Data Article

Mortality, clinical data and proteomic analysis of IUGR and AGA newborns at different gestational ages

M.D. Ruiz-González a, M.D. Cañete b, J.L. Gómez-Chaparro c, A. Rodríguez-Torronteras d, N. Abril e, R. Cañete f, J.L. López-Barea e,*

a Neonatology Unit, Pediatrics Service, Reina Sofia University Hospital, Andalusian Health Service, Menéndez Pidal Avenue, 14004 Córdoba, Spain
b Maimonides Institute of Biomedical Research of Córdoba (IMIBIC), Menendez Pidal Avenue, 14004 Córdoba, Spain
c Experimental Unit Córdoba District, Andalusian Health Service, Isla Lanzarote s/n, 14011 Córdoba, Spain
d Epidemiology Unit Córdoba District, Andalusian Health Service, Isla Lanzarote s/n, 14011 Córdoba, Spain
e Department of Biochemistry and Molecular Biology, Severo Ochoa Building, Rabanales Campus, University of Córdoba, A4 highway, Km 396a, 14071 Córdoba, Spain
f Pediatric Endocrinology Section, Pediatrics Service, Reina Sofia University Hospital, Andalusian Health Service, Menéndez Pidal Avenue, 14004 Córdoba, Spain

ABSTRACT

The data are related to the proteomic analysis of 43 newborns with intrauterine growth retardation (IUGR) and 45 newborns with appropriate weight for gestational age (AGA) carried out by separation via 2DE and analyzed by MS–TOF/TOF. All newborns were separated into three gestational age groups, "Very Preterm" 29–32 weeks, "Moderate Preterm" 33–36 weeks, and, "Term" 37 weeks. From each newborn, blood was drawn three times from birth to 1 month life. High-abundant serum proteins were depleted, and the minority ones were separated by 2DE and analyzed for significant expression differences. The data reflect analytic and clinic variables analyzed globally and categorized by gestational age in relation to IUGR and the optimization of conditions for 2-DE separation. The data from this study are related to the research article entitled "Alterations of Protein Expression in Serum of Infants with Intrauterine Growth Restriction and..."
Different Gestational Ages” (M.D. Ruis-González, M.D. Cañete, J.L. Gómez-Chaparro, N. Abril, R. Cañete, J. López-Barea, 2015) [1]. The present dataset of serum IUGR newborn proteome can be used as a reference for any study involving intrauterine growth restriction during the first month of life.

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Specifications Table

| Subject area                      | Biology                                      |
|----------------------------------|----------------------------------------------|
| More specific subject area       | Neonatology, IUGR (intrauterine growth restriction) |
| Type of data                     | Tables and figures                          |
| How data was acquired            | By clinical history and 2-DE gel PAGE        |
| Data format                      | Analysed                                     |
| Experimental factors             | Samples were subjected to protein depletion using the Proteominer™ kit (Bio-Rad) prior to separation by 2-DE electrophoresis |
| Experimental features            | Standard procedures of laboratory and 2-DE gels electrophoresis |
| Data source location             | Córdoba (Spain)                              |
| Data accessibility               | The data are supplied with this article      |

Value of the data

- The clinical characteristics of IUGR neonates, and the statistical analysis of quantitative and qualitative variables, carried out both globally and in function of gestational age can be useful for other scientists working in the IUGR field.
- The set-up and optimization of the conditions of 2-DE analysis in sera from newborns could be useful for the reproducibility of similar future trials.
- This dataset could be used as a benchmark for studies on the variations of serum proteomic IUGR from birth through the first month of life.

1. Data

Descriptive analysis of analytical and clinical variables was carried out globally (Tables 1–3) and categorized also according to gestational age (GA) groups in “Very Preterm”, “Moderate Preterm” and “Term” IUGR infants at different times after birth (0–48 h, 7–10d, 28–30d) (Tables 4–6). Table 7 illustrates the pathogenic microorganisms isolated in positive hemocultures.

