**Rezultati**

Statistics were calculated using the R software [REF]. We set the significance threshold to 0.05 (). Values are summarized with their mean value or with percentages where applicable, for uncertainty estimation we used the standard deviation (SD). When we could not simply calculate the SD from the sample (e.g., when working with group level proportions) we used bootstraping to estimate the uncertainty.

When comparing proportions between groups we used the proportions test. The Wilcoxon test was used when working with paired samples, while the Mann-Whitney test was used when working with independent samples. For survival analysis we used the Kaplan-Meier estimator. For analysing correlations between variables, we used (multivariate) linear regression models.

Jaz običajno dodam še tole, da smo 100% transparentni in reproducibilni, trenutno to še ni objavljeno:

All code for our analysis along with anonymized data is published at https://github.com/demsarjure/vein\_ablation.

*REF = R Core Team (2021). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL https://www.R-project.org/.*

**1. Demografski podatki**

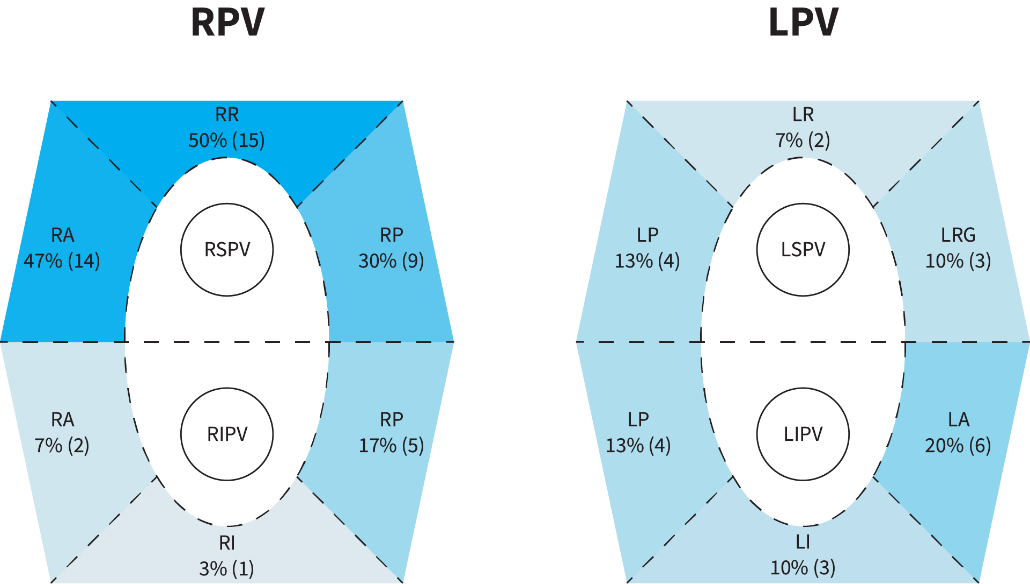
|  |  |  |  |
| --- | --- | --- | --- |
|  | **close** | **high density** | **p** |
| **age** | 63.05 ± 11.25 | 61.56 ± 9.6 | 0.44 |
| **gender** | 50 ± 9.2% male | 66.67 ± 8.67% male | 0.29 |
| **bmi** | 29.69 ± 5.74 | 27.88 ± 4.4 | 0.4 |
| **la\_volume\_index** | 39.87 ± 11.4 | 39.1 ± 10.21 | 0.54 |
| **la\_size** | 41.1 ± 4.13 | 41.2 ± 6.05 | 0.92 |
| **lvedvi** | 60.6 ± 7.68 | 58.89 ± 8.26 | 0.71 |
| **anticoagulant** | 83 ± 6.83% | 80 ± 7.3% | 1 |
| **probnp** | 255.21 ± 169.69 | 313.9 ± 494.2 | 0.27 |
| **chf** | 3.33 ± 3.27% | 3.33 ± 3.3% | 1 |
| **hypertension\_history** | 56.67 ± 8.97% | 43.33 ± 9.05% | 0.44 |
| **age\_75** | 13.33 ± 6.21% | 3.33 ± 3.24% | 0.35 |
| **diabetes\_history** | 13.33 ± 6.2% | 10 ± 5.49% | 1 |
| **vascular\_disease** | 10 ± 5.45% | 3.33 ± 3.25% | 0.6 |
| **age\_65\_74** | 50 ± 9.22% | 36.67 ± 8.7% | 0.6 |
| **cha2ds2vasc** | 2 ± 1.46 | 1.3 ± 1.05 | 0.05 |

