**‘’Epidemiology and Infection’’**

**Pregnancy and neonatal outcomes among a cohort of HIV-infected women in a large Italian teaching hospital: a thirty-year retrospective study.**

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**Supplementary Material**

**Supplementary Table S1. Demographic and clinical characteristics of HIV-infected pregnant women and neonatal outcome according to Ethnic group (excluding Asian women).a**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Caucasian (N=227)**  **n/N (%)** | **South-american (N=22)**  **n/N (%)** | **African (N=11)**  **n/N (%)** | **p-value** |
| **Median age (IQR)** | 28 (25-33) | 36 (28-38) | 31 (28-35) | 0.02 |
| **Decade of birth** |  |  |  | < 0.001 |
| 1985-1994 | 121/227 (53.3) | 0/22 (0) | 0/11 (0) |  |
| 1995-2004 | 63/227 (27.8) | 6/22 (27.3) | 2/11 (18.2) |  |
| 2005-2014 | 43/227 (18.9) | 16/22 (72.7) | 9/11 (81.8) |  |
| **HIV risk factors (mode of transmission)** |  |  |  |  |
| Injecting drugs use | 127/227 (55.9) | 0/22 (0) | 0/11 (0) | < 0.001 |
| Heterosexual intercourse | 71/227 (31.3) | 21/22 (95.5) | 6/11 (54.5) | < 0.001 |
| MTCT | 3/227 (1.3) | 0/22 (0) | 0/11 (0) | 0.8 |
| Other | 26/227 (11.5) | 1/22 (4.5) | 5/11 (45.5) | 0.002 |
| **Co-infection** |  |  |  |  |
| HCV co-infection | 59/227 (26) | 1/22 (4.5) | 0/11 (0) | 0.01 |
| HBV co-infection | 29/227 (12.8) | 2/22 (9.1) | 1/11 (9.1) | 0.83 |
| HBV and HCV co-infection | 16/227 (7.1) | 0/22 (0) | 0/11 (0) | 0.29 |
| **Smoke** | 52/227 (22.9) | 0/22 (0) | 1/11 (9.1) | 0.03 |
| **Methadone or heroin** | 39/227 (17.2) | 0/22 (0) | 0/11 (0) | 0.04 |
| **Timing of HIV diagnosis** |  |  |  | 0.54 |
| Prior to pregnancy | 136/227 (59.9) | 16/22 (72.7) | 8/11 (72.7) |  |
| During pregnancy | 41/227 (18.1) | 4/22 (18.2) | 2/11 (18.2) |  |
| At/after delivery | 50/227 (22) | 2/22 (9.1) | 1/11 (9.1) |  |
| **ART at conception** | 11/227 (13.6) | 9/22 (40.9) | 4/11 (36.4) | 0.001 |
| **ART prescription during pregnancy** | 103/227 (45.4) | 19/22 (86.4) | 9/11 (81.8) | <0.001 |
| Monotherapy/dual therapy  cART  *cART Protease inhibitor based* | 41/103 (39.8)  62/103 (60.2)  *47/62 (75.8)* | 5/19 (26.3)  14/19 (73.7)  *11/14 (78.6)* | 0/9 (0)  9/9 (100)  *8/9 (88.9)* | 0.04  0.68 |
| **Mode of delivery (n =258)** |  |  |  | <0.001 |
| Vaginal | 125/226 (55.3) | 2/22 (9.1) | 0/10 (0) |  |
| Elective caesarian section | 90/226 (39.8) | 18/22 (81.8) | 10/10 (100) |  |
| Emergency caesarian section | 11/226 (4.9) | 2/22 (9.1) | 0/10 (0) |  |
| **Antiretroviral prophylaxis *intrapartum*** | 86 (37.9) | 19 (86.4) | 10 (90.9) | <0.001 |
| **HIV-RNA load at deliveryb (n = 88)** |  |  |  | 0.007 |
| Undetectable (≤ 50 cp/ml) | 36/65 (55.4) | 13/15 (86.7) | 8/8 (100) |  |
| Detectable (>50cp/ml) | 29/65 (44.6) | 2/15 (13.3) | 0/8 (0) |  |
| **CD4+ T-cell at deliveryb (n = 89)** |  |  |  | 0.7 |
| <200 cell/mm3 | 2/64 (3.1) | 0/15 (0) | 0/10 (0) |  |
| 200-499 cell/mm3 | 22/64 (34.4) | 3/15 (20) | 3/10 (30) |  |
| ≥500 cell/mm3 | 40/64 (62.5) | 12/15 (80) | 7/10 (70) |  |
| **Previous pregnancy** | 73/227 (32.2) | 13/22 (59.1) | 6/11 (54.5) | 0.02 |
| **Previous pregnancy interruption** | 92/227 (40.5) | 6/22 (27.2) | 1/11 (9.1) | 0.06 |
| **Previous spontaneous abortion** | 25/227 (11) | 4/22 (18.2) | 0/11 (0) | 0.29 |
| **PROM** | 92/227 (40.5) | 3/22 (13.6) | 0/11 (0) | 0.002 |
| **Preterm deliveryc** | 22/227 (9.7) | 2/22 (9.1) | 1/11 (9.1) | 0.99 |
| **Severe SGAd** | 48/227 (21.2) | 5/22 (22.7) | 1/11 (9.1) | 0.61 |
| **Infant’s HIV infectione (n = 261)** | 17/228 (7.5) | 1/22 (4.5) | 0/11 (0) | 0.56 |

