**Table. 5 Summary of studies on the use of invasive ventilation (IV) in ALS patients**

|  |  |  |  |
| --- | --- | --- | --- |
| Study | Patients | Results | |
| Spataro et al. [104] | IV = **87**  non-IV1 = **192**  1 85% on NIV (at least 4 hour per day) | *Survival* | **Prolonged** in **IV** (**IV** *vs.* **non-IV**)  **■ median survival** [months]: 47 [IQR, 33–61] *vs.* 31 [IQR, 20–47] (p = 0.008)  (no significant effect in patients older than 60 years old) |
| Rousseau et al. [120] | IV = **12**  (ALS = **8**, LIS = **4**)  non-IV = **22**  (NIV = **5**; non-NIV/IV = **17**) | *Quality of life* | **No difference** (**IV** *vs.* **non-IV**)  ■ SF-36: 74.6 (SD±16.4) *vs.* 75.1 (SD±4.6) (p = 0.94)  ■ MQOL: 79 (SD±21.4) *vs.* 92.8 (SD±17.2) (p = 0.08)  ■ BDI-II: 16.3 (SD±9.9) *vs.* 18.8 (SD±8) (p = 0.32)  ■ TAS: 56.9 (SD±11.6) *vs.* 60.3 (SD±11.3) (p = 0.85)  ■ STAI-Y: Basal anxiousness: 53 (SD±13.5) *vs.* 53.6 (SD±10.2) (p = 0.97)  ■ STAI-Y: Reactive anxiousness: 52 (SD±13.2) *vs.* 52.2 (SD±10.8) (p = 0.59)  **No difference** (**IV-LIS** *vs.* **non-IV-LIS**)  **■** SF36 [no data given]  ■ MQOL[no data given] |
| Vianello et al. [101] | IV = **60** for survival analysis; **13** for QoL analysis  non-IV1 = **14**  1 14% on NIV | *Quality of life* | **No difference** (**IV** *vs.* **non-IV**) at 19.6 ± 16.6 months after tracheostomy  ■ LSI-11: Mood tone: 1.5 [SD±1.9] *vs.* 1.1 [SD±1.6] (p > 0.05)  ■ LSI-11: Zest for life: 3.8 [SD±1.9] *vs* 4 [SD±2.6] (p > 0.05)  ■ LSI-11: Congruence between desired and achieved goals: 4 [SD±1.6] *vs.* 4.1 [SD±1.9] (p > 0.05)  ■ LSI-11: Cumulative score: 9.3 [SD±3.6] *vs.* 9.3 [SD±4.3] (p > 0.05)  ■ BDI: 19.2 [SD±9.1] *vs.* 21.4 [SD±9.4] (p > 0.05) |
| Kaub-Wittemer et al. [97] | IV = **21**  NIV = **21** | *Quality of life* | **No difference** (**IV** *vs.* **NIV**)  **■** POMS: [no data given]  ■ MLDL: [no data given] |
| Kuzma-Kozakiewicz et al. [16] | LIS = **17** | *Quality of life* | **Positive** (the overall quality of life)  ■ ACSA: 1 [IQR, (-2)–3]  ■ SEIQoL: 66 [IQR, 58-88] |
| Mitsumoto et al. [43] | IV1 = **16** (IV+PEG1 = **14**)  non-IV1 = **308** (non-IV+PEG1 = **123**)  1 ALSFRS bulbar score ≤5 | *Quality of life* | **No difference** (**IV** *vs.* **non-IV**)  [no data given]  **No difference** (**IV+PEG** *vs.* **non-IV+PEG**)  [no data given] |

**IV** = the group of patients on invasive ventilation; **non-IV** = the group of patients without invasive ventilation; **LIS** = the group of patients with locked-in state; **SF-36** = 36-Item Short Form Survey; **MQOL** = McGill Quality of Life Questionnaire; **BDI** = Beck Depression Inventory; **BDI-II** =Beck Depression Inventory – Second Edition; **TAS** = Toronto Alexithymia Scale; **STAI-Y** = Anxiety Inventory of Spielberger; **LSI-11** = 11-item Short-Form Life Satisfaction Index; **POMS** = Profile of Mood States; **MLDL** = Munich Quality of Life Dimensions List; **ACSA** = Anamnestic Comparative Self-Assessment; **SEIQoL** = Schedule for the Evaluation of Individual Quality of Life.