Table I. Clinical Characteristics of Patient Cohort

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Case 1** | **Case 2** | **Case 3** | **Case 4** | **Case 5** | **Case 6** | **Case 7** | **Case 8** | **Case 9** |
| **Birth History** | **Gestational Age (weeks)** | 275 | 274 | 326 | 342 | 265 | 302 | 280 | 336 | 340 |
| **Sex** | F | M | M | M | F | M | M | M | M |
| **Singleton** | Y | Y | Y |  | Y |  | Y |  | Y |
| **Race/Ethnicity** | White | Hispanic | White | White | Asian | White | Black | Black | White |
| **Delivery Indications** | PPROM, SVD | Pre-E, IUGR | NRFHT | Pre-E | PTL | Chorio. | PTL | Poor growth of twin | Pre-E, HELLP |
| **Intrauterine Growth Restriction** |  | Y |  |  |  |  |  |  |  |
| **Preterm Premature Rupture of Membranes** | Y |  |  |  |  | Y |  |  |  |
| **Antenatal Corticosteroids** | Y | U |  |  | Y | Y | Y | Y |  |
| **Advanced Maternal Age ≥35 years** |  |  | Y |  | Y | Y |  |  |  |
| **Hospital Course Prior to Biopsy** | **Invasive Mechanical Ventilation** | Y | Y |  | Y | Y | Y |  | Y | Y |
| **High Frequency Ventilation** | Y | Y |  | Y | Y |  |  |  |  |
| **Surfactant** | Y | Y | Y | Y | Y | Y | U | Y | Y |
| **Postnatal Steroids** | Y | Y |  |  | Y | Y | Y | Y | Y |
| **Diuretics** | Y | Y | Y |  | Y | Y | Y | Y | Y |
| **Sepsis** | Y |  |  |  |  |  |  |  |  |
| **Treatment of Patent Ductus Arteriosus** |  |  |  |  | Indocin, ligation |  | Indocin |  |  |
| **Pulmonary Arterial Hypertension** |  |  |  | Y | Y |  | Y |  |  |
| **Post-gastric Feeding** | Y | Y |  | Y | Y | Y | Y | Y | Y |
| **Clinical Bronchopulmonary Dysplasia Grade** | 3 | 3 | NA | NA | 3 | 3 | 2 | NA | NA |

Patient information relevant to birth history and initial clinical course prior to lung biopsy. For each category, the relevant clinical information was provided or if affirmative was denoted by ‘Y’ and if unknown was denoted by ‘U’. Abbreviations: female (F), male (M), preterm premature rupture of membranes (PPROM), pre-eclampsia (Pre-E), non-reassuring fetal heart tones (NRFHT), intrauterine growth restriction (IUGR), preterm labor (PTL), chorioamnionitis (Chorio), Hemolysis, Elevated Liver enzymes and Low Platelets Syndrome (HELLP), and not applicable (NA).

Table II. CTA Findings, Lung Biopsy Results, and Clinical Course Following Biopsy

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | **Case 1** | **Case 2** | **Case 3** | **Case 4** | **Case 5** | **Case 6** | **Case 7** | **Case 8** | **Case 9** |
| **Computed Tomography Angiography** | **Air Trapping** | Diffuse | Focal |  | Scattered |  | Diffuse | Focal | Focal |  |
| **Hyperinflation** | Y |  |  | Diffuse |  | Left |  |  | Diffuse |
| **Cystic Changes** |  | Diffuse | Diffuse | Y | Diffuse |  |  |  |  |
| **Pulmonary Arterial Hypertension** |  |  |  |  | Y |  | Y |  |  |
| **Lung Biopsy** | **PMA at biopsy** | 365 | 516 | 441 | 472 | 472 | 364 | 662 | 486 | 555 |
| **Respiratory Support** | IMV | IMV | CPAP | CPAP | IMV | IMV | IMV | CPAP | HFNC |
| **Alveolar Simplification** | Diffuse, moderate | Diffuse, moderate | Diffuse, moderate | Diffuse, severe | Diffuse, severe | Diffuse, severe | Diffuse, mild | Diffuse, moderate | Diffuse, moderate |
| **Pulmonary Interstitial Glycogenosis** | Patchy | Patchy | Patchy | Focal | Focal | Patchy | Y | Minimal |  |
| **Interstitial Fibrosis** |  |  |  |  |  | Diffuse, mild |  | Diffuse, mild | Patchy |
| **Interstitial Smooth Muscle** | Diffuse | Diffuse | Diffuse | Patchy | Diffuse | Diffuse | Diffuse | Patchy | Patchy |
| **Arterial Medial Hypertrophy** |  | Mild | Mild |  | Y | Mild | Y |  |  |
| **Muscularization of Arterioles** |  | Y | Y |  | Y |  | Y |  |  |
| **Edema** |  |  |  |  |  |  |  | Focal |  |
| **Post-Biopsy** | **High Dose Steroids After Biopsy** |  | Y | Y |  |  |  |  |  |  |
| **Respiratory Support at Discharge** | \* | Trach. | RA | RA | \* | Trach. | Trach. | NC | RA |
| **PMA at Discharge** | 423 | 673 | 510 | 535 | 531 | 692 | 743 | 594 | 581 |

CTA and lung biopsy results were reviewed and common findings are listed. If the indicated category was present, it is denoted by ‘Y’. Respiratory support and post-menstrual age (PMA) at time of biopsy is listed. Following biopsy, infants who received high-dose steroids is indicated as well as the respiratory support and PMA at time of discharge. Asterisks denote deceased patients. Abbreviations: indomethacin (Indocin), tracheostomy (trach), room air (RA), and nasal cannula (NC).