTG -> Celiac -> Onset | 2 (2%) |
| TTG -> Onset -> Celiac | 2 (2%) |
| TTG -> Onset=Celiac | 1 (1%) |
| **21-OH: Ever Positive** |  |
| NEG | 2156 (96%) |
| never tested | 77 (3%) |
| POS | 17 (1%) |
| **21-OH: timing** |  |
| After Diabetes Onset | 15 (88%) |
| At Diabetes Onset | 2 (12%) |
| **21-OH: timing vs. addison** |  |
| Onset -> Addison’s -> OH-21 POS | 1 (33%) |
| Onset -> OH-21 POS -> Addison’s | 2 (67%) |
| **TPO Ab: Ever Positive** |  |
| NEG | 1381 (61%) |
| never tested | 500 (22%) |
| POS | 369 (16%) |
| **TPO Ab: timing** |  |
| After Diabetes Onset | 333 (90%) |
| At Diabetes Onset | 27 (7%) |
| Before Diabetes Onset | 9 (2%) |
| **TPO Ab: Timing vs. Thyroid Disease** |  |
| Onset->TPO=Thyroid | 10 (10%) |
| Onset -> Thyroid -> TPO | 3 (3%) |
| Onset -> TPO -> Thyroid | 72 (70%) |
| Onset=TPO->Thyroid | 7 (7%) |
| Thyroid -> Onset -> TPO | 5 (5%) |
| Thyroid -> TPO -> Onset | 1 (1%) |
| TPO -> Onset -> Thyroid | 1 (1%) |
| TPO -> Onset=Thyroid | 1 (1%) |
| TPO -> Thyroid -> Onset | 2 (2%) |
| TPO=Thyroid -> Onset | 1 (1%) |
| **Thyroglobulin Ab: Ever Positive** |  |
| NEG | 867 (39%) |
| never tested | 1206 (54%) |
| POS | 177 (8%) |
| **Thyroglobulin Ab: timing** |  |
| After Diabetes Onset | 165 (93%) |
| At Diabetes Onset | 9 (5%) |
| Before Diabetes Onset | 3 (2%) |
| **Thyroglobulin Ab: Timing vs. Thyroid Disease** |  |
| Onset->Thyroglobulin=Thyroid | 4 (11%) |
| Onset -> Thyroglobulin -> Thyroid | 23 (66%) |
| Onset -> Thyroid -> Thyroglobulin | 1 (3%) |
| Onset=Thyroglobulin->Thyroid | 3 (9%) |
| Thyroglobulin -> Thyroid -> Onset | 1 (3%) |
| Thyroid -> Onset -> Thyroglobulin | 3 (9%) |