**2. Proceduralni podatki**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **close** | **high density** | **p** |
| **skin\_skin\_time** | 131.47 ± 27.06 | 144.87 ± 23.91 | 0.05 |
| **la\_dwell\_time** | 114.47 ± 22.63 | 125.8 ± 20.77 | **0.04** |
| **ablation\_time** | 29.44 ± 7.9 | 31.47 ± 8.6 | 0.44 |
| **ablation\_time\_hd** | / | 2.34 ± 2.18 | / |
| **hd\_map\_time** | / | 20.33 ± 7.09 | / |
| **numer\_of\_rf\_lesions\_pvi** | 89.7 ± 20.26 | 89.07 ± 19.92 | 0.89 |
| **additional\_lesions\_hd** | / | 7 ± 6.83 | / |
| **first\_pass\_rspv** | 76.67 ± 7.76% | 86.68 ± 6.19% | 0.5 |
| **first\_pass\_ripv** | 83.33 ± 6.78% | 90 ± 5.4% | 0.7 |
| **first\_pass\_lspv** | 83.33 ± 6.79% | 96.67 ± 3.27% | 0.19 |
| **first\_pass\_lipv** | 100% | 96.67 ± 3.27% | 1 |
| **first\_pass\_per\_patient** | 60 ± 8.88% | 80 ± 7.37 | 0.16 |

**3. Segmenti in dormanti**

|  |  |  |  |
| --- | --- | --- | --- |
| **lokacija** | | **število** | **delež** |
| **RPV** | **rspv\_rr** | 15 ± 5.47 | 50 ± 17.92% |
|  | **rspv\_ra** | 14 ± 5.42 | 46.67 ± 17.77% |
|  | **rspv\_rp** | 9 ± 4.07 | 30 ± 13.54% |
|  |  |  |  |
|  | **ripv\_ra** | 2 ± 1.4 | 6.9 ± 4.72% |
|  | **ripv\_rp** | 5 ± 3.46 | 16.67 ± 11.59% |
|  | **ripv\_ri** | 1 ± 0.98 | 3.33 ± 3.27% |
|  |  |  |  |
|  |  |  |  |
| **LPV** | **lspv\_lr** | 2 ± 1.37 | 6.67 ± 4.55% |
|  | **lspv\_lrg** | 3 ± 1.66 | 10 ± 5.51% |
|  | **lspv\_lp** | 4 ± 1.87 | 13.33 ± 6.22% |
|  |  |  |  |
|  | **lipv\_la** | 6 ± 4.3 | 20 ± 14.35% |
|  | **lipv\_li** | 3 ± 2.89 | 10.34 ± 10.22% |
|  | **lipv\_lp** | 4 ± 3.92 | 13.33 ± 13.15% |

****

**4. UZ meritve po 12 mesecih**

|  |  |  |  |
| --- | --- | --- | --- |
| **la\_volume\_index\_12** | **la\_volume\_index** | **razlika** | **p** |
| 131.47 ± 27.06 | 144.87 ± 23.91 | 2.1 +/- 9.4 | 0.21 |

**5. Čas drugega posega**

|  |  |  |
| --- | --- | --- |
| **close** | **high\_density** | **p** |
| 444.69 ± 94.71 | 381.69 ± 103.71 | **0.03** |

