Patrick PERNET

REPLACEMENT OF INCISORS BONDED CANTILEVER BRIDGE DURING ORTHODONTIC TREATMENT – A CASE REPORT

Faculdade de Ciências da Saúde
Universidade Fernando Pessoa
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Trabalho apresentado à Universidade Fernando Pessoa
como parte dos requisitos para obtenção do grau de
Mestre em Medicina Dentária

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RESUMO

O autor apresenta um método original de substituição de dentes em falta, durante o tratamento ortodôntico, através da colagem de zircónio e estruturas cerâmicas aos dentes adjacentes ao espaço desdentado. A originalidade e interesse deste método não está tanto na ponte de cantilever colada, que já foi amplamente descrita por muitos autores, mas antes na sua utilização precoce no início do tratamento ortodôntico, em pacientes de 12-16 anos de idade, para alcançar maior conforto e sensação de bem-estar do paciente.

Esta é uma solução simples, fácil, estética e rápida: 6 meses para abrir o espaço e 10 dias para obter a ponte cantiléver.

Trata-se de um dispositivo fixo e confortável que permite ao paciente um maior conforto, do que um dispositivo removível, sem comprometer o futuro, permitindo um implante ou substituição protética posterior. O autor recorre a mais de 30 anos de experiência com cerca de 200 pacientes tratados.

PALAVRAS-CHAVE: "agenesia de incisivos "; "substituição de incisivos"; "cantilever de zircónia"; "tratamento ortodôntico"

ABSTRACT

The author presents an original method of replacing missing teeth during orthodontic treatment by bonding zirconia and ceramic structures to the adjacent teeth of the edentulous space. The originality and interest of this method is not so much in the bonded cantilever bridge itself, which has already been extensively described by many authors, but rather in its early use at the beginning of orthodontic treatment, in patients with 12-16 years of age, to achieve greater patient comfort and feeling of wellbeing.

This is a simple, easy, aesthetic, and fast solution: 6 months to open the space and 10 days to obtain the cantilever bridge.

This is a comfortable, fixed device that allows the patient greater comfort than a removeable device, while not jeopardize the future, allowing for a later implant or prosthetic replacement. The author draws on more than 30 years of experience with nearly 200 patients treated.

KEYWORDS: “incisors agenesis of the incisors “; “incisor replacement”; “zirconia cantilever”; orthodontic treatment”

INDEX

FIGURES INDEX

I. INTRODUCTION

1. History: bonded bridge

Historically, bonded bridges were first described in 1973 by Alain Rochette (Rochette, 1973) and Bernard Meng: they consisted of several metal wings bonded to the lingual surfaces of the teeth bordering the edentulous area and supporting an intermediate.

While a student of Bernard Meng in 1982 we applied the principle recommended in the book "Screwing and bonding in odontostomatology" (Rochette,1975).

Matthias Kern in 1997 (Kern and Gläser,1997) describes the ceramic cantilever bridge bonded to a single tooth. van Dalen in 2004 (van Dalen *et al.,* 2004) showed in a review of the literature that cantilever bonded bridges (one wing and one intermediate) have a longer life span than conventional bonded bridges with two wings and one intermediate. We therefore adopted this principle of a cantilever bridge with a single wing. We were then enthusiastic and encouraged in the single wing technique by Jean-Pierre Attal and Gil Tirlet (Attal and Tirlet, 2015) (Tirlet and Attal, 2015).

2. Bonded cantilever DURING orthodontic treatment

Here we present a protocol for the replacement of missing incisors, which can easily be implemented during orthodontic treatment. This is a single tooth bonded, cantilever bridge on the tooth adjacent to the edentulous tooth. It is a fast, elegant, aesthetic and comfortable solution.

