Inclined central incisors: the use of a straightforward aligner for a simple case

Nishan Dixit introduces a case of improving a patient's smile using the IAS Inman Aligner

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Figure 1: Pre-treatment

Figure 2: Pre-treatment lips at rest

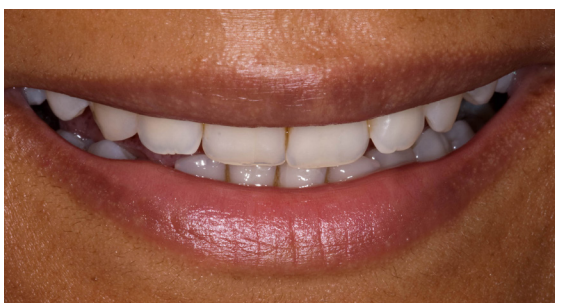


Figure 3: Pre-treatment smile

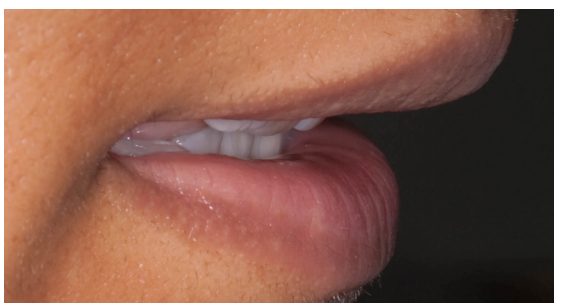


Figure 4: Pre-treatment right view

Figure 5: Pre-treatment left view

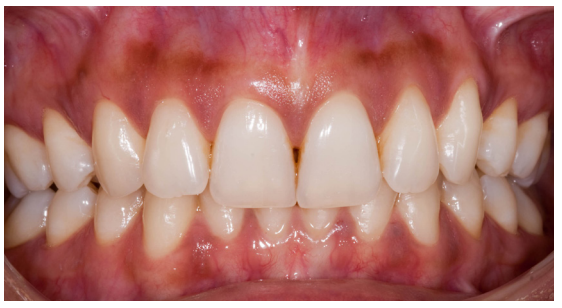


Figure 6: Pre-treatment retracted

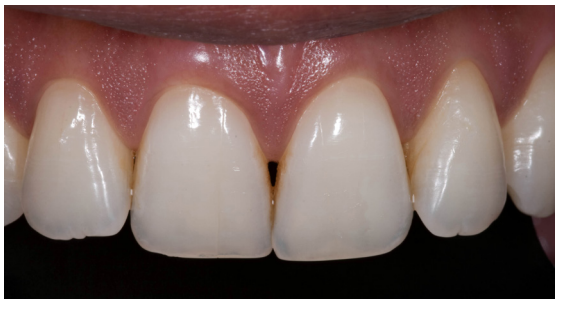


Figure 7: Pre-treatment upper anteriors

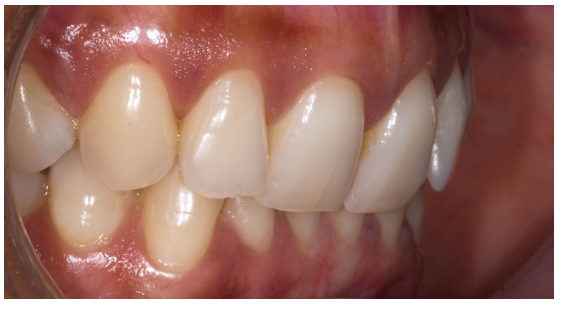


Figure 8: Pre-treatment retracted right view

Figure 9: Pre-treatment retracted left view

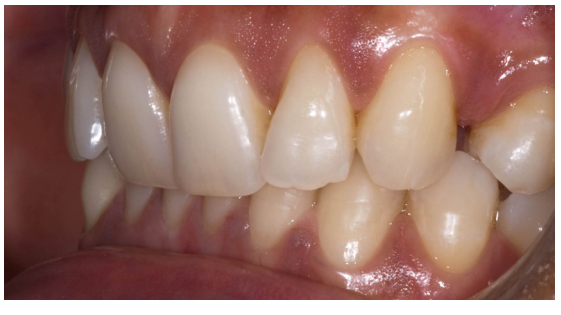
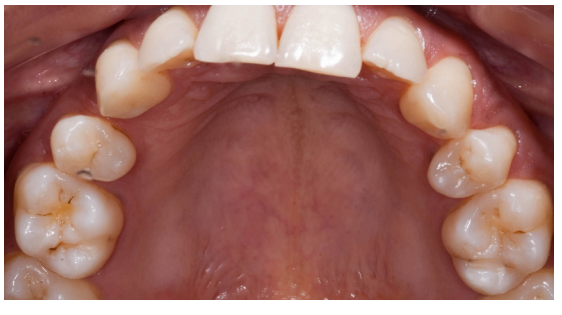


Figure 10: Pre-treatment upper occlusal



Demand for adult orthodontics has grown enormously in recent years, with an increasing number of people wishing to straighten their teeth in pursuit of an improved smile. As a result of the various time and financial restrictions faced by many patients today, anterior alignment orthodontics has become particularly popular, offering a safe, highly effective and efficient solution.

