Introduction
At present, there is an increasing demand from patients for orthodontic treatment by aesthetic means. That makes us search for more aesthetic alternatives to conventional metal brackets. 3M™ Clarity™ ADVANCED Ceramic Brackets are an alternative that has more weight in our consultations for both adult and adolescent patients.

Presentation of the clinical case
The patient came to our office for joint pathology with TMJ discomfort.

In the extraoral examination, the patient presented malar hypoplasia, open nasolabial angle, 1 mm gingival smile, concave profile and a long face (Figure 1A-F).

In intraoral exploration, the patient presented molar and canine Class I on both sides, slight tendency open bite, upper and lower midline do not match up and crowding (Figure 2A-C).

In the teleradiography, the lower incisor was proclained and the upper incisor was retroclained. The patient was Class II and she was biretrusive (Figure 3).
Evolution of the case

At the beginning of the treatment, we proposed that the patient use a lower splint to try to relax the muscles and to try to find the central relation (Figure 4A-C). To do this, we combined the use of lower splint and upper Clarity ADVANCED Brackets for six months (Figure 5A-C).

At the end of this stage, we re-evaluated the case because there was a mandibular retro positioning and it had increased the Class II and the open bite. The patient had markedly improved joint discomfort (Figure 6A-D, Figure 7A-B, Figure 8, and Figure 9A-B).

We told the patient that the ideal treatment for her was orthognathic surgery, and because she refused, we decided to look for an alternative by placing TADs in the lower arch between 36 and 37 as well as 46 and 47. We preferred to place implants in the lower arch because it was a denser bone, so we only needed two instead of four (Figure 10).

The placement of the TADs was performed later when we had placed lower brackets and had reached a steel arch (Figure 11A-E).
The archwires we used during treatment combined with Clarity ADVANCED brackets are:

1. Alignment: 0.014 NiTi and 0.016 NiTi
2. Leveling: 0.017x0.025 NiTi
3. Space Closure: 0.019x0.025 Steel Wire
4. Finishing: 0.018 Steel Wire with bending

These archwires were used in both the upper arch and the lower arch.
During the working phase, we used the combination of 0.019×0.025 steel archwires in both arches with TADs that were anchored with chains directly to the arch between the first and second lower molars (Figure 12A-C).

After we closed the open bite, we used short intermaxillary elastics in Class II position (Figure 13A-D).

Once a good final adjustment had been achieved, we applied bends in the finishing phase to a 0.018 steel archwire and achieved the final aesthetics (Figure 14A-D, Figure 15A-D, and Figure 16A-B).

The total treatment was 28 months.
Treatment results

The patient presented a bilateral molar and canine Class I, alignment and leveling of both arches, absence of articular pathology, centered medial lines and an improvement of the smile amplitude. There are no significant changes in the patient’s face (Figure 17A-F and Figure 18A-D).

At the end of the treatment, we did a little gingivectomy to find the symmetry in the gum and a composites in 21 and 11 to obtain a better aesthetic (Figure 19 and Figure 20A-D).
Teleradiography showed that the upper and lower incisors have a correct position and inclination. In the CBCT, we can observe that the roots are in the middle of the alveolar bone and there is no root resorption (Figure 21A-B and Figure 22).

Two years later, the occlusion and function is stable. The aesthetic of the smile is acceptable. The patient does not have TMJ problems (Figure 23A-C).

References

Case photos provided by the authors.