For the development of 2-DE electrophoresis, we started carrying our 2-DE gels with a wide pH range (3–10), as shown in Fig. 1A. In these initial gels we observed that most of the proteins were in the pH range 4–7. Thus, we reasoned that the resolution would improve using IPG strips of narrower pH gradient. Thus, 2-DE electrophoresis was routinely carried out using IPG strips of 11 cm and pH range 4–7, as shown in Fig. 1B. Isoelectric focusing was performed using an Protean IEF Cell (BioRad) a 20 °C according the next program (Table 8).
Table 1
Global analysis of qualitative variables analyzed in IUGR neonates.

| Variable                       | Infant type | N  | n (%)   | P value |
|-------------------------------|-------------|----|---------|---------|
| Respiratory dystres           | IUGR        | 43 | 13 (30.2)| 0.171   |
|                               | AGA         | 45 | 8 (17.8) |         |
| NEC                           | IUGR        | 43 | 2 (4.7)  | 0.143   |
|                               | AGA         | 45 | 0        |         |
| Hypoxia-ischemia              | IUGR        | 43 | 0        | NA      |
|                               | AGA         | 45 | 0        |         |
| Hypoglycemia 0–48 h           | IUGR        | 43 | 13 (30.2)| 0.171   |
|                               | AGA         | 45 | 8 (17.8) |         |
| Hypoglycemia 7–10d            | IUGR        | 43 | 1 (2.3)  | 0.974   |
|                               | AGA         | 45 | 1 (2.2)  |         |
| Primiparae                    | IUGR        | 43 | 30 (69.8)| 0.166   |
|                               | AGA         | 45 | 30 (66.7)|         |
| Prenatal corticosteroids      | IUGR        | 43 | 22 (51.2)| 0.839   |
|                               | AGA         | 45 | 24 (53.3)|         |
| Preeclampsia                  | IUGR        | 43 | 13 (30.2)| *0.001  |
|                               | AGA         | 45 | 2 (4.4)  |         |
| Pregnancy-induced hypertension| IUGR        | 43 | 6 (13.9) | *0.001  |
|                               | AGA         | 45 | 1 (2.2)  |         |
| Oligohydramnios               | IUGR        | 43 | 3 (7.0)  | 0.079   |
|                               | AGA         | 45 | 0        |         |
| Thrombocytopenia 0–48 h       | IUGR        | 43 | 8 (18.6) | *0.002  |
|                               | AGA         | 45 | 0        |         |
| Thrombocytopenia 7–10d        | IUGR        | 43 | 4 (9.3)  | *0.036  |
|                               | AGA         | 45 | 0        |         |
| Thrombocytopenia 28–30d       | IUGR        | 43 | 2 (4.7)  | 0.143   |
|                               | AGA         | 45 | 0        |         |
| Hemocultive + 0–48 h          | IUGR        | 43 | 1 (2.3)  | 0.328   |
|                               | AGA         | 45 | 3 (6.7)  |         |
| Hemocultive + 7–10d           | IUGR        | 43 | 11 (25.6)| *0.005  |
|                               | AGA         | 45 | 2 (4.4)  |         |
| Hemocultive + 28–30d          | IUGR        | 43 | 2 (4.7)  | 0.143   |
|                               | AGA         | 45 | 0        |         |
Table 1 (continued)

| Variable                | Infant type | N   | n (%) | P value |
|-------------------------|-------------|-----|-------|---------|
| Polycythaemia 0–48 h    | IUGR        | 43  | 2 (4.7) | 0.143   |
|                         | AGA         | 45  | 0     |         |
| Smoking                 | IUGR        | 43  | 1 (2.3) | 0.304   |
|                         | AGA         | 45  | 0     |         |
| Alcohol/other drugs     | IUGR        | 43  | 0     | NA      |
|                         | AGA         | 45  | 0     |         |

IUGR, intrauterine growth restriction; AGA, appropriate for gestational age; NEC, necrotizing enterocolitis; NA, not applicable
* significant (p < 0.05)

Table 2
Global analysis of qualitative variables (16) analyzed in IUGR neonates of the three gestational age groups.