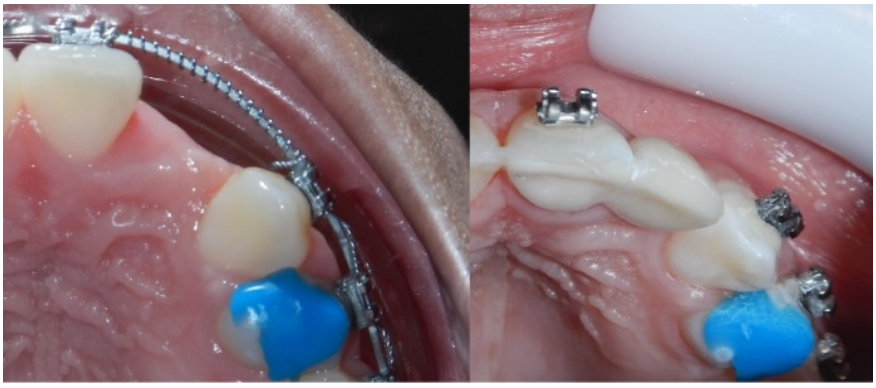

Figure 1: Opening spring in the space of 22; Bonding cantilever bridge on 2

The message we would like to share by presenting this technique is simple: "Let's not leave the agenesis spaces open, but rather bond a fixed device from the beginning of the treatment," or as soon as the space is created and the dental axes are correct. Usually, removable devices are often left in the mouth for several years where they can technically interfere with the desired tooth movements. It also deals with dental plaque retention, and psychologically can be disturbing to the patients. (Anweigi *et al.,* 2013).

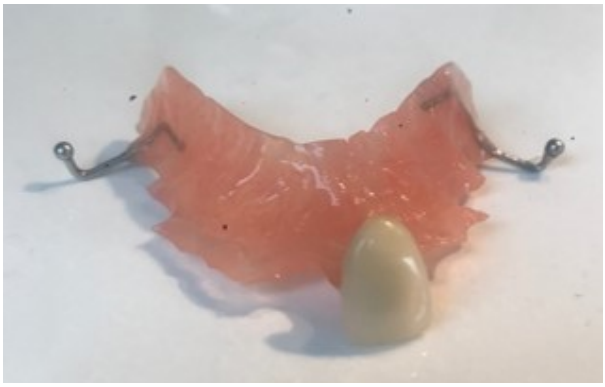

Figure 2: Removel single tooth replacement device

A young patient who had a missing 21 and who wore a removable plate to replace this tooth from the age of 12 until the age of 18 waiting a dental implant. Together with aesthetic issues the social impact are often very important to adolescent patients. During these 6 years, this small bonded device could improve these aspects.

It is not our intention to discuss the indications for treatment of missing teeth, nor the merits of maintaining a missing incisor space rather than closing the space (e.g., in the case of agenesis), but when the decision is made to maintain the space, we propose this solution of a bridge bonded to the tooth adjacent to the edentulous space.

Once the treatment plan has been discussed and approved the replacement of the missing tooth, we then set up a protocol that allows us to open up the space quickly (over approximately 6 months) and then maintain it with a cantilever bridge:

- **temporarily,** but sufficiently long-lasting, for at least two to five years,
- **aesthetically,** using ceramic and zirconia rather than composite and methyl methacrylate resin;
- **comfortably,** using a fixed rather than a removable device.

II. CLINICAL PROTOCOL-CASE REPORT

To explain the technique, we present a case of a 14-year-old patient who presents a poor smile, a maxillary insufficiency, a concave profile, an agenesis of 12 and a microdontics of 22, a dental Class II, and an endoclusion of 16 and 26.