Case presentation

A healthy 33-year-old female presented to the practice with concerns about the appearance of her central incisors – which had become palatally inclined following poor retention after previous orthodontic treatment. Her main intention was to align the anterior teeth, without using fixed braces again. The patient was a non-drinker, non-smoker, regularly attended dental appointments and followed a strict oral care regimen that included brushing twice a day and flossing. Her dental notes also revealed that her upper premolars were extracted at the time of her previous orthodontic treatment.

Orthodontic assessment

Assessment confirmed good oral health with no signs of periodontitis, though the patient did show signs of discolouration as a result of tea consumption. There were no signs of a crossbite and lips were competent at rest.

An orthodontic assessment was also carried out (see table one).

Digital case planning

Once the necessary examinations were complete, the patient was presented with the various treatment options – these included clear aligners, fixed orthodontics, veneers and the IAS Inman Aligner removable appliance. As the patient was desperate not to undergo comprehensive orthodontic treatment again and veneers are considered to be the more invasive option, she opted for the IAS Inman Aligner – much more ideal for tipping the incisors than clear aligners. She was also made fully aware that there would be an increase in overjet following proclination.

To confirm suitability of the treatment method, I utilised the IAS Academy's Spacewize+ arch evaluation software. The results of the crowding calculator concluded that approximately 0.75mm of space would need to be created, ensuring that the IAS Inman Aligner was appropriate for the patient's needs. After subsequent photographs and radiographs were taken, study models were put together. Through these, the patient was able to see the expected results, which was a great tool for boosting motivation and ensuring compliance.

Self appraisal

As we managed to address the patient's concerns and improve her smile with minimal tooth reduction, I am pleased with the outcome of the case. We had aimed to do the case without any tooth reduction, but in order to close or reduce the black triangle towards the interproximal area of the

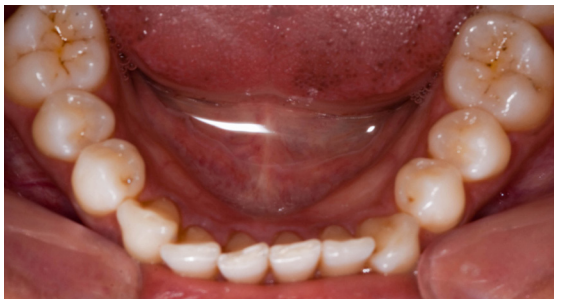


Figure 11: Pre-treatment lower occlusal

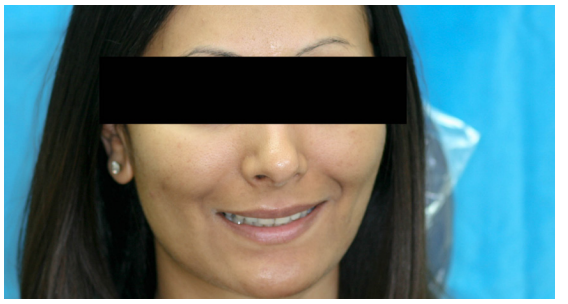


Figure 12: Post-treatment

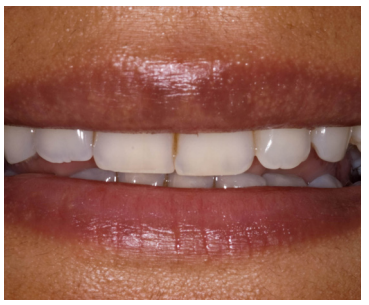


Figure 13: Post-treatment lips at rest

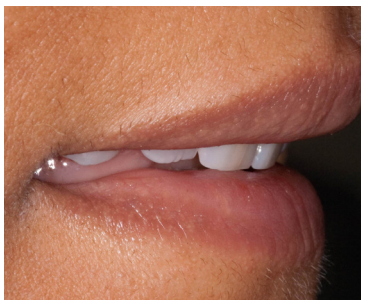


Figure 14: Post-treatment right view

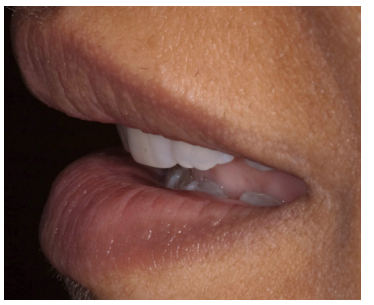


Figure 15: reatment left view

Skeletal	Mild class II	
FMPA	High	
Lower face height	Normal/average	
Facial asymmetry	None	
Soft tissues	Pink, healthy and well hydrated	
Incisor relationship	Class II division II	
Overjet	Reduced (0mm)	
Overbite	Increased (90% overlap)	
Displacement on closure	None detected	
Molar relationship	Left: class II	Right: class II
Canine relationship	Left: class I	Right: class I
Teeth missing	UL4	UR4
	N/A	LR8
Centrelines	Coincident	

