ROLE OF RECIPIENT FACTORS IN MULTIDISCIPLINARY APPROACH OF ESTHETIC DENTISTRY

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The demand of esthetic dentistry is increasing day by day even in South Asian Countries and this is basically because of information technology of the modern world. The professionals of these countries do face various problems as most of the dental patients have unique demands and expectations. The out come of the esthetic dental treatment however depends on two major factors which are Provider Factors & Recipient Factors. The knowledge, skill and facilities can be considered as provider factors where as health (tolerance of dental treatment), financial limitation, time, esthetic perception and cultural value play major role as recipients factors. The difficulty of esthetic treatment is that the teeth are often treated as if they were six, eight or more individual restorations rather than element of compressive treatment plan. The anterior dentition are not only apparent in the aesthetic zone, but are also closely involved in the patient's comprehensive occlusal scheme as well. So any esthetic dental treatment whether it is complex or simple, a treatment plan should be constructed with multidisciplinary approach based not only on the patient's desires, but also on the above mentioned factors so that a predictable esthetic result can be achieved.

CASE PRESENTATION

A 21 year - old male patient reported with fracture and discolored maxillary central incisor with palatally erupted lateral incisor (Fig. 1, 2, 3)

Clinical and radiological examination revealed that tooth no. 21 was non vital and had previously received endodontic treatment and slightly overlapped with 11. The mandibular anterior

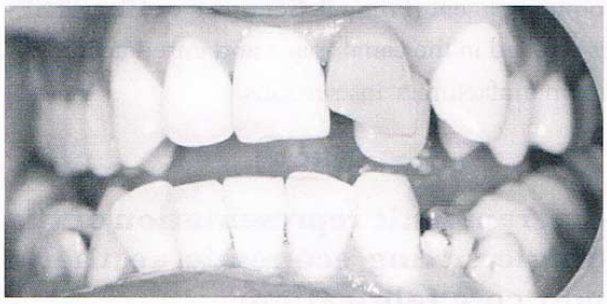

Fig. 1 (Preoperative anterior view slight mouth open)

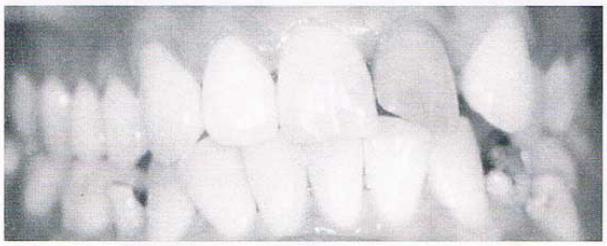

Fig. 2 (Preoperative anterior view in centric occlusion)

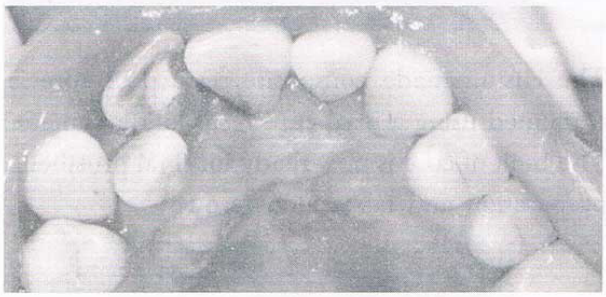

Fig.3 (Preoperative occlusal view)

were mal- aligned with impacted 35, decayed 34 and 44. The patient was worried about his upper anterior and requested to change the color of 21 alike to 11 and proper alignment of 21 and 22 for better esthetics. He had only 3 months time frame and did not want full fledged orthodontic treatment. To achieve these objectives, a comprehensive treatment plan was developed. This plan consisted of extraction of palatally erupted 22 with short fixed orthodontic (Sectional) treatment to correct the overlap of 21, the gap between 22 and 23, subsequent restoration of 21 with all ceramic full-coverage crown restoration, modification of shape of 23 to 22 and composite restoration on 34 & 44 . The

patient requested to treat only the upper arch, so he consented according to the plan and finally the treatment was initiated.

CLINICAL PHASE – FIRST

In the initial phase of the clinical procedure, oral prophylaxis was carried out and 22 was extracted on the same day. The patient was called after 2 days and the sectional orthodontic treatment (13 -23) was carried out to close the gap between 21 and 23 (Fig. 4 & 5).