**6. Število izoliranih ven**

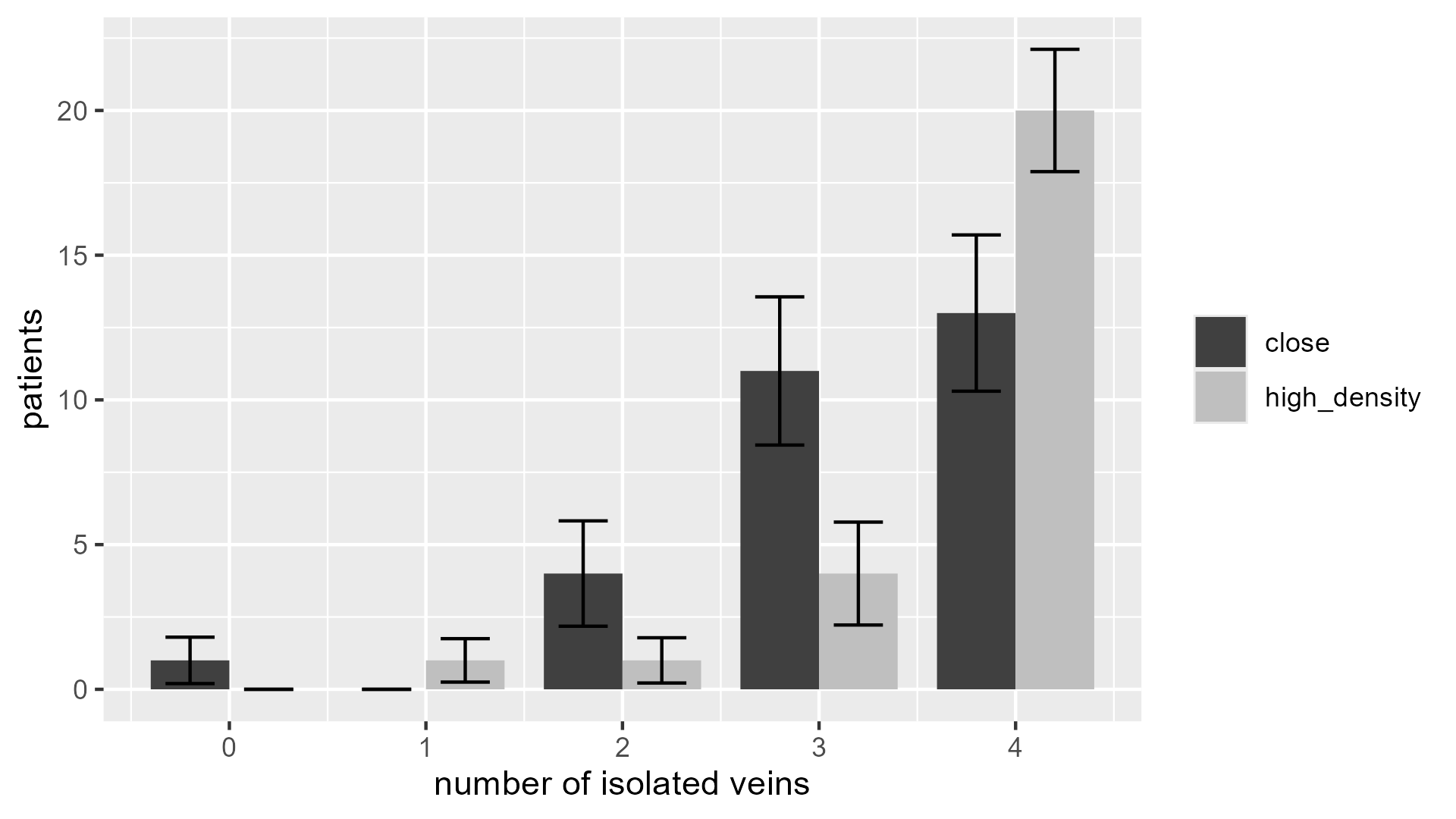
|  |  |  |  |
| --- | --- | --- | --- |
|  | **close** | **high density** | **p** |
| **number of isolated veins** | 3.2 ± 0.94 | 3.65 ± 0.75 | **0.02** |
| **percentage of isolated veins** | 80.17 ± 23.5% | 91.35 ± 18.63% | **0.03** |
| **all four veins isolated** | 44.83 ± 9.22% | 76.92 ± 8.3% | **0.03** |