Table 1

Mild upper incisor crowding
Mild lower incisor crowding
Class II division II incisor relationship
Reduced overjet
Increased overbite
Molar relationship – class II on the right
Ideal treatment aims
Correct upper and lower crowding
Correct deep overbite
Correct molar relationship on right-hand side
Compromised treatment aims
Correct upper incisor crowding
Correct deep overbite
Improve incisor overlap and overjet
Accept lower incisor crowding
Accept molar relationship

Table 2

Table 3: Treatment

Appointment	Stage
One	• Upper and lower impressions taken • Bite registration taken.
Two	• Started IAS Inman Aligner treatment – patient shown how to insert and remove appliance and advised to wear between 16 and 20 hours a day • Oral and appliance hygiene instructions were given • Placed composite anchor on the buccal surface of the upper right lateral incisor with the aim to keep the aligner bow in place for more efficient tooth movement • No interproximal reduction (IPR) at this stage.
Three	• Patient was seen for a check-up to review compliance and monitor tooth movement – models were used as a reference to show progress • Aligner bow and springs were checked for function.
Four	• Function of the appliance and movement checked again • IPR carried out distally on UL1 and mesially and distally on UL2 using yellow strips (0.08mm), followed by polishing and application of topical fluoride.
Five	• The patient was informed of the protocol for retention • Upper and lower impressions were taken in putty/wash material for a custom made fixed lingual retainer • A record of the bite was also taken.
Six	• Composite anchor removed from upper right lateral incisor • Fixed lingual retainer fitted with composite • Guidance given on the importance of retention and advised to keep the IAS Inman Aligner appliance in case relapse occurs in the future • Appointment made with the hygienist.

The patient was very happy with the final result and can now smile confidently

upper central incisors, a small amount of IPR was necessary, which the patient consented to. The patient was very happy with the final result and can now smile confidently.

In a review, 10 days after the completion of the treatment, the patient had adapted to the fixed retainer well, and had not reported any complications or discomfort. Because of past problems, we will continue to monitor the patient's retention, that way she can ensure that no further orthodontic treatment is needed in the future. D

References and further reading

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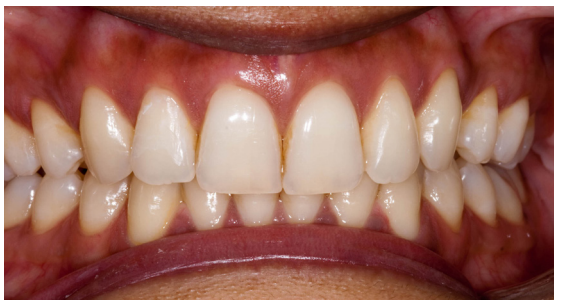

Figure 16: Post treatment retracted

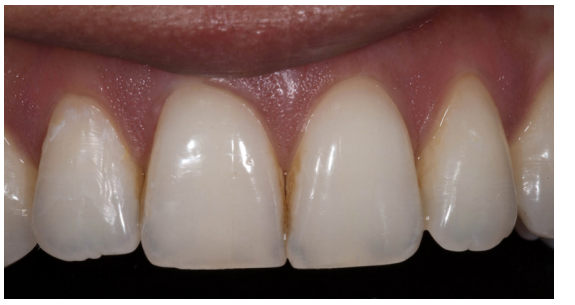

Figure 17: Post treatment upper anteriors

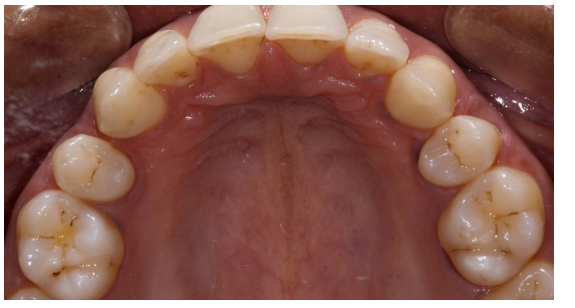

Figure 18: Post treatment upper occlusal

Figure 19: Post treatment lower occlusal