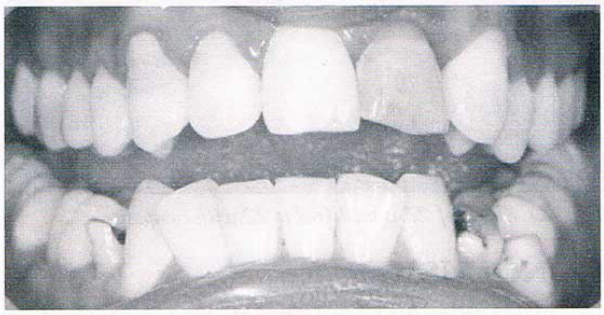

Fig.4 (Anterior view after short sectional ortho- treatment)

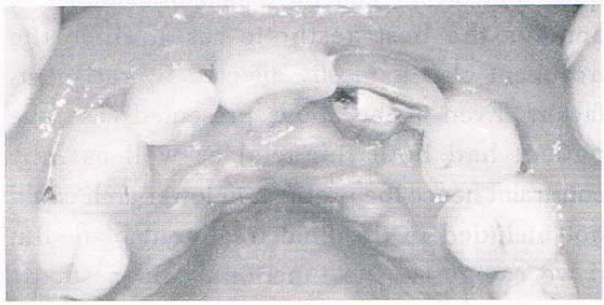

Fig.5 (Occlusal view after short sectional ortho-treatment)

CLINICAL PHASE - SECOND

Once the gap was closed patient was re-evaluated for occlusion and esthetic treatment. The second phase of the treatment was carried out with the removal of the temporary filling material from 21 and restoration with core built up cement. 21 was prepared as per full ceramic crown preparation protocol. (Figure 6 and 7)

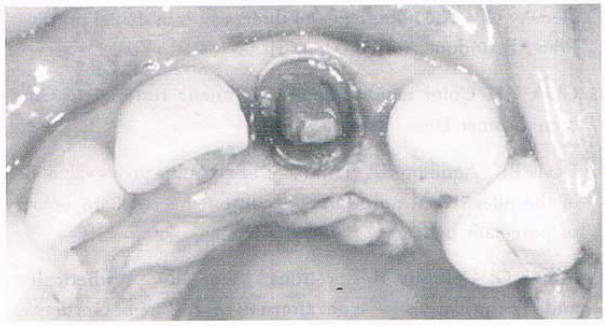

Fig. 6 (Occlusal view after tooth preparation)

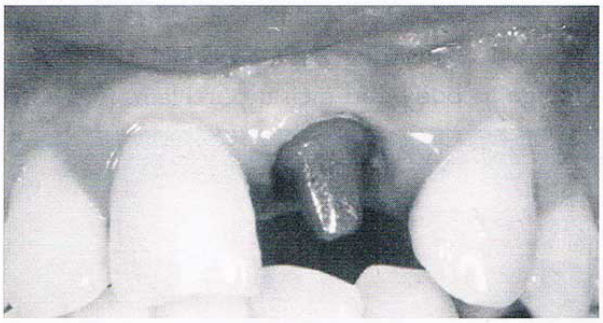

Fig. 7 (Anterior view after tooth preparation)

The impression were recorded in a hydrophilic vinyl polysilconage with two step impression and double retraction cord method. (Fig 8)

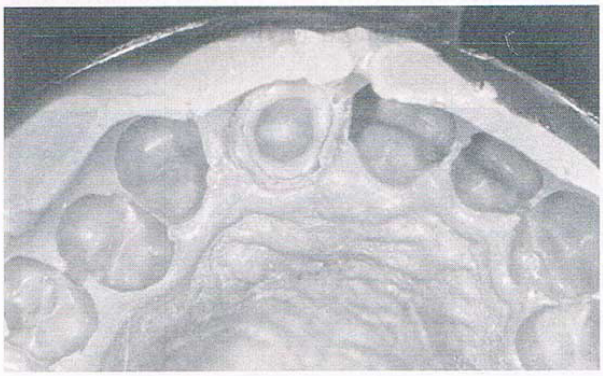

Fig 8. (Impression with perfect preparation margin)

The provisional restoration was seated and the impression was forwarded to the laboratory with a detailed prescription for the all – ceramic restorations, color photographs, with shade prescription and a digital photo of the patient's smile for better shade harmony.

LABORATORY FABRICATION

The impression was poured with die stone to make a master cast and a refractory working model (Fig 9) was prepared by using refractory die materials.