**Slika 1:**

**A graph of a number of veins

Description automatically generated**

**Slika 2:**

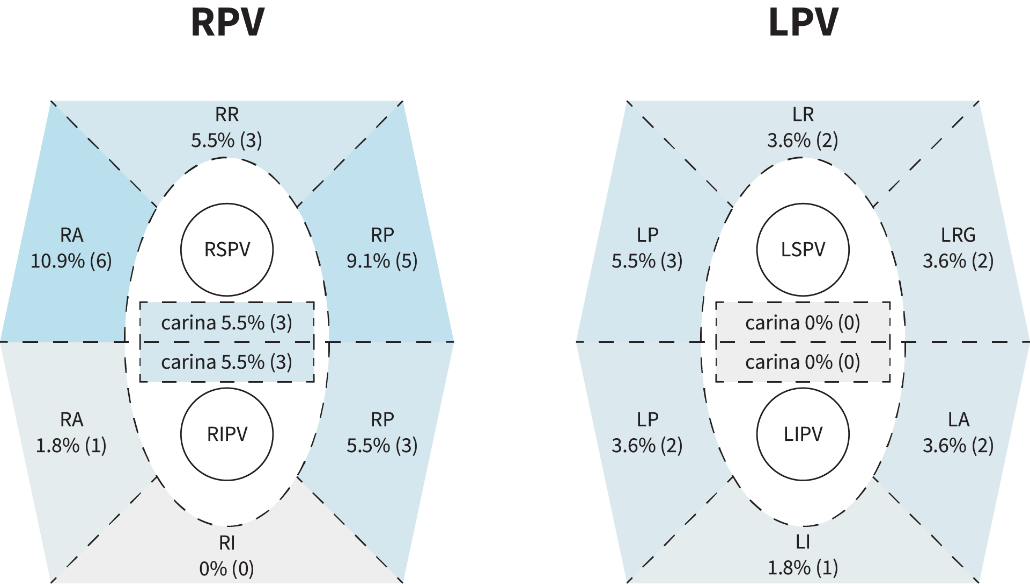


**7. Čas in število lezij**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **close** | **high density** | **p** |
| **skin\_skin\_time2** | 80.93 ± 34.71 | 62.8 ± 39.96 | 0.09 |
| **ablate\_reisolization\_time** | 1.95 ± 2.68 | 0.81 ± 1.78 | **0.03** |
| **ablate\_removal\_time\_dormant** | 2.56 ± 2.21 | 1.99 ± 2.82 | 0.07 |
| **rf\_lesion\_number\_isolation** | 7.45 ± 8.57 | 2.42 ± 5.12 | **0.01** |
| **rf\_lesion\_number\_gap** | 9.79 ± 8.94 | 2.73 ± 5.46 | **0.0007** |

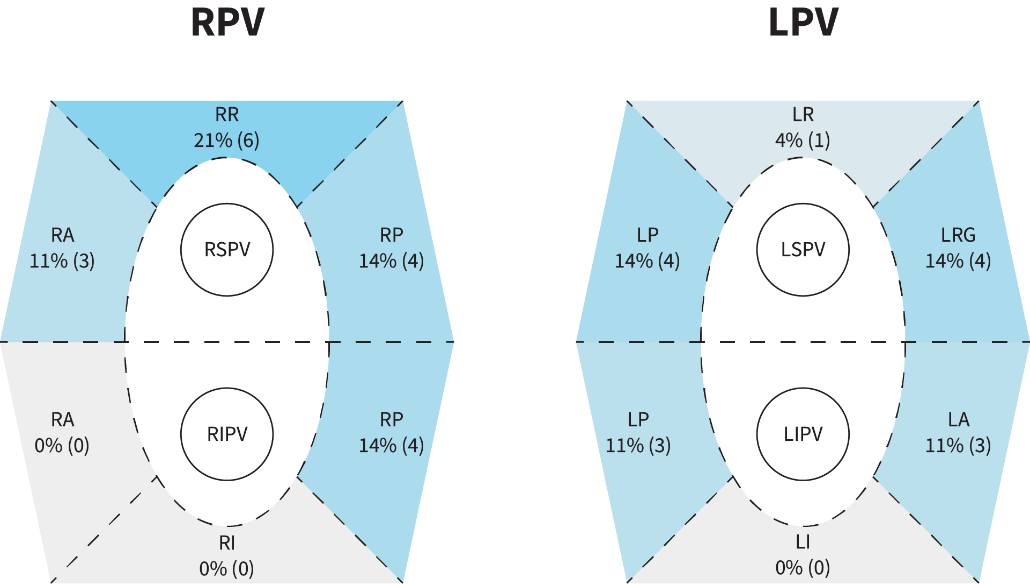
**8. Incidenca neizoliranih mest**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **lokacija** | | **close** | **high\_density** | **p** |
| **RPV** | **rspv\_rr** | 10.34 ± 5.62% | 0 | 0.27 |
|  | **rspv\_ra** | 13.79 ± 6.46% | 7.69 ± 5.2% | 0.77 |
|  | **rspv\_rp** | 10.34 ± 5.65% | 7.69 ± 5.17% | 1 |
|  | **carina** | 10.34 ± 5.63% | 0 | 0.27 |
|  |  |  |  |  |
|  | **ripv\_ra** | 3.45 ± 3.41% | 0 | 1 |
|  | **ripv\_rp** | 10.34 ± 5.64% | 0 | 0.27 |
|  | **ripv\_ri** | 0 | 0 | 1 |
|  | **carina** | 10.34 ± 5.68% | 0 | 0.27 |
|  |  |  |  |  |
|  |  |  |  |  |
| **LPV** | **lspv\_lr** | 3.45 ± 3.41% | 3.85 ± 3.79% | 1 |
|  | **lspv\_lrg** | 3.45 ± 3.34% | 3.85 ± 3.76% | 1 |
|  | **lspv\_lp** | 6.9 ± 4.67% | 3.85 ± 3.75% | 0.77 |
|  | **carina** | 0 | 0 | 1 |
|  |  |  |  |  |
|  | **lipv\_la** | 6.9 ± 4.67% | 0 | 1 |
|  | **lipv\_li** | 0 | 3.85 ± 3.82% | 1 |
|  | **lipv\_lp** | 3.45 ± 3.45% | 3.85 ± 3.77% | 1 |
|  | **carina** | 0 | 0 | 1 |

