

A case study of deep bite and increased over jet correction using ClearPath aligners

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Abstract

A 42 years old female patient reported with a chief concern of anterior crowding of both jaws. Her main concern was her proclined upper teeth and increased incisal visibility on smiling. She wanted to improve her smile by reducing the upper incisal visibility and reduce the protruded facial appearance along with levelling of upper incisors. She was successfully treated with Clear Path Aligners with her chief complaint resolved and improved facial and smile esthetics.

Introduction

Invisible braces are becoming increasingly popular in Pakistan. Clear Aligner trend started in 1940's but now is making its way alongside fixed braces. Initially it was thought that aligners could only treat limited number of minor malocclusions but now their scope has increased. ClearPath is the pioneer aligner company in Pakistan. The following case study is an example of results and patient satisfaction achieved with aligners.

Case history:

42 years' female patient reported to a private practice in June, 2014 with the chief concern of anterior crowding in both jaws. Her main concern was proclined front teeth and increased incisal visibility on smiling. She wanted to improve her smile by reducing the upper incisal visibility and reduce the protruded facial appearance.

Patient did not have any relevant medical condition and her general health was good. She had undergone extensive dental treatment previously with a 4-unit bridge in her upper right quadrant, crowning of tooth no. 26, root canal treatments of tooth no. 14, 21, 24 and 26 and metallic restoration for 24, 37, 46 and 47. Tooth no. 16 and 36 were

already missing. Upper and lower jaws showed mild bone loss. However, given the patients age, periodontal health of teeth was good without any mobility.

A full orthodontic examination was carried out and records were organised for analysis including, intra-oral and extra-oral photographs, OPG and Lateral Cephalogram with upper and lower alginate impression for study models.

