Official Title: Platelet-rich Fibrin With Minocycline Versus Arestin in Non-surgical Periodontal Therapy: A Split-Mouth Randomized Controlled Clinical Trial
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Brief Title: PRF + Minocycline vs Arestin in Non-surgical Perio Therapy
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Power and statistical analysis

The sample size for this trial was determined using data from the study by Sybil et al. [22] as a reference. An online power analysis platform (Sealed Envelope Ldt., London, UK; https://www.sealedenvelope.com/power/continuous-superiority/) was utilized for the calculation. In the reference study, the standard deviation (SD) of the control group was reported as 0.55 with a sample size of 25 participants. To account for methodological variations and ensure a conservative estimate, an evidence value (d) of 1 was opted. Based on a significance level of 5% (α=0.05) and a statistical power of 80% (1-β=0.8), the minimum sample size necessary was calculated as 13 participants per group. Permitting for an anticipated dropout rate of 20%, the final target allocation was set at 15 participants, with individual patients contributing sites for both test groups (PRF + Minocycline and Arestin®) under the split-mouth design.

Statistical analyses were conducted using GraphPad Prism version 10.0 (GraphPad Software, San Diego, CA, USA). Continuous clinical variables, such as PD, CAL, and GR, were expressed as mean ± SD, while categorical variables (BOP) were expressed as absolute frequencies and percentages. The Shapiro-Wilk test was used to assess the normality. Suitable for the split-mouth design of the present study, a paired t-test was used to assess the inter-group comparisons. All statistical tests were two-tailed, and a p-value of < 0.05 was considered statistically significant.