****

**9. Dormant conduction**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **lokacija** | | **close** | **high\_density** | **p** |
| **RPV** | **rspv\_rr** | 6 ± 2.15 | 1 ± 0.98 | 0.06 |
|  | **rspv\_ra** | 3 ± 1.65 | 2 ± 1.35 | 0.72 |
|  | **rspv\_rp** | 4 ± 1.86 | 1 ± 0.98 | 0.19 |
|  |  |  |  |  |
|  | **ripv\_ra** | 0 | 0 | 1 |
|  | **ripv\_rp** | 4 ± 1.86 | 2 ± 1.35 | 0.45 |
|  | **ripv\_ri** | 0 | 0 | 1 |
|  |  |  |  |  |
|  |  |  |  |  |
| **LPV** | **lspv\_lr** | 0.03 ± 0.03 | 0 | 0.35 |
|  | **lspv\_lrg** | 4 ± 1.86 | 1 ± 0.98 | 0.19 |
|  | **lspv\_lp** | 4 ± 2.33 | 0 | 0.09 |
|  |  |  |  |  |
|  | **lipv\_la** | 3 ± 1.62 | 0 | 0.09 |
|  | **lipv\_li** | 0 | 0 | 1 |
|  | **lipv\_lp** | 3 ± 1.64 | 0 | 0.09 |