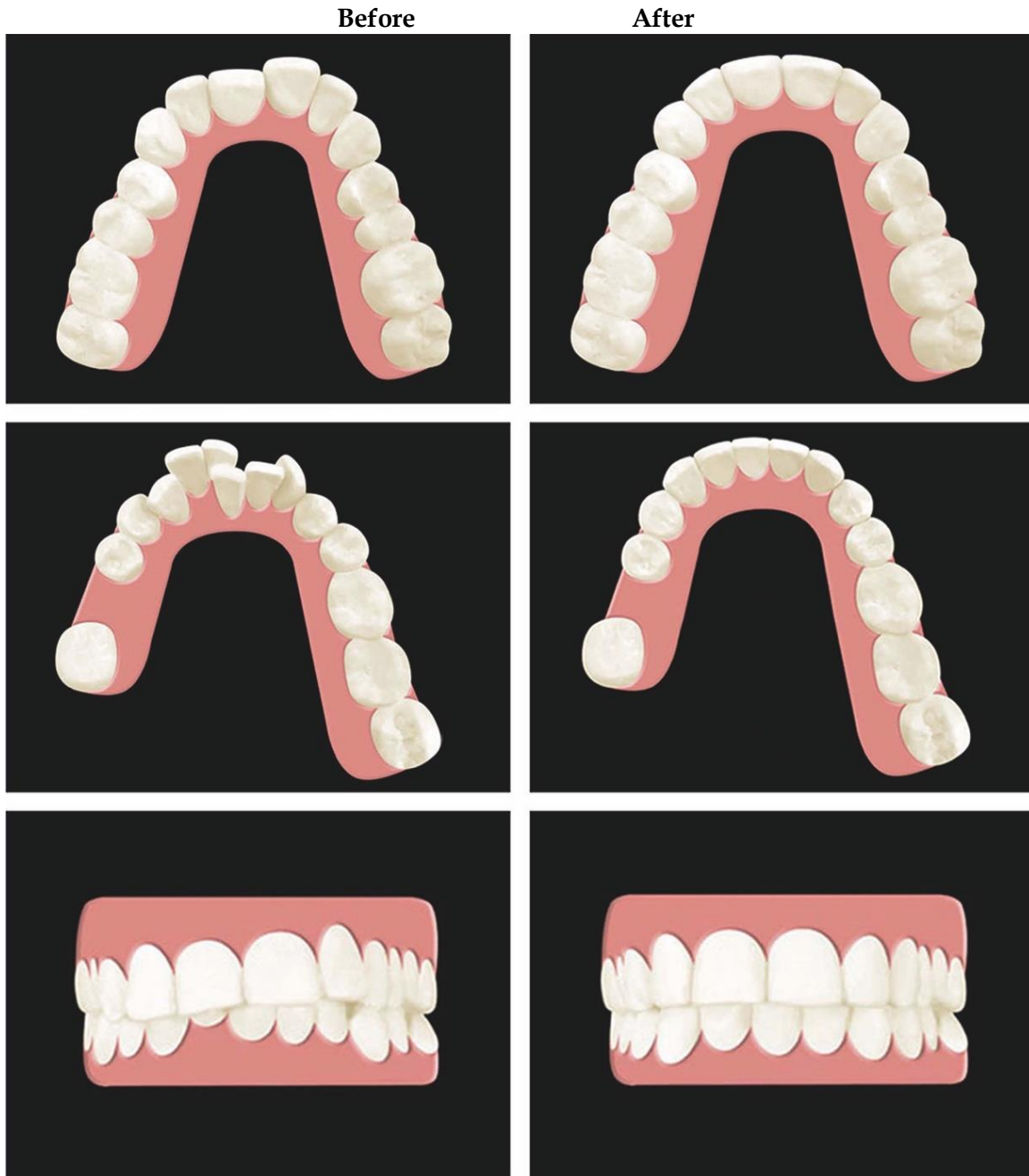


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Diagnosis:

Analysis revealed proclined upper and lower incisors with increased overjet. Right sided molar and canine relation was class 1 whereas lower 36 was missing with canine in Class II. Mild anterior crowding was present in lower

arch with lingually placed 42 and 33. Tooth no. 11 was slightly intruded then 21. The upper and lower midline was centred.



Once the treatment plan was approved the aligner, movement record form and an IPR form arrived from ClearPath in three weeks. Treatment began in July, 2014.

Treatment Objectives:

As per patient's concern, the treatment objectives for Orthodontic treatment were:

- To improve patient's smile
- Reduce patient's overjet
- Intrude the Upper and lower Incisors; to reduce incisal visibility
- Alignment and levelling of both arches and to achieve ideal arch form.

Treatment Alternatives:

The following treatment options were discussed with patient in detail.

- Arch alignment with conventional braces
- ClearPath Aligners for both upper and lower arches
- Restorative treatment at upper anteriors for leveling (this option was already provided to her by an unqualified dentist)

The patient being 42 years old did not like the idea of using conventional braces as it would have been socially embarrassing for her. Restorative treatment would have done nothing to reduce the overlap of her anteriors, secondly she already had a lot of fixed prosthesis in her mouth and didn't want any more. She wanted to treat the malocclusion with in a hassle free invisible way that did not pose any social dilemma for her, therefore she chose ClearPath Aligners.

An Orthodontic treatment and diagnostic form was discussed with her in detail as well as the need for Interproximal tooth reduction (IPR) to create space for teeth alignment.

Treatment Progress:

Orthodontic clinical records along with PVS impressions and PVS bite registration were sent to ClearPath. A treatment plan including the IPR requirements and lower incisor extraction along with before and after

treatment animations with the expected treatment outcome were provided by ClearPath to be thoroughly evaluated and discussed with the patient.

After discussion with the patient, the treatment plan without any modification was approved though the modification option was provided by ClearPath but it was not utilized. Extraction of 41 was required before wearing the 1st aligner and the patient was kept on zero aligners provided by Clear Path.

