Introduction: CP titanium has been evolved as gold standard implant material at the end of twentieth century. Different designs, surface treatments, and alloying elements are still in ongoing search to obtain protection against stress corrosion crack, tribo-corrosion, and prevention against biofilm adhesion and release of titanium ions into tissue. To facilitate earlier and dynamic osseointegration and intimate mucosal contact studies are going on. In all these activities corrosion study is unevetable.

Summary: By using electrochemical corrosion studies various parameters of corrosion behavior is studied in standard and extreme environmental conditions of pH, temperature, stress, and chemicals. Evaluation of standards under ASTM is mandatary before clinical recommendation for trial. ISO TC 106/SC 2 WG12, TC106/SC8/WG1 AND2. Are lattest standardization. However, during function as a load bearing dental implant, movement of implant, unfavourable-cyclic loading, unhygienic mouth conditions, pernicious oral habits, additional dissimilar metallic restorations or soldering and use of incompatible antiplaque agents bring about corrosion behavior to an uncontrolled level leading to treatment failure, infection, toxicity of ion release. Hence, passivation, self healing, immunization and fatigue corrosion are studied using Potentiostat, SEM, XRD, Empedance study, in different artificial saliva solutions. The suitable outcomes are implemented in treatment plan. Anisoprtopy in Additive Manufacturing, Nitridig the surface, customizing abutments also differently influence the corrosion resistance.

Conclusion: This presentation explore all the corrosion behavior studies, spreading to multiple corners to obtain long term prognosis of dental implant treatments.

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