| Variable                | Infant type | Group 1 (GA 29a 32w) | P     | Group 2 (GA 33a 36w) | P     | Group 3 (GA ≥ 37 w) | P     |
|-------------------------|-------------|-----------------------|-------|-----------------------|-------|----------------------|-------|
| Respiratory dystres     | IUGR        | 13 6 (46.15)          | 0.488 | 15 4 (26.66)          | 0.142 | 15 3 (20.00)         | 0.624 |
|                         | AGA         | 15 5 (33.33)          |       | 15 1 (06.66)          |       | 15 2 (13.00)         |       |
| NEC                     | IUGR        | 13 –                  | NA    | 15 2 (13.00)          | 0.143 | 15 –                 | NA    |
|                         | AGA         | 15 –                  |       | 15 0                  |       | 15 –                 |       |
| Hypoxia-Ischemia        | IUGR        | 13 –                  | NA    | 15 –                  | NA    | 15 –                 | NA    |
|                         | AGA         | 15 –                  |       | 15 –                  |       | 15 –                 |       |
| Hypoglycemia 0–48 h     | IUGR        | 13 2 (15.38)          | 0.150 | 15 3 (20.00)          | 0.624 | 15 8 (53.33)         | *0.001|
|                         | AGA         | 15 6                  |       | 15 2 (13.00)          |       | 15 0                 |       |
| Hypoglycemia 7–10d      | IUGR        | 13 –                  | NA    | 15 1 (06.66)          | 0.974 | 15 –                 | NA    |
|                         | AGA         | 15 –                  |       | 15 1 (06.66)          |       | 15 –                 |       |
| Primiparae              | IUGR        | 13 9 (69.23)          | 0.229 | 15 9 (60.00)          | 0.512 | 15 12 (80.00)        | 0.512 |
|                         | AGA         | 15 7 (46.66)          |       | 15 10 (66.7)          |       | 15 13 (86.6)         |       |
| Prenatal corticosteroids| IUGR        | 13 12 (92.3)          | 0.630 | 15 9 (60.00)          | 0.439 | 15 1 (06.66)         | 0.309 |
|                         | AGA         | 15 13 (86.7)          |       | 15 11 (73.3)          |       | 15 0                 |       |
| Preeclampsia            | IUGR        | 13 6 (46.15)          | 0.055 | 15 7 (46.66)          | *0.003| 15 –                 | NA    |
|                         | AGA         | 15 2 (13.33)          |       | 15 0                  |       | 15 –                 |       |
| PIH                     | IUGR        | 13 3 (23.07)          | 0.216 | 15 1 (06.66)          | 0.309 | 15 2 (13.33)         | 0.143 |
|                         | AGA         | 15 1 (06.66)          |       | 15 0                  |       | 15 0                 |       |
| Oligohydramnios         | IUGR        | 13 2 (07.69)          | 0.115 | 15 –                  | NA    | 15 1 (06.66)         | 0.309 |
|                         | AGA         | 15 0                  |       | 15 –                  |       | 15 0                 |       |
Table 2 (continued)

| Variable       | Infant type | N Group 1 (GA 29 a 32w) | P | N Group 2 (GA 33 a 36w) | P         | N Group 3 (GA ≥ 37 w) | P         |
|----------------|-------------|-------------------------|---|-------------------------|-----------|------------------------|-----------|
| Thrombocytopenia 0–48 h | IUGR        | 13 2 (07.69)            | 0.115 | 15 5 (33.33)            | *0.014    | 15 1 (06.66)            | 0.309    |
|                | AGA         | 15 0                    |     | 15 0                    |           | 15 0                   |           |
| Thrombocytopenia 7–10d | IUGR        | 13 1 (07.69)            | 0.274 | 15 2 (13.33)            | 0.143     | 15 1 (07.69)            | 0.309    |
|                | AGA         | 15 0                    |     | 15 0                    |           | 15 0                   |           |
| Thrombocytopenia 28–10d | IUGR       | 13 –                    |     | 15 1 (07.69)            | 0.309     | 15 –                   | NA       |
|                | AGA         | 15 –                    |     | 15 0                    |           | 15 –                   | NA       |
| Hemocultive + 7–10d | IUGR      | 13 7 (53.84)            | *0.022 | 15 4 (26.66)            | *0.032    | 15 –                   | NA       |
|                | AGA         | 15 2 (13.33)            |     | 15 0                    |           | 15 –                   | NA       |
| Polycythaemia 0–48 h | IUGR       | 13 –                    |     | 15 1                    | 0.039     | 15 –                   | 0.309    |
|                | AGA         | 15 –                    |     | 15 0                    |           | 15 0                   |           |
| Smoking        | IUGR        | 13 1 (07.69)            | 0.274 | 15 –                    | NA        | 15 –                   | NA       |
|                | AGA         | 15 0                    |     | 15 –                    | NA        | 15 0                   |           |

