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2604 A retrospective 19 years study of Chrome-Cobalt vz.Gold-alloy Implant Superstructures

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Background: Chrome-cobalt alloy for intra-oral reconstructions has been available for some time. It can be hypothesized that the incidence and type of mechanical defects of intraoral prostheses made from chrome-cobalt will differ from those made from gold-alloys over time due to the differences in physical properties, such as a higher modulus of elasticity, hardness and corrosion resistance. Objectives: A fairly extensive patient group restored with implant-supported prostheses and closely monitored over 20 years enabled a retrospective study to test the null hypothesis that the use of chrome-cobalt has no benefits compared to a traditional gold-alloy. Methods: In the period between 1987 and 1996, 300 patients received implant-supported crowns, partial- or full dentures made from either chrome-cobalt or gold-alloy and veneered with a ceramics or acrylics in a specialty clinic in Tromsø, Northern Norway. These were supported by 1200, principally Brånemark® standard or Mark 2 (NobelBiocare, Gothenburg, Sweden) and Astra (Astra Tech, Gothenburg, Sweden) dental implants. All implants had been placed following the standard two-stage surgical protocol. A chart auditing and radiographic interpretations were done by a clinician unaffiliated with the clinic. The complete treatment history pertinent to the implant prosthesis since placement was recorded, with special focus on recording fractures of the metal substructure and/or the ceramic veneer. The outcomes and statistical comparisons were considered both on the patient level and on the implant level. Results: A wide range of different maintenance problems were noted, but there were no differences with regard to implant survival, and prevalence of maintenance needs and superstructure prognosis as a function of using chrome-cobalt and gold-alloy for the intra-oral reconstruction. Conclusion: Implant survival as well as maintenance and prognosis are similar for implant-supported reconstructions made in chrome-cobalt and gold-alloy veneered with ceramics or acrylics. Acknowledgment: This study has been funded by University of Oslo.

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