Ketepatan tepi servikal mahkota tiruan all-ceramic hasil rekam digital scanner secara direct dan indirect = Marginal fit of all-ceramic crown fabricated from impression with direct and indirect digital scanner

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Abstrak

[Ketepatan tepi servikal merupakan aspek yang penting pada perawatan dengan gigi tiruan cekat.Adaptasi tepi servikal yang buruk dapat menyebabkan terjadinya karies dan penyakit periodontal.Penelitian ini bertujuan untuk menganalisa perbedaan ketepatan tepi servikal mahkota tiruan all-ceramichasil rekam digital scanner(CAD/CAM system) secara directyang direkam dalam mulut dan secara indirect yang direkam dari model kerja. Penelitian dilakukan pada 23 gigi posterior yang di preparasi untuk mahkota tiruan all-ceramic kemudian direkam secara direct dengan intraoral digital scanner dan dicetak untuk mendapatkan model kerja yang kemudian direkam dengan extraoral digital scanner.Sehingga didapatkan 46mahkota tiruan allceramic (Feldspathic ceramic, VITA Mark II, VITA Zahnfabrik) dibuat dengan sistem CAD/CAM CEREC 3D (Sirona). Ketepatan tepi didapat dengan mengukur potongan replika gigi hasil pencetakan ruang antara mahkota tiruan dengan gigi yang telah dipreparasi. Pengukuran dilakukan pada 4 titik dari 46 spesimen dengan Measuring microscopeMM-40 (Nikon, Japan) dengan perbesaran 50x. Hasil penelitian menemukan bahwaketepatan tepi servikal antara mahkota tiruan all-ceramichasil rekamdigital scannersecara direct dengan indirect memiliki perbedaan yang bermakna (P<0,05). Mahkota tiruan all-ceramic hasil rekam digital scanner secara direct memiliki ketepatan tepi yang lebih akurat (70,1μm ± 13,3) daripada indirect (82,3μm ± 12,2)., Marginal fit is an important aspect in treatment with fixed dental prosthesis.
Poor marginal adaptation can result in dental caries and periodontal disease. The objective of this study was to analyze the marginal fit of all-ceramic crown fabricated from impression with direct digital scanner intraorally and indirect digital scanner extra orally from working model.23 posterior tooth werepreprepared for all ceramic crowns then scanned with intra oral digital scanner (direct) and impression were made for working model fabrication and then scanned with extra oral digital scanner (indirect).The total of 46 all-ceramic crowns (Feldspathic ceramic, VITA Mark II, VITA Zahnfabrik) were fabricatedwithCAD/CAM system CEREC 3D (Sirona). Marginal fit were evaluated from measuring the silicone replica of the gap between the intaglio of full veneer crown and the margin of the prepared tooth. The 46 specimen was examined using Measuring microscopeMM-40 (Nikon, Japan) with a magnification of 50x. Statistical differences were found between marginal fit of all-ceramic crown fabricated from impression with direct digital scanner and indirect digital scanner(P<0,05). All-ceramic crown fabricated from impression with direct digital scanner (70,1μm ± 13,3) were significantly more accurate than indirect digital scanner (82,3μm ± 12,2).]