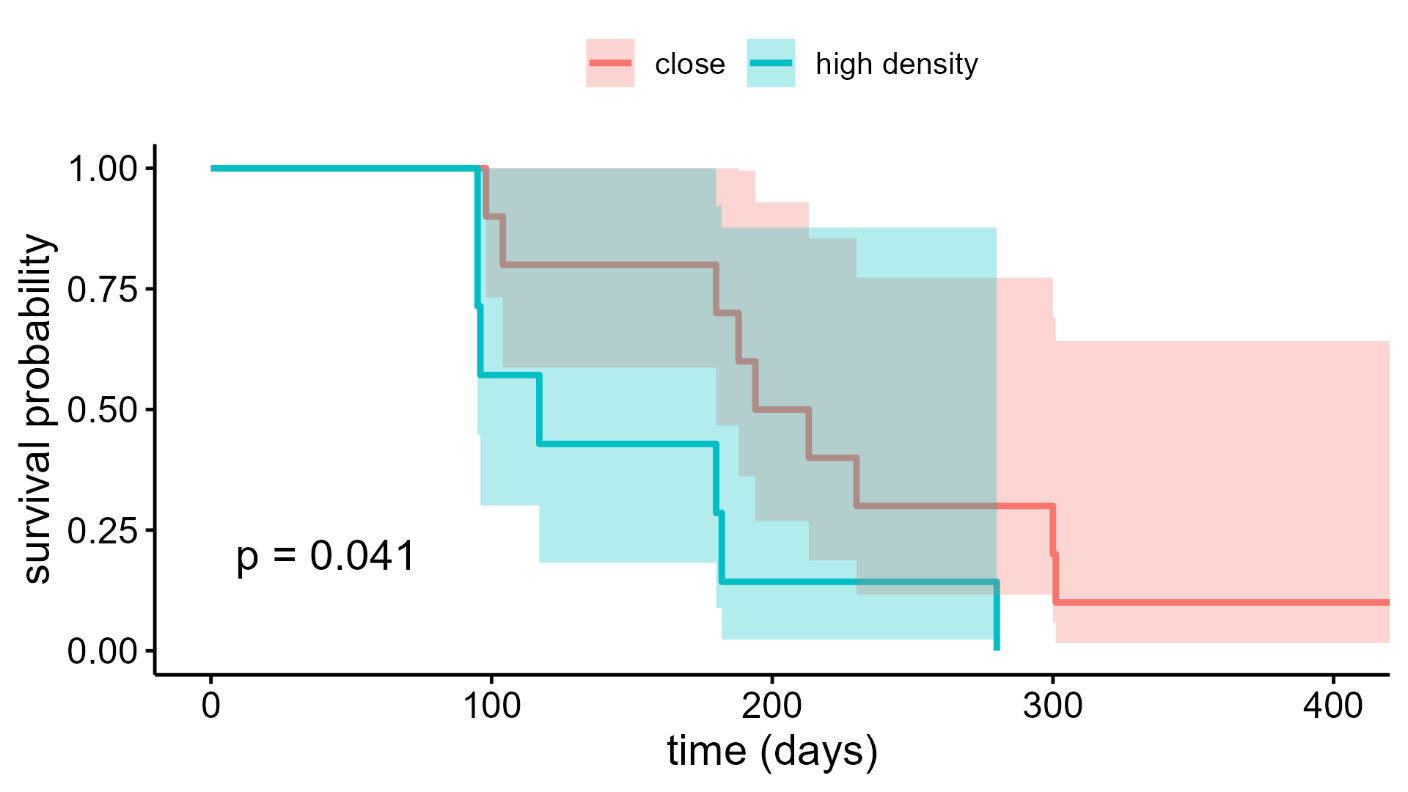
**10. Klinični recidivi**

Število/procent recidivov.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **close** | **high density** | **p** |
| **number of recidivs** | 10 ± 2.57 | 7 ± 2.32 | 0.4 |
| **percentage of recidivs** | 33.33 ± 8.49% | 23.33 ± 7.67% | 0.5 |

Razlika od posega do recidiva v dnevih.

|  |  |  |
| --- | --- | --- |
| **close** | **high\_density** | **p** |
| 224.6 ± 101.14 | 149.29 ± 69.37 | **0.04** |
|  |  |  |



*Ali so pacienti z recidivom imeli v povprečju rekonektiranih več ven kot tisti, ki niso imeli recidiva?*

Številka je manjša a statistično ne moremo nič trditi.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **recidiv** | **no\_recidiv** | **p** |
| **number of reconnected veins** | 0.76 ± 1.25 | 0.5 ± 0.65 | 0.94 |

**11. Lokacije pred/po**

Tukaj grem zdaj čez vse lokacije, čez vse paciente, **ujemanje/true** je, če je imel pacient med prvim posegom na eni lokaciji vsaj 1 dormant ter, če ga je imel na tej lokaciji tudi pri drugem posegu. **Neujemanje/false** pa je, če je pri prvem posegu imel dormant, pri drugem pa ne. Če se ujemanja in neujemanja statstično razlikujejo, pomeni, da je verjetnost, da se bo dormant pojavil na istem mestu signifikantna.

Torej gledamo v koliko primerih so se dormanti ponovno pojavili na isti lokaciji? Ali je to raziskovalno vprašanje? Če ni, lahko pred zadnjo verzijo še enkrat predebatiramo in popravim. Gledam pa samo za high\_density skupino ker za close nimamo teh podatkov.

Če delamo tako imamo 1 ujemanje in 29 neujemanj, torej ne moremo trditi, da lokacija karkoli pove. Na sploh je zelo zelo malo vrednosti 1 v stolpcih IU-JF (dormant 2 poseg), tako da bomo tukaj težko kaj pametnega pokazali. Razen, če sem kaj narobe razumel.

**11. Rekonektirane vene**

Ali demografski podatki (J-AH) napovedujejo rekonektirane vene. Gledamo stolpec all 4 veins, 0 pomeni da je bilo rekonektirano. Tukaj sem gledal čez vse podatke, nisem nič razbijal po skupinah.

Uporabil sem naslednje demografske spremenljivke:

* age,
* gender,
* bmi,
* la\_volume\_index,
* la\_size,
* lvedvi,
* anticoagulant,
* probnp,
* chf,
* hypertension\_history,
* age\_75,
* diabetes\_history,
* vascular\_disease,
* age\_65\_74,
* cha2ds2vasc.

Nič pametnega ne dobimo, BMI ima najnižjo p vrednost (0.098).

Enako samo za proceduralne parametre:

* skin\_skin\_time,
* la\_dwell\_time,
* ablation\_time,
* number\_of\_rf\_lesions\_pvi,
* first\_pass\_rspv,
* first\_pass\_ripv,
* first\_pass\_lspv,
* first\_pass\_lipv,
* first\_pass\_per\_patient,
* all\_4\_veins\_isolated.

Nič pametnega, p za vse parametre je nad 0.2.