



**Appendix Figure 1.** The consort flow chart of patients` eligibility, allocation and analysis



**Appendix Figure 2.** Represents CW group treatment of upper arch (A) Pre-operative (B) 4<sup>th</sup> week postoperatively (C) 3 years postoperatively



**Appendix Figure 3.** Represents pulsed group treatment of upper arch (A) Pre-operative view (B) 4<sup>th</sup> week postoperatively (C) 3 years postoperatively