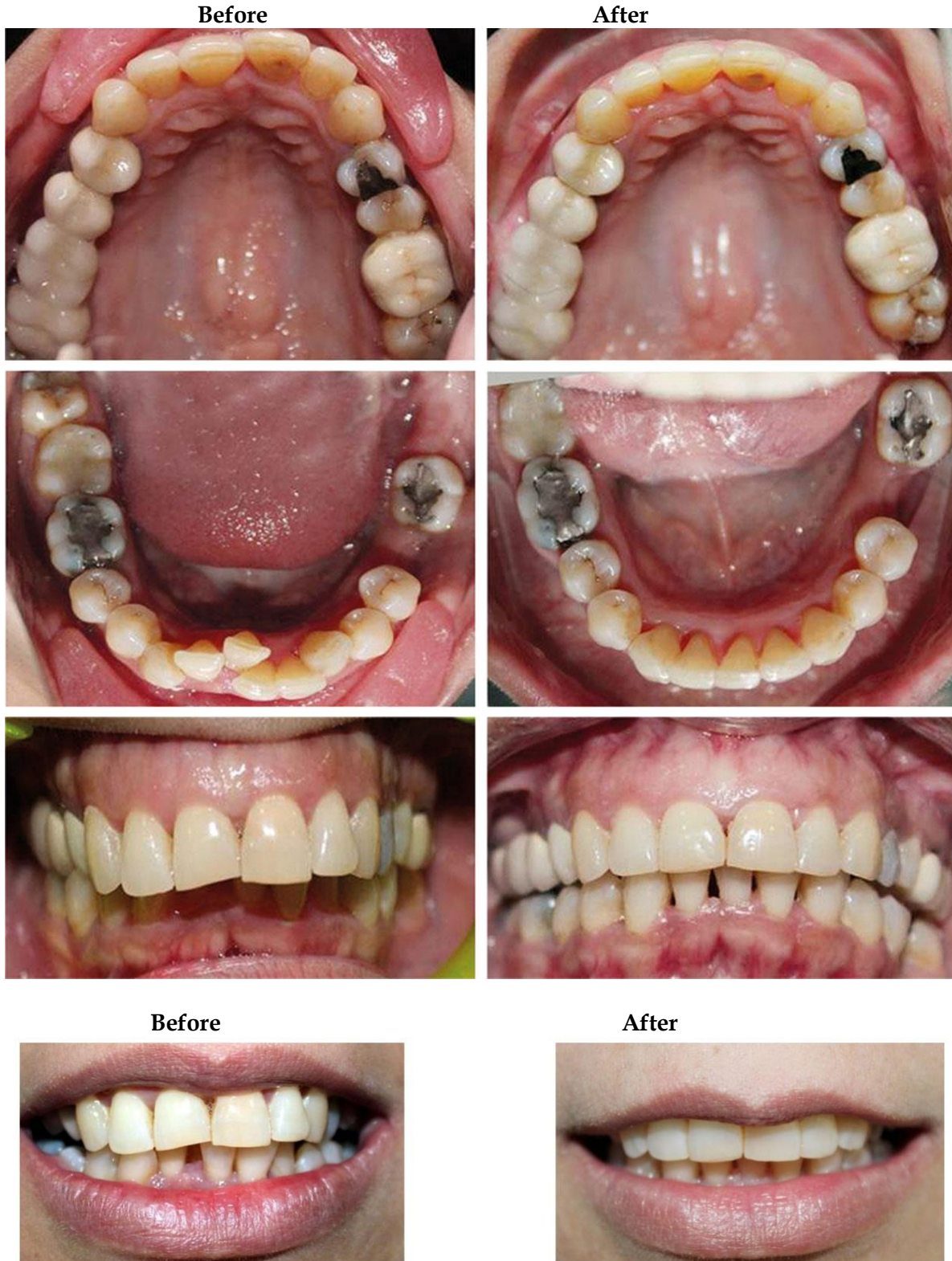
For this case 18 upper and 28 lower aligners were required with IPR in upper arch at 6th stage and lower right central incisor extraction before start of treatment. The aligners were worn 22 hours per day and only removed while eating or cleaning teeth. Each upper and lower aligner was worn for a period of 2 weeks before moving to the next set..

The patient was seen every 2 weeks initially till he became comfortable with the aligner treatment. A lot of emphasis was made on keeping good oral hygiene and it was maintained and monitored with visits every 6 months.

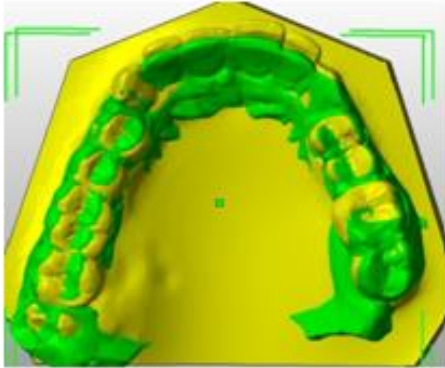
After wearing the upper 18th aligner composite buildup was performed at upper anteriors and a re-impression was taken to make retainers for the upper arch. The case continued for lower arch till all 28 aligners were utilized and then patient was provided with lower arch retainer.

Results & Discussion:

After use of all aligners, both upper and lower arches were re-evaluated for any residual issue since refinement aligners for any residual movement are also provided. The patient was happy with the treatment result and did not wish to undergo refinement and hence was provided with retainers..



With superimposition of old and new models for both arches, total amount of movement achieved in 14 months can be shown (Yellow: Old, Green: New).



Removable retainers were provided at the end of aligner treatment to retain the position of teeth and prevent any relapse. Patient was instructed to wear the retainers full time for the two months and then at night for the last month.

The treatment of a seemingly complex case with increased overjet and deep bite was completed using ClearPath aligners in 14 months. The patient was happy with the

treatment outcome and there was no relapse found after the 6 monthly visit.

Aligners can provide an excellent option for treating malocclusion in adults where the biggest hindrance is age and social commitments. Aligners can treat moderate malocclusions and the biggest factor in success of treatment is patient's compliance and dentist vigilance in maintaining a firm eye on case progress.