IQR, interquartile range; MTCT, mother-to-child transmission; ART, antiretroviral therapy; cART, combined antiretroviral therapy; PROM, premature rupture of membrane; SEVERE SGA, small for gestational age.

a Percentages exclude unknown/missing results.

b Measurement closest to delivery.

c Delivery was defined as preterm when it occurred before 37th gestational week.

d Severe small for gestational age birth was defined when newborn birth weight was lower than the 3rd percentile for the gestational age.

e In the first decade, there were three deaths in newborns after delivery and one twin pregnancy. One twin pregnancy was in the second and two were in the third decade.

**Supplementary Table S2. Demographic and clinical characteristics of HIV-infected pregnant women and neonatal outcome according to use of methadone or heroin during pregnancy.a**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Methadone or heroin users**  **(N=39)**  **n/N (%)** | **Methadone or heroin not users (N=223)**  **n/N (%)** | **p-value** |
| **Median age (IQR)** | 28 (26 – 35) | 29 (25 – 34) | 0.74 |
| **Decade of birth** |  |  | 0.009 |
| 1985-1994 | 25/39 (64.1) | 96/223 (43.1) |  |
| 1995-2004 | 11/39 (28.2) | 60/223 (26.9) |  |
| 2005-2014 | 3/39 (7.7) | 67/223 (30) |  |
| **Ethnic group** |  |  | 0.008 |
| Caucasian | 39/39 (100) | 188/223 (84.3) |  |
| Not Caucasian  *South-american*  *African*  *Asian* | 0/39 (0)  *-*  *-*  *-* | 35/223 (15.7)  *22/35 (62.9)*  *11/35 (31.4)*  *2/35 (5.7)* |  |
| **HIV risk factors (mode of transmission)** |  |  |  |
| Injecting drugs use | 37/39 (94.9) | 90/223 (40.4) | < 0.001 |
| Heterosexual intercourse | 1/39 (2.6) | 98/223 (43.9) | < 0.001 |
| MTCT | 0/39 (0) | 3/223 (1.4) | > 0.99 |
| Other | 1/39 (2.6) | 32/223 (14.4) | 0.04 |
| **Co-infection** |  |  |  |
| HCV co-infection | 19/39 (48.7) | 41/223 (18.4) | < 0.001 |
| HBV co-infection | 11/39 (28.2) | 21/223 (9.4) | < 0.001 |
| HBV and HCV co-infection | 8/39 (20.5) | 8/223 (3.6) | < 0.001 |
| **Smoke** | 14/39 (35.9) | 39/223 (17.5) | 0.02 |
| **Timing of HIV diagnosis** |  |  | 0.39 |
| Prior to pregnancy | 25/39 (64.1) | 136/223 (61) |  |
| During pregnancy | 9/39 (23.1) | 39/223 (17.5) |  |