IUGR. intrauterine growth restriction; AGA. appropriate for gestational age; NEC. necrotizing enterocolitis; PIH. pregnancy-induced hypertension; NA. not applicable.
* significant (p < 0.05).

Table 3
Global descriptive analysis of quantitative variables (20) analyzed in IUGR neonates and AGA infants along the three sampling times.

| Variable | Infant type | Sampling time 0–48 h | Sampling time 7–10 days | Sampling time 28–30 days |
|----------|-------------|----------------------|-------------------------|--------------------------|
|          | N Value     | P                    | N Value                 | P                        | N Value                 | P                        |
| RCP (mg/L) | IUGR   | 40 01.39 ± 2.78      | *0.017                 | 33 07.00 ± 17.3          | 0.313                   | 18 06.92 ± 14.7          | 0.052                     |
|          | AGA   | 39 12.25 ± 2.79      |                       | 37 03.57 ± 10.3          |                         | 25 01.21 ± 2.28          |                         |
| PCT (ng/mL) | IUGR  | 8 00.21 ± 0.21       | 0.263                  | 14 01.70 ± 3.10          | 0.316                   | 3 04.72 ± 7.00           | 0.624                     |
|          | AGA   | 19 09.25 ± 2.20      |                       | 6 00.36 ± 0.47           |                         | 1 0.08--------          |                         |
| Hb (g/dL) | IUGR   | 43 18.15 ± 2.02      | * < 0.001              | 40 15.72 ± 2.45          | *0.009                  | 37 10.88 ± 1.84          | 0.528                     |
|          | AGA   | 45 15.57 ± 2.13      |                       | 41 14.19 ± 2.62          |                         | 42 10.56 ± 2.01          |                         |
| Hto (%)  | IUGR   | 43 54.39 ± 6.33      | * < 0.001              | 40 47.66 ± 7.36          | *0.008                  | 38 32.02 ± 5.19          | 0.814                     |
|          | AGA   | 45 47.90 ± 5.95      |                       | 41 42.99 ± 8.13          |                         | 42 31.71 ± 6.15          |                         |
| Leukocytes (10^9) | IUGR | 43 13,416 ± 7659 | 0.151                | 40 12,184 ± 4253         | 0.543                   | 39 10,804 ± 3305         | 0.569                     |
|          | AGA   | 45 21,036 ± 3327     |                       | 41 12,849 ± 5465         |                         | 42 11,224 ± 3298         |                         |
Table 3 (continued)