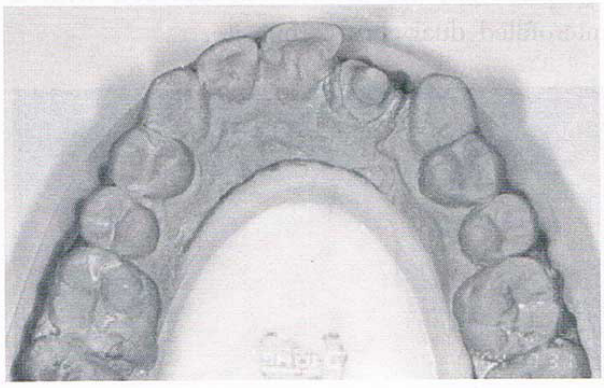

Fig.9 (Refractory die model)

The crown was fabricated by using Shofu Lamina Porcelain as masking Base porcelain and Shofu Vintage as body and incisal porcelain. (Fig. 10)

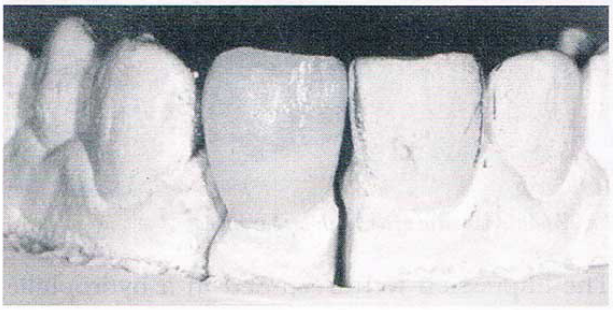

Fig. 10 (Crown on die before glazing)

The completed crown (Fig. 11) was polished and subsequently evaluated for fitting and necessary aesthetics.

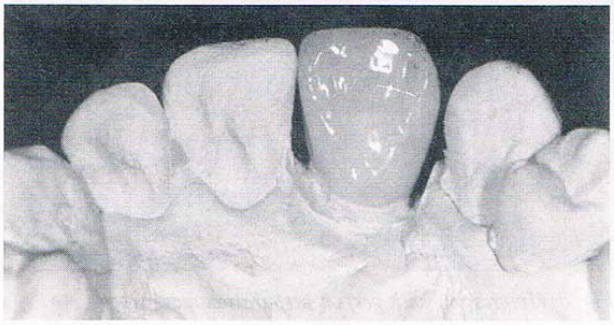

Fig 11 (Crown on master cast with perfect margin)

CLINICAL PHASE – THIRD

The crown was returned to the clinician for try-in and cementation, which was performed with an adhesive protocol. The provisional was removed and a total etch procedure was performed. Once the tooth surfaces were rinsed with water and air dried, the adhesive bonding material was applied. In order to properly condition the final restoration, the intaglio surfaces of the crown were sandblasted, etched, and silanized. Seated under gentle pressure for cementation, the crown was bonded with a microfilled dual cure composite.

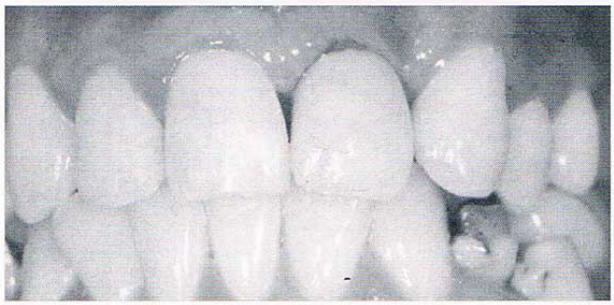

Fig. 12 Crown immediately after insertion

After the insertion of 21 full-ceramic crown the tooth no. 23 was modified to 22 with selective girding of cusp of 23 and standard composite restoration and polishing protocol were followed to achieve the perfect shape of 22.

The result of the treatment of upper anterior were reviewed by the restorative team and the patient was very happy with the result.

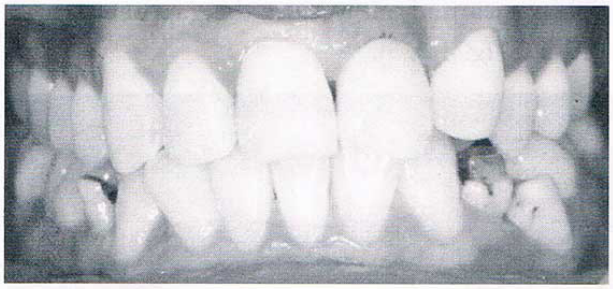

Fig 13 - Shape of 23 is modified to 22 with composite

CONCLUSION

In underdeveloped countries like Nepal, it is quite difficult for general dental practitioner to achieve the best aesthetic result since the treatment plan is mostly affected by recipients factors. Even in the above presented case, the patient had both financial as well as time constraint hence the problem in lower arch could not included in the final treatment plan. But if we categorize the functional and aesthetic necessity of the patient properly and lay down a possible treatment plan keeping in view the recipient and provider factors we can satisfy the patient and provide them with the best esthetic result even within a limited time frame.

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