**Appendix B**

**Table S1**. International Disease Code (ICD) for Down Syndrome.

|  |  |
| --- | --- |
| **ICD 10 - Q90** | **Down Syndrome** |
| **ICD** 10 - Q90.0 | Trisomy 21, nonmosaicism (meiotic nondisjunction) |
| **ICD** 10 - Q90.1 | Trisomy 21, mosaicism (mitotic nondisjunction) |
| **ICD** 10 - Q90.2 | Trisomy 21, translocation |
| **ICD** 10 - Q90.9 | **Down syndrome**, unspecified |

Chart S2. Diagnoses upon admission and classified according to the ICD-10 chapters.

Chart S3. Distribution of resources utilized during hospitalization from 2013 to 2021. Percentage calculated over the total resources utilized in hospitalizations of patients with Down syndrome during the described period (total: 860).

Graphic S4. Ventilatory support utilized by DS patients during admissions in ICU, from 2013 to 2021.

Table S5. Distribution of the types of surgeries performed during hospitalization, 2013-2021 (n=44).

|  |  |  |
| --- | --- | --- |
| **Type of surgery** | **N** | **%** |
| Examination of the eye under anesthesia | 10 | 22.7 |
| Posterior capsulectomy surgery | 1 | 2.2 |
| Enterectomy | 1 | 2.2 |
| Correction of ventricular septal defect (VSD) | 4 | 9.1 |
| Surgical treatment of patella fracture by internal fixation (patellectomy) | 1 | 2.2 |
| Tonsillectomy with adenoidectomy | 4 | 9.1 |
| Exploratory laparotomy | 4 | 9.1 |
| Total atrioventricular canal correction | 1 | 2.2 |
| Unilateral orchiopexy | 3 | 6.8 |
| Pulmonary artery banding | 2 | 4.5 |
| Bilateral laparoscopic orchiopexy | 1 | 2.2 |
| Hypospadias correction | 1 | 2.2 |
| Atrioventricular canal defect repair | 2 | 4.5 |
| Removal of a foreign body from the digestive tract by endoscopy | 1 | 2.2 |
| Umbilical hernia repair | 1 | 2.2 |
| Cystoscopy and/or ureteroscopy and/or uteroscopy | 1 | 2.2 |
| Gastrostomy | 1 | 2.2 |
| Surgical treatment of vesicoureteral reflux | 1 | 2..2 |
| Adenoidectomy | 1 | 2.2 |
| Laparoscopic cholecystectomy | 1 | 2.2 |
| Phacoemulsification with implantation of foldable intraocular lenses | 1 | 2.2 |
| Incisional hernia repair | 1 | 2.2 |

Table S6. Frequency distribution of the 82 patients admitted to the ICU, according to type of comorbidities and death, 2013-2021 (p=0.60).

|  |  |
| --- | --- |
| Comorbidity | Death |
| No | Yes | Total |
| Amount | % | Amount | % |
| None | 35 | 87.5 | 5 | 12.5 | 40 |
| Type 1 diabetes mellitus | 1 | 100.0 | 0 | 0.0 | 1 |
| Cardiac malformation | 54 | 79.4 | 14 | 20.6 | 68 |
| Neurological – epilepsy  | 1 | 100.0 | 0 | 0.0 | 1 |
| Ophthalmological – cataract | 1 | 50.0 | 1 | 50.0 | 2 |
| Oncological – Acute Myeloid Leukemia (AML) | 1 | 100.0 | 0 | 0.0 | 1 |
| Musculoskeletal – umbilical hernia | 1 | 100.0 | 0 | 0.0 | 1 |
| Genitourinary | 4 | 100.0 | 0 | 0.0 | 4 |
| Gastrointestinal | 8 | 96.3 | 1 | 3.7 | 9 |
| Thyroid – Hypothyroidism | 25 | 92.6 | 2 | 7.4 | 27 |
| Pulmonary | 2 | 66.7 | 1 | 33.3 | 3 |
| Orthopedic – congenital clubfoot | 1 | 100.0 | 0 | 0.0 | 1 |
| Otorhinolaryngological | 4 | 100.0 | 0 | 0.0 | 4 |
| Total  | 69 | 84.2 | 13 | 15.8 | 82 |

Table S7. Distribution of culture results from children with DS admitted to the ICU and who died, 2013-2021.

|  |  |  |  |
| --- | --- | --- | --- |
| **Culture** | **Death** | **Total** | ***P*** |
| **No** | **Yes** |
| **Amount** | **%** |  **Amount** | **%** | **Amount** |
| **URINE** |  |  |  |  |  |  |
| Negative | 57 | 87.7 | 8 | 12.3 | 65 |  |
| \*- POSITIVE  | 12 | 75.0 | 4 | 25.0 | 16 | **0.03** |
| \*- NEGATIVE | - | 0.0 | 1 | 100.0 | 1 |  |
| **BLOOD** |  |  |  |  |  |  |
| Negative | 47 | 87.0 | 7 | 13.0 | 54 | 0.61 |
| \*\*- POSITIVE  | 3 | 75.0 | 1 | 25.0 | 4 |
| \*\*- NEGATIVE | 19 | 79.2 | 5 | 20.8 | 24 |
| **Total**  | **69** | **84.1** | **13** | **15.9%** | **82** |  |

*\* Candida spp. \*\* Enterobacter cloacae, Trichosporon asahii, Candida parapsilosis.*

Table S8. Frequency distribution of patients according to year of admission and death (p=0.82).

|  |  |  |
| --- | --- | --- |
| **Year** | **Death** | **Total** |
| **No** | **Yes** |
| **Amount** | **%** | **Amount** | **%** | **Amount** | **%** |
| 2013 | 4 | 100.0 | - | 0.0 | 4 | 100.0 |
| 2014 | 5 | 83.3 | 1 | 16.7 | 6 | 100.0 |
| 2015 | 9 | 81.8 | 2 | 18.2 | 11 | 100.0 |
| 2016 | 5 | 83.3 | 1 | 16.7 | 6 | 100.0 |
| 2017 | 5 | 100.0 | - | 0.0 | 5 | 100.0 |
| 2018 | 14 | 87.5 | 2 | 12.5 | 16 | 100.0 |
| 2019 | 7 | 70.0 | 3 | 30.0 | 10 | 100.0 |
| 2020 | 12 | 92.3 | 1 | 7.7 | 13 | 100.0 |
| 2021 | 8 | 72.7 | 3 | 27.3 | 11 | 100.0 |
| **Total** | **69** | **84.1** | **13** | **15.9** | **82** | **100.0** |

Chart S9. Risk score for death in children with Down syndrome admitted to the ICU, Botucatu, 2023.

|  |  |  |  |
| --- | --- | --- | --- |
| INFORMATION | 2 points | 1 points | 0 point |
| Age | 0-3 years | 4-9 years | >10 years |
| Comorbidity | Cardiac malformation | One or more comorbidities, except cardiac malformation | No comorbidities |
| Ventilatory support | Mechanical ventilation | High-flow nasal cannulaNon-invasive ventilationOxygen supplementation | Without ventilatory support |
| Outpatient follow-up | No follow-up | Intermittent follow-up | Regular follow-up |
| ICU length of stay | 10 days or more | 1-9 days | 0 day |