| Variable | Infant type | Sampling time 0–48 h | Sampling time 7–10 days | Sampling time 28–30 days |
|----------|-------------|---------------------|------------------------|------------------------|
|          | N           | Value               | P                      | N                      | Value               | P                      | N                      | Value               | P                      |
| Neutrophils (%) | IUGR 43 | 49.67 ± 15.5 | 0.558 | 40 | 35.33 ± 12.0 | *0.018 | 38 | 23.88 ± 8.39 | 0.502 |
|          | AGA 45 | 51.64 ± 15.6 | | 41 | 41.58 ± 11.3 | | 42 | 25.14 ± 8.39 | |
| Lymphocyte (%) | IUGR 43 | 39.41 ± 15.1 | 0.204 | 40 | 43.63 ± 12.3 | 0.202 | 39 | 55.57 ± 10.0 | 0.222 |
|          | AGA 45 | 35.34 ± 14.3 | | 41 | 40.23 ± 11.5 | | 41 | 58.24 ± 19.3 | |
| Monocytes (%) | IUGR 43 | 07.56 ± 3.81 | 0.129 | 40 | 14.75 ± 5.38 | *0.037 | 39 | 09.31 ± 2.58 | 0.595 |
|          | AGA 45 | 08.94 ± 4.44 | | 41 | 12.32 ± 4.91 | | 42 | 08.96 ± 3.27 | |
| Eosinophils (%) | IUGR 43 | 02.46 ± 1.88 | 0.785 | 40 | 04.34 ± 2.93 | 0.719 | 39 | 06.92 ± 5.05 | 0.111 |
|          | AGA 45 | 02.36 ± 1.59 | | 41 | 04.14 ± 1.92 | | 42 | 05.40 ± 3.34 | |
| Basophils (%) | IUGR 43 | 00.84 ± 0.55 | 0.196 | 40 | 01.37 ± 0.80 | 0.110 | 36 | 00.89 ± 0.46 | 0.442 |
|          | AGA 45 | 01.17 ± 1.46 | | 41 | 01.11 ± 0.63 | | 42 | 00.81 ± 0.39 | |
| Platelets (10^3/μL) | IUGR 43 | 181,785 ± 61,103 | *< 0.001 | 40 | 273,275 ± 124,266 | *0.001 | 39 | 380,435 ± 124,497 | 0.761 |
|          | AGA 45 | 266,622 ± 83,951 | | 41 | 363,170 ± 111,290 | | 42 | 390,785 ± 174,925 | |
| AST (U/L) | IUGR 30 | 70.00 ± 86.0 | 0.814 | 34 | 35.00 ± 18.0 | 0.428 | 37 | 35.0 ± 40.0 | 0.402 |
|          | AGA 26 | 66.00 ± 44.0 | | 37 | 31.00 ± 14.0 | | 37 | 30.0 ± 12.0 | |
| ALT (U/L) | IUGR 30 | 25.00 ± 48.0 | 0.959 | 32 | 14.00 ± 17.0 | 0.410 | 25 | 18.0 ± 5.00 | 0.052 |
|          | AGA 26 | 26.00 ± 49.0 | | 37 | 19.00 ± 26.0 | | 24 | 20.0 ± 9.00 | |
| Glucose (mg/dL) | IUGR 42 | 51.00 ± 32.0 | 0.525 | 40 | 79.00 ± 26.0 | 0.399 | 42 | 81.00 ± 18.0 | 0.534 |
|          | AGA 44 | 52.0 ± 36.0 | | 44 | 84.00 ± 24.0 | | 43 | 78.00 ± 12.0 | |
| Protein (g/L) | IUGR 43 | 05.00 ± 0.75 | 0.524 | 39 | 05.20 ± 0.55 | 0.199 | 42 | 04.68 ± 0.85 | 0.191 |
|          | AGA 45 | 05.10 ± 1.06 | | 44 | 05.39 ± 0.76 | | 44 | 04.90 ± 0.65 | |
| K (mEq/L) | IUGR 42 | 04.59 ± 0.81 | 0.532 | 39 | 04.80 ± 0.78 | 0.674 | 40 | 05.28 ± 0.69 | 0.813 |
|          | AGA 43 | 04.70 ± 0.78 | | 44 | 04.72 ± 0.78 | | 44 | 05.25 ± 0.65 | |
| Na (mEq/L) | IUGR 45 | 135.0 ± 3.29 | 0.171 | 40 | 135.6 ± 3.76 | 0.183 | 41 | 136.2 ± 3.33 | 0.899 |
|          | AGA 45 | 136.2 ± 3.29 | | 44 | 136.6 ± 3.31 | | 44 | 136.1 ± 3.33 | |
| Ca (mg/dL) | IUGR 40 | 10.26 ± 0.88 | 0.234 | 39 | 11.14 ± 0.57 | 0.259 | 31 | 11.00 ± 0.80 | 0.505 |
|          | AGA 41 | 10.02 ± 0.93 | | 43 | 11.00 ± 0.54 | | 39 | 11.32 ± 0.50 | |
| Urea (mg/dL) | IUGR 43 | 24.65 ± 13.93 | 0.421 | 40 | 18.15 ± 14.1 | 0.634 | 42 | 13.80 ± 9.13 | 0.776 |
|          | AGA 41 | 26.90 ± 11.40 | | 44 | 19.61 ± 14.8 | | 44 | 13.31 ± 6.60 | |
| Cre (mg/dL) | IUGR 42 | 00.69 ± 0.19 | 0.449 | 40 | 00.48 ± 0.14 | 0.473 | 41 | 00.38 ± 0.06 | 0.511 |
|          | AGA 40 | 00.73 ± 0.26 | | 45 | 00.51 ± 0.12 | | 44 | 00.37 ± 0.07 | |

