A Method for Fabricating a Novel Complete Denture Using Framework Made of Composite Resin

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A Method for Fabricating a Novel Complete Denture Using Framework Made of Composite Resin

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【Objective】In the present study, we tried to fabricate a novel complete denture. The composite resin which has higher compressive strength than a conventional acrylic denture base resin was employed to fabricate the framework on the working cast, and then the maxillary denture was made by a conventional technique using a heat–cured acrylic resin.

【Methods】The developed process for fabricating the composite resin base denture was as follows: (1) Maxillary cast was made. (2) 2 sheets of thermoplastic resin were placed on the working cast and pressed with heating to make the mold for fabricating the framework. Inner plate (0.8 mm in thickness) served as a spacer, and the thickness of the composite resin framework was set in this spacer thickness. (3) Composite resin was placed manually on the working cast and pressed using the mold to make a framework with uniform thickness. (4) The framework thus made was cured by irradiation of visible light through the transparent mold. (5) The wax denture was made with forming occlusion rim, arranging artificial teeth, and then modeling the gingiva. (6) After investing the wax denture, wax was flushed out with boiling water. (7) Doughlike stage resin was packed into the mold and then heat cured.

【Results and Discussion】The composite resin base denture can be made by a conventional technique for fabricating a metal base denture. The characteristic feature of this composite resin base denture is that the framework can be fabricated directly on the working cast by a simple process within a short time.

The bending strength of the composite resin employed in this study was 189.8 (±16.2) MPa, which was approximately twice as high as that of the heat–cured acrylic resin, suggesting that thickness of the composite base can be reduced to approximately 70% of a conventional acrylic resin base.

【Conclusion】The process for fabricating the composite resin base denture was established using the thin framework made of composite resin which has higher compressive strength and less water sorption than a conventional acrylic denture base resin.

萌出遅延を生じさせた歯根歯の一例

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【目的】歯根歯は臨床的に、その発生部位が、歯の発育部位と重なるため歯の萌出遅延を引き起こすことが多く、また、エックス線写真により偶然発見されることも多い。今回、我々は永久歯萌出遅延を引き起こし、その処置として開窓術時に歯根歯を発見した症例を経験したので報告する。

【症例】7歳女児
初診：平成18年10月12日
主訴：上顎左側切歯の萌出遅延

既往歴、家族歴：特記すべきなし
現病歴：平成18年3月29日上顎左側切歯の末萌出のため、上顎左側中切歯を抜歯した。
現在：上顎左側切歯の末萌出で、触診で上顎左側切歯とそのやや口蓋侧に歯齢未定の発育、発赤、出血等はみられず自発痛、圧痛もなかった。デンタルエックス線写真では、上顎前歯部より側切歯歯冠が軽度歯冠に発育している所見がみられたが、他の異常は見られなかった。