|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Baseline characteristics of the derivation and external validation cohorts across different ovarian responses to ovarian stimulation** | | | | | | | | |
|  | **Derivation Cohort** | | | | **External Validation Cohort** | | | |
|  | **Overall (n=12012)** | **Oocytes yields** | | | **Overall (n=5702)** | **Oocyte yields** | | |
|  | **< 4 (n=1714)** | **4 ~ 20 (n=9175)** | **> 20 (n=1123)** | **< 4 (n=882)** | **4 ~ 20 (n=4404)** | **> 20 (n=416)** |
| Age, y | 31 (28, 34) | 34 (30, 39) | 30 (28, 33) | 29 (26, 31) | 31 (28, 34) | 33 (30, 37) | 31 (28, 33) | 29 (27, 31) |
| Duration of infertility, y | 3 (2, 4) | 3 (1, 5) | 3 (2, 4) | 3 (2, 4) | 3 (2, 4) | 3 (2, 5) | 3 (2, 4) | 3 (2, 4) |
| Weight, kg | 55.0 (50.0, 60.0) | 55.0 (50.0, 60.0) | 55.0 (50.0, 60.0) | 54.5 (50.0, 60.0) | 55.0 (50.0, 61.0) | 55.0 (50.0, 60.0) | 55.0 (50.0, 61.0) | 55.0 (51.0, 61.6) |
| DBP, mmHg | 71 (66, 78) | 71 (66, 78) | 70 (66, 77) | 70 (66, 78) | 70 (64, 76) | 69 (64, 76) | 70 (64, 76) | 70 (63, 77) |
| Basal FSH, IU/L | 6.5 (5.5, 7.9) | 8.5 (6.7, 11.3) | 6.4 (5.5, 7.6) | 5.6 (4.8, 6.5) | 7.4 (6.1, 9.1) | 9.2 (7.1, 11.8) | 7.3 (6.0, 8.8) | 6.4 (5.3, 7.8) |
| Basal LH, IU/L | 4.9 (3.6, 6.6) | 4.6 (3.3, 6.3) | 4.9 (3.6, 6.4) | 5.8 (4.3, 8.5) | 3.9 (2.6, 5.6) | 3.7 (2.5, 5.3) | 3.9 (2.6, 5.6) | 4.4 (2.8, 6.6) |
| Basal progesterone, ng/mL | 1.1 (0.8, 1.5) | 1.1 (0.7, 1.5) | 1.1 (0.8, 1.5) | 1.1 (0.8, 1.5) | 1.0 (0.7, 1.5) | 1.0 (0.7, 1.4) | 1.0 (0.7, 1.5) | 1.1 (0.7, 1.6) |
| WBC, 109/L | 6.6 (5.4, 8.0) | 6.2 (5.2, 7.5) | 6.6 (5.4, 8.1) | 6.7 (5.6, 8.3) | 7.3 (5.9, 8.8) | 7.0 (5.7, 8.4) | 7.3 (6.0, 8.9) | 7.5 (6.1, 9.0) |
| RBC, 1012/L | 4.4 (4.2, 4.6) | 4.4 (4.1, 4.6) | 4.4 (4.2, 4.6) | 4.4 (4.2, 4.6) | 4.4 (4.2, 4.6) | 4.4 (4.2, 4.6) | 4.4 (4.2, 4.6) | 4.4 (4.2, 4.6) |
| Platelet, 109/L | 233.0 (198.0, 273.0) | 234.0 (198.0, 275.0) | 233.0 (198.0, 273.0) | 233.0 (199.0, 269.0) | 246.0 (210.0, 286.8) | 245.0 (210.0, 283.0) | 247.0 (210.0, 287.0) | 244.0 (207.8, 289.0) |
| ALT, IU/L | 15.0 (11.0, 21.0) | 15.0 (12.0, 21.0) | 15.0 (11.0, 20.0) | 15.0 (11.8, 21.0) | 13.0 (10.0, 19.0) | 13.0 (10.0, 18.0) | 13.0 (10.0, 19.0) | 13.5 (10.0, 20.0) |
| AMH, ng/mL | 2.8 (1.5, 4.7) | 0.8 (0.4, 1.4) | 3.0 (1.8, 4.6) | 5.9 (4.4, 8.7) | 3.2 (1.8, 5.6) | 1.3 (0.7, 2.0) | 3.4 (2.1, 5.6) | 7.2 (4.6, 10.9) |
| Basal AFC, n | 10 (6, 15) | 4 (3, 7) | 10 (7, 15) | 15 (12, 20) | 10 (6, 15) | 5 (3, 7) | 10 (7, 15) | 17 (12, 20) |
| POI or DOR, n (%) |  |  |  |  |  |  |  |  |
| No | 9559 (79.6) | 459 (26.8) | 7982 (87.0) | 1118 (99.6) | 4876 (85.5) | 429 (48.6) | 4031 (91.5) | 416 (100.0) |
| Yes | 2453 (20.4) | 1255 (73.2) | 1193 (13.0) | 5 (0.4) | 826 (14.5) | 453 (51.4) | 373 (8.5) | 0 (0.0) |
| PCOS, n (%) |  |  |  |  |  |  |  |  |
| No | 10971 (91.3) | 1685 (98.3) | 8487 (92.5) | 799 (71.1) | 4925 (86.4) | 851 (96.5) | 3794 (86.1) | 280 (67.3) |
| Yes | 1041 (8.7) | 29 (1.7) | 688 (7.5) | 324 (28.9) | 777 (13.6) | 31 (3.5) | 610 (13.9) | 136 (32.7) |
| OS protocola, n (%) |  |  |  |  |  |  |  |  |