IUGR. intrauterine growth restriction; AGA. appropriate for gestational age; RCP. reactive C protein; PCT. procalcitonin; Hb. hemoglobin; AST. aspartate aminotransferase; K. potassium; Na. sodium; Cre. creatinine.
Table 4
Descriptive analysis categorized according to the gestational ages of quantitative variables of "Very Preterm" IUGR neonates at different times after birth.

| Variable | Infant type | N 0–48h | P | N 7–10d | P | N 28–30d | P |
|----------|-------------|---------|---|---------|---|----------|---|
| **RCP (mg/L)** | IUGR | 13 | 00.93 ± 1.40 | 0.279 | 13 | 11.09 ± 22.1 | 0.493 | 11 | 06.95 ± 11.5 | 0.468 |
| AGA | 12 | 04.19 ± 10.5 | 13 | 05.66 ± 17.3 | 7 | 02.18 ± 3.72 | 13 | 11.09 ± 1.40 |
| **Hb (g/dl)** | IUGR | 13 | 17.36 ± 16.6 | 0.012 | 13 | 14.17 ± 2.55 | 0.265 | 11 | 10.60 ± 1.93 | 0.588 |
| AGA | 15 | 15.67 ± 16.4 | 13 | 13.04 ± 2.49 | 14 | 10.22 ± 1.93 | 10 | 15.67 ± 1.64 |
| **Hto (%)** | IUGR | 13 | 51.66 ± 5.49 | 0.028 | 13 | 42.80 ± 7.82 | 0.157 | 11 | 31.86 ± 5.24 | 0.647 |
| AGA | 15 | 47.34 ± 4.25 | 13 | 38.63 ± 6.88 | 14 | 30.87 ± 5.28 | 14 | 47.34 ± 4.25 |
| **Platelets (10^3/μL)** | IUGR | 13 | 196,307 | 52,948 | 0.008 | 12 | 242,230 | 104,620 | 0.029 | 12 | 369,833 | 143,023 | 0.523 |
| AGA | 15 | 261,000 | 64,583 | 13 | 340,769 | 112,243 | 14 | 409,000 | 161,771 |
| **PMN (%)** | IUGR | 13 | 34.40 ± 10.4 | 0.498 | 13 | 38.01 ± 16.4 | 0.231 | 12 | 24.01 ± 10.3 | 0.816 |
| AGA | 15 | 38.38 ± 12.2 | 13 | 45.50 ± 14.6 | 14 | 24.82 ± 7.16 | 14 | 38.38 ± 12.2 |
| **Monocytes (%)** | IUGR | 13 | 08.71 ± 5.61 | 0.434 | 13 | 18.16 ± 7.36 | 0.008 | 12 | 09.15 ± 2.33 | 0.392 |
| AGA | 15 | 10.62 ± 6.73 | 13 | 10.89 ± 5.40 | 11 | 09.94 ± 2.23 | 15 | 10.62 ± 6.73 |

GA: gestational age; IUGR: intrauterine growth restriction; RCP: reactive C protein; Hb: hemoglobin; Hto: Hematocrit; PMN: polymorphonuclears. * significant (p < 0.05)

Table 5
Descriptive analysis categorized according to the gestational ages of quantitative variables of "Moderate Preterm" IUGR neonates at different times after birth.