| At/after delivery | 5/39 (18.2) | 48/223 (21.5) |  |
| **ART at conception** | 0/39 (0) | 45/223 (20.2) | 0.002 |
| **ART prescription during pregnancy** | 12/39 (30.8) | 120/223 (53.8) | 0.008 |
| Monotherapy/dual therapy  cART  *cART Protease inhibitor based* | 5/12 (41.7)  7/12 (58.3)  *3/5 (42.9)* | 41/120 (34.2)  79/120 (65.8)  *64/79 (81)* | 0.6  *0.26* |
| **Mode of delivery\* (n = 260)** |  |  | 0.1 |
| Vaginal | 24/39 (61.5) | 103/221 (46.6) |  |
| Elective caesarian section | 12/39 (30.8) | 108/221 (48.9) |  |
| Emergency caesarian section | 3/39 (7.7) | 10/221 (4.5) |  |
| **Antiretroviral prophylaxis *intrapartum*** | 12/39 (30.8) | 105/223 (47.1) | 0.06 |
| **HIV-RNA load at deliveryb(n = 90)** |  |  | 0.001 |
| Undetectable (≤ 50 cp/ml) | 1/8 (12.5) | 57/82 (69.5) |  |
| Detectable (>50cp/ml) | 7/8 (87.5) | 25/82 (30.5) |  |
| **CD4+ T-cell at deliveryb(n = 91)** |  |  | 0.06 |
| <200 cell/mm3 | 0/7 (0) | 3/84 (3.6) |  |
| 200-499 cell/mm3 | 5/7 (71.4) | 24/84 (28.6) |  |
| ≥500 cell/mm3 | 2/7 (28.6) | 57/84 (67.9) |  |
| **Previous pregnancy** | 14/39 (35.9) | 79/223 (35.4) | 0.95 |
| **Previous pregnancy interruption** | 15/39 (38.5) | 84/223 (37.7) | 0.92 |
| **Previous spontaneous abortion** | 5/39 (12.8) | 24/223 (10.8) | 0.71 |
| **PROM** | 19/39 (48.7) | 76/223 (34.1) | 0.08 |
| **Preterm deliveryc** | 5/39 (12.8) | 20/223 (9) | 0.45 |
| **Severe SGAd** | 17/39 (43.6) | 38/223 (17) | < 0.001 |
| **Infant’s HIV infection (n = 263)e** | 3/39 (7.7) | 15/224 (6.7) | 0.83 |

IQR, interquartile range; MTCT, mother-to-child transmission; ART, antiretroviral therapy; cART, combined antiretroviral therapy; PROM, premature rupture of membrane; SEVERE SGA, small for gestational age.

a Percentages exclude unknown/missing results.

b Measurement closest to delivery.

c Delivery was defined as preterm when it occurred before 37th gestational week.

d Severe small for gestational age birth was defined when newborn birth weight was lower than the 3rd percentile for the gestational age.

e In the first decade, there were three deaths in newborns after delivery and one twin pregnancy. One twin pregnancy was in the second and two were in the third decade.