| Long GnRH | 4072 (33.9) | 96 (5.6) | 3426 (37.3) | 550 (49.0) | 3744 (65.7) | 222 (25.2) | 3169 (72.0) | 353 (84.9) |
| Ultra-long GnRH | 438 (3.6) | 39 (2.3) | 377 (4.1) | 22 (2.0) | 647 (11.3) | 57 (6.5) | 548 (12.4) | 42 (10.1) |
| Short GnRH | 643 (5.4) | 142 (8.3) | 490 (5.3) | 11 (1.0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) |
| GnRH antagonist | 5233 (43.6) | 540 (31.5) | 4204 (45.8) | 489 (43.5) | 1028 (18.0) | 392 (44.4) | 616 (14.0) | 20 (4.8) |
| PPOS | 466 (3.9) | 203 (11.8) | 235 (2.6) | 28 (2.5) | 138 (2.4) | 102 (11.6) | 35 (0.8) | 1 (0.2) |
| Mild or Natural | 566 (4.7) | 423 (24.7) | 142 (1.5) | 1 (0.1) | 97 (1.7) | 83 (9.4) | 14 (0.3) | 0 (0.0) |
| Otherb | 594 (4.9) | 271 (15.8) | 301 (3.3) | 22 (2.0) | 48 (0.8) | 26 (2.9) | 22 (0.5) | 0 (0.0) |
| FSH starting dosea,  n (%) |  |  |  |  |  |  |  |  |
| ≤ 100IU/daily | 371 (3.1) | 13 (0.8) | 275 (3.0) | 83 (7.4) | 11 (0.2) | 2 (0.2) | 9 (0.2) | 0 (0.0) |
| 150 IU/daily | 4018 (33.6) | 146 (8.7) | 3238 (35.4) | 634 (56.6) | 242 (4.2) | 19 (2.2) | 187 (4.2) | 36 (8.7) |
| 200 IU/daily | 936 (7.8) | 37 (2.2) | 761 (8.3) | 138 (12.3) | 984 (17.3) | 79 (9.0) | 808 (18.3) | 97 (23.3) |
| 225 IU/daily | 4216 (35.3) | 508 (30.3) | 3525 (38.5) | 183 (16.3) | 3351 (58.8) | 476 (54.0) | 2639 (59.9) | 236 (56.7) |
| ≥ 300 IU/daily | 817 (6.8) | 110 (6.6) | 675 (7.4) | 32 (2.9) | 831 (14.6) | 95 (10.8) | 690 (15.7) | 46 (11.1) |
| non-GnRHc | 1591 (13.3) | 862 (51.4) | 678 (7.4) | 51 (4.5) | 283 (5.0) | 211 (23.9) | 71 (1.6) | 1 (0.2) |
| Using rFSH or uFSHa, n (%) |  |  |  |  |  |  |  |  |
| uFSH | 3658 (30.6) | 564 (33.7) | 2958 (32.3) | 136 (12.1) | 5419 (95.0) | 671 (76.1) | 4333 (98.4) | 415 (99.8) |
| rFSH | 6700 (56.1) | 250 (14.9) | 5516 (60.3) | 934 (83.3) | 0 (0) | 0 (0) | 0 (0) | 0 (0) |
| non-GnRHc | 1591 (13.3) | 862 (51.4) | 678 (7.4) | 51 (4.5) | 283 (5.0) | 211 (23.9) | 71 (1.6) | 1 (0.2) |
| LH supplementationa, n (%) |  |  |  |  |  |  |  |  |
| No | 4032 (33.7) | 272 (16.2) | 3272 (35.8) | 488 (43.5) | 1956 (34.3) | 348 (39.5) | 1462 (33.2) | 146 (35.1) |
| Yes | 6326 (52.9) | 542 (32.3) | 5202 (56.8) | 582 (51.9) | 3463 (60.7) | 323 (36.6) | 2871 (65.2) | 269 (64.7) |
| non-GnRHc | 1591 (13.3) | 862 (51.4) | 678 (7.4) | 51 (4.5) | 283 (5.0) | 211 (23.9) | 71 (1.6) | 1 (0.2) |
| Oocytes retrieval, n | 10 (6, 15) | 2 (1, 3) | 10 (7, 14) | 25 (22, 28) | 9 (5, 13) | 2 (1, 3) | 9 (7, 13) | 23 (21, 25) |
| AFC, antral follicle count; ALT, serum alanine aminotransferase; AMH, anti-müllerian hormone; DBP, diastolic blood pressure; DOR, diminished ovarian reserve; FSH, follicle-stimulating hormone; GnRH, gonadotropin-releasing hormone; LH, luteinizing hormone; OS, ovarian stimulation; PCOS, polycystic ovarian syndrome; POI, primary ovarian insufficiency; PPOS, progestin-primed ovarian stimulation protocol; rFSH, recombinant follicle-stimulating hormone; uFSH, urinary follicle-stimulating hormone.  aFour critical ovarian stimulation therapeutic decisions.  bOther protocols included using gonadotropin alone, using gonadotropin-releasing hormone alone.  cNot available as there were no GnRH agonist or antagonist protocols used. | | | | | | | | |