| Variable | Infant type | N 0–48h | P | N 7–10d | P | N 28–30d | P |
|----------|-------------|---------|---|---------|---|----------|---|
| **RCP (mg/L)** | IUGR | 15 | 01.94 ± 4.11 | 0.157 | 9 | 08.36 ± 19.65 | 0.203 | 5 | 09.54 ± 11.23 | 0.115 |
| AGA | 13 | 00.26 ± 0.28 | 11 | 00.58 ± 0.79 | 6 | 01.41 ± 2.29 | 13 | 00.26 ± 0.28 |
| **Hb (g/dl)** | IUGR | 15 | 18.26 ± 1.98 | 0.001 | 12 | 16.09 ± 1.84 | 0.003 | 12 | 10.59 ± 1.99 | 0.112 |
| AGA | 15 | 15.13 ± 2.19 | 14 | 13.47 ± 2.19 | 14 | 09.41 ± 1.87 | 15 | 15.13 ± 2.19 |
| **Hto (%)** | IUGR | 15 | 54.24 ± 6.07 | 0.002 | 12 | 48.63 ± 5.27 | 0.001 | 15 | 30.92 ± 5.75 | 0.275 |
| AGA | 15 | 45.95 ± 7.00 | 14 | 40.15 ± 5.79 | 14 | 28.52 ± 5.81 | 15 | 45.95 ± 7.00 |
| **Platelets (10^3/μL)** | IUGR | 15 | 170,866 ± 73,647 | 0.001 | 12 | 300,166 ± 133,091 | 0.030 | 15 | 382,866 ± 196,369 | 0.312 |
| AGA | 15 | 303,333 ± 117,968 | 14 | 417,571 ± 125,444 | 14 | 450,142 ± 232,764 | 15 | 303,333 ± 117,968 |
2. Experimental design, materials and methods

2.1. Subject selection

We included IUGR neonates, defined by having a birth weight < 10th centile for gestational age (GA), according to Carrascosa curves [2], together with echographic evidence of altered placental function, identified as an abnormal Doppler of the umbilical artery, or reduced growth rate [3].

### Table 5 (continued)

| Variable   | Infant type | N   | 0–48h   |  | P       | N   | 7–10d   |  | P       | N   | 28–30d  |  | P     |
|------------|-------------|-----|---------|---|---------|-----|---------|---|---------|-----|---------|---|-------|
| Neutrophils (%) | IUGR       | 15  | 50.06 ± 12.66 | 0.681 | 12  | 34.65 ± 12.07 | 0.230 | 14  | 25.03 ± 9.08 | 0.316 |
|            | AGA        | 15  | 51.18 ± 12.17 |       | 14  | 39.44 ± 7.51  |       | 14  | 28.66 ± 9.70  |       |
| Monocytes (%) | IUGR       | 15  | 06.72 ± 2.55  | 0.683 | 12  | 12.31 ± 2.50  | 0.458 | 15  | 08.20 ± 2.06  | 0.620 |
|            | AGA        | 15  | 07.10 ± 2.28  |       | 14  | 13.12 ± 3.29  |       | 14  | 08.81 ± 3.70  |       |

GA: gestational age; IUGR: intrauterine growth restriction; RCP: reactive C protein; Hb: hemoglobin; Hto: Hematocrit

* significant (p < 0.05)

### Table 6

Descriptive analysis categorized according to the gestational ages of quantitative variables of “Term” IUGR neonates at different times after birth.