**Supplementary Table S3. Demographic and clinical characteristics of HIV-infected pregnant women and neonatal outcome according vaginal delivery or elective caesarian section.a**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Vaginal delivery**  **(n=127)** | **Elective caesarian section (n=120)** | **p-value** |
| **Median age (IQR)** | 26 (23 – 29) | 32 (28 – 36) | < 0.001 |
| **Decade of birth** |  |  | < 0.001 |
| 1985-1994 | 107/127 (84.2) | 11/120 (9.2) |  |
| 1995-2004 | 20/127 (15.8) | 44/120 (36.7) |  |
| 2005-2014 | 0/127 (0) | 65/120 (54.2) |  |
| **Ethnic group** |  |  | < 0.001 |
| Caucasian | 125/127 (98.4) | 90/120 (75) |  |
| Not Caucasian  *South-american*  *African*  *Asian* | 2/127 (1.6)  *2/2 (100)*  *0/2 (0)*  *0/2 (0)* | 30/120 (25)  *18/30 (60)*  *10/30 (33.3)*  *2/30 (6.7)* |  |
| **HIV risk factors (mode of transmission)** |  |  |  |
| Injecting drugs use | 89/127 (70.1) | 32/120 (26.7) | < 0.001 |
| Heterosexual intercourse | 29/127 (22.8) | 64/120 (53.3) | < 0.001 |
| MTCT | 0/127 (0) | 3/120 (2.5) | 0.07 |
| Other | 9/127 (7.1) | 21/120 (17.5) | 0.01 |
| **Co-infection** |  |  |  |
| HCV co-infection | 27/127 (21.3) | 27/120 (22.5) | 0.81 |
| HBV co-infection | 17/127 (13.4) | 12/120 (10) | 0.41 |
| HBV and HCV co-infection | 6/127 (4.7) | 8/120 (6.7) | 0.51 |
| **Smoke** | 27/127 (21.6) | 25/120 (20.8) | 0.93 |
| **Methadone or heroin** | 24/127 (18.9) | 12/120 (10) | < 0.05 |
| **Timing of HIV diagnosis** |  |  | < 0.001 |
| Prior to pregnancy | 58/127 (45.7) | 91/120 (75.8) |  |
| During pregnancy | 30/127 (23.6) | 17/120 (14.2) |  |
| At/after delivery | 39/127 (30.7) | 12/120 (10) |  |
| **ART at conception** | 0/127 (0) | 42/120 (35) | < 0.001 |
| **ART prescription during pregnancy** | 25/127 (19.7) | 99/120 (82.5) | < 0.001 |
| Monotherapy/dual therapy  cART  *cART Protease inhibitor based* | 25/25 (0)  0/25 (0)  *0/0* | 18/99 (18.2)  81/99 (81.8)  *65/81 (80.2)* | < 0.001  NA |
| **Antiretroviral prophylaxis *intrapartum*** | 4/127 (3.2) | 103/120 (85.8) | < 0.001 |
| **HIV-RNA load at deliveryb(n = 85)** |  |  | 0.35 |
| Undetectable (≤ 50 cp/ml) | 0/1 (0) | 55/84 (65.5) |  |
| Detectable (>50cp/ml) | 1/1 (100) | 29/84 (34.5) |  |
| **CD4+ T-cell at deliveryb(n = 87)** |  |  | 0.003 |
| <200 cell/mm3 | 1/11 (9.1) | 2/76 (2.6) |  |
| 200-499 cell/mm3 | 8/11 (72.7) | 20/75 (26.3) |  |
| ≥500 cell/mm3 | 2/11 (18.2) | 54/76 (71.1) |  |
| **Previous pregnancy** | 34/127 (26.7) | 54/120 (45) | 0.003 |
| **Previous pregnancy interruption** | 54/127 (42.5) | 38/120 (31.7) | 0.08 |
| **Previous spontaneous abortion** | 14/127 (11) | 14/120 (11.7) | 0.87 |
| **PROM** | 87/127 (68.5) | 0/120 (0) | < 0.001 |
| **Preterm deliveryc** | 6/127 (4.7) | 13/120 (10.8) | 0.07 |
| **Severe SGAd** | 27/127 (21.7) | 24/120 (20) | 0.81 |
| **Infant’s HIV infection (n = 247)e** | 12/125 (9.6) | 5/122 (4.1) | 0.1 |

IQR, interquartile range; MTCT, mother-to-child transmission; ART, antiretroviral therapy; cART, combined antiretroviral therapy; PROM, premature rupture of membrane; SEVERE SGA, small for gestational age.

a Percentages exclude unknown/missing results.

b Measurement closest to delivery.

c Delivery was defined as preterm when it occurred before 37th gestational week.

d Severe small for gestational age birth was defined when newborn birth weight was lower than the 3rd percentile for the gestational age.

e In the first decade, there were three deaths in newborns after delivery and one twin pregnancy. One twin pregnancy was in the second and two were in the third decade.