| Variable | Infant type | N   | 0–48h   |  | P       | N   | 7–10d   |  | P       | N   | 28–30d  |  | P     |
|----------|-------------|-----|---------|---|---------|-----|---------|---|---------|-----|---------|---|-------|
| RCP (mg/L) | IUGR       | 12  | 01.19 ± 1.69 | *0.021  | 11  | 01.06 ± 1.93  | *0.009  | 2  | 00.20 ± 1.93  | 0.493 |
|          | AGA        | 14  | 30.20 ± 4.48 |       | 13  | 04.02 ± 2.92  |       | 12  | 00.54 ± 2.92  |       |
| Hb (g/dl) | IUGR       | 14  | 18.76 ± 2.26  | *0.002  | 15  | 16.78 ± 2.24  | 0.439  | 11  | 11.42 ± 1.55  | 0.351 |
|          | AGA        | 15  | 15.92 ± 2.25  |       | 13  | 16.11 ± 2.21  |       | 14  | 12.06 ± 1.73  |       |
| Hto (%)  | IUGR       | 14  | 57.12 ± 6.57  | *0007   | 15  | 51.09 ± 6.43  | 0.634  | 12  | 33.53 ± 4.39  | 0.264 |
|          | AGA        | 15  | 50.43 ± 5.73  |       | 14  | 49.88 ± 7.05  |       | 14  | 35.75 ± 5.33  |       |
| Platelets (10³/µL) | IUGR | 14  | 180,000 ± 54,721 | *0.004  | 15  | 278,666 ± 134,803 | 0.226  | 12  | 388,000 ± 145,174 | 0.104 |
|          | AGA        | 15  | 235,533 ± 39,362 |       | 14  | 329,571 ± 76,415 |       | 14  | 313,214 ± 74,313 |       |
| Neutrophils (%) | IUGR | 14  | 62.52 ± 10.4   | 0.434  | 14  | 33.54 ± 6.80  | 0.060  | 12  | 22.40 ± 5.34  | 0.861 |
|          | AGA        | 15  | 65.38 ± 8.98   |       | 15  | 40.10 ± 10.9  |       | 14  | 21.95 ± 7.23  |       |
| Monocytes (%) | IUGR | 14  | 06.72 ± 2.55   | 0.683  | 15  | 12.31 ± 2.50  | 0.458  | 15  | 08.20 ± 2.06  | 0.620 |
|          | AGA        | 15  | 07.10 ± 2.28   |       | 14  | 13.12 ± 3.29  |       | 14  | 08.81 ± 3.70  |       |

GA: gestational age; IUGR: intrauterine growth restriction; RCP: reactive C protein; Hb: hemoglobin; Hto: Hematocrit.

* significant (p < 0.05)
**Table 7**
Pathogenic microorganisms isolated in hemocultures.

| Germ                          | Hemocultures number |
|-------------------------------|---------------------|
| *Staphylococcus epidermidis*  | 10                  |
| *Staphylococcus aureus*       | 1                   |
| *Staphylococcus schleiferi*   | 1                   |
| *Staphylococcus haemolyticus* | 1                   |
| *Staphylococcus auricularis*  | 2                   |
| *Staphylococcus hominis-hominis* | 1               |
| *Serratia marcescens*         | 1                   |
| *Klebsiella pneumoniae*       | 1                   |
| *Candida parapsilosis*        | 1                   |

**Fig. 1.** Representative gels obtained for optimization of 2DE separation of high-abundance depleted human serum proteins via IEF with IPIG Strips (11 cm) of pH 3–10 (A) or pH 4–7 (B).

**Table 8**
IEF program conducted Protean IEF Cell system (Bio-Rad).

| Stage                        | Voltage (V) | Duration (hours:minutes) | Ramp   |
|------------------------------|-------------|---------------------------|--------|
| Passive rehydration          | –           | 6:00                      | –      |
| Active rehydration           | 50          | 6:00                      | Rapid  |
| Phase 1                      | 500         | 1:00                      | Lineal |
| Phase 2                      | 1,000       | 1:00                      | Lineal |
| Phase 3                      | 3,000       | 1:00                      | Lineal |
| Phase 4                      | 6,000       | 2:00                      | Lineal |
| Phase 5                      | 6,000       | 1:00                      | Rapid  |
included were 45 infants with a birth weight appropriate for their gestational age (AGA), paired for sex and classified in 3 groups by their GA [1].

2.2. Statistical analysis

The descriptive analysis of the variables studied was carried out with the routine methodology. Comparison of variables between the RCIU and AGA groups was carried out using the Student t-test for quantitative variables and the $\chi^2$-test for qualitative variables. The Fisher exact test was applied when conditions of applicability of the $\chi^2$-test were not fulfilled. A value of $p < 0.05$ was established as statistically significant. The R statistical software, version 3.22, was used throughout the whole study [4].

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Transparency document. Supporting information

Transparency data associated with this article can be found in the online version at http://dx.doi.org/10.1016/j.dib.2016.09.024.

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