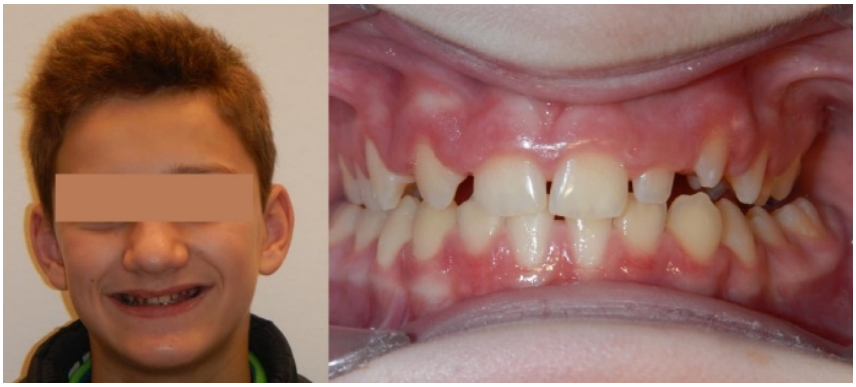

Figure 3: Patient of 14 years old, boy; Smile with maxillary insufficiency

Functionally, there is lateral lingual interposition during swallowing and naso ventilatory insufficiency. The panoramic radiograph confirms agenesis of 12 and microdontics of 22. All the other teeth are present and the germs of the third molar are visible. Profile teleradiography and cephalometric analysis showed a retromaxilla and axial teleradiography showed a maxillary endognathy.

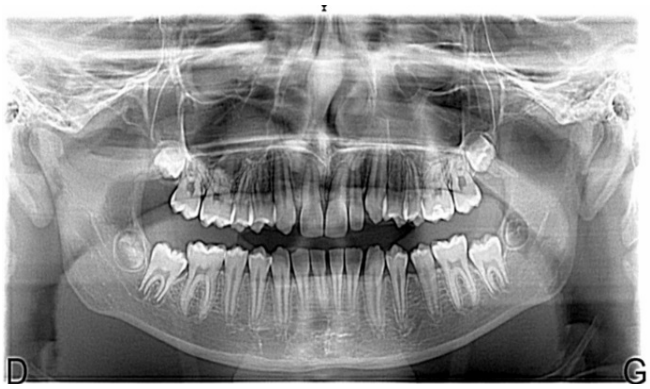

Figure 4: Panoramic radiography; Shows agenesis of 12, dwarfism of 12

The protocol step by step:

1. Bonding of a multi-attachment appliance

Damon 0.22 x 0.28 brackets with opening spring in the space of 12 but also on both sides of 22 which are not wide enough, for that reason it was reshaped by adding composite mesially and distally.

2. Wide opening of spaces

The spaces are therefore opened up widely and the axes of the incisors and other teeth are straightened.

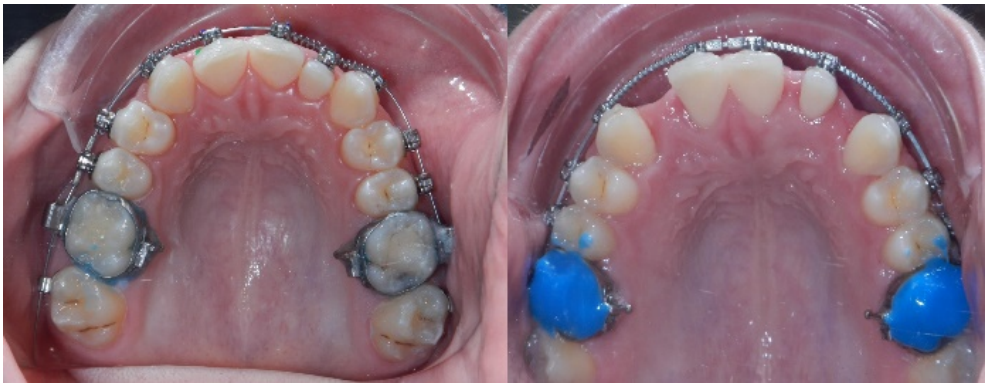

Figure 5: Wide opening of spaces 12 and 22 with multi-attachement appliance damon 22*28

3. Enlarge the 22 microdontic tooth with composite

When the spaces are wide open, we enlarged the 22 with composite (3M) mesially and distally; the mesiodistal diameter was determined according to the size of 11 and 21 (Attal and Tirlet, 2015) (Tirlet and Attal, 2015) (Dagba and Makhoul, 2019) and we reattached the orthodontic bracket on 22 remodeled.

4. Open the space by 12

5. Remove the bows

6. Prepare Tooth

The tooth was then cut according to Gil Tirlet - very lightly in the mesial of 21 with a diamond drill (Attal and Tirlet, 2015) (Tirlet and Attal, 2015).

A vertical and a very slight horizontal box was created with a flame shaped diamond drill.

7. Digital impression

We took a digital impression using an intra-oral scanner (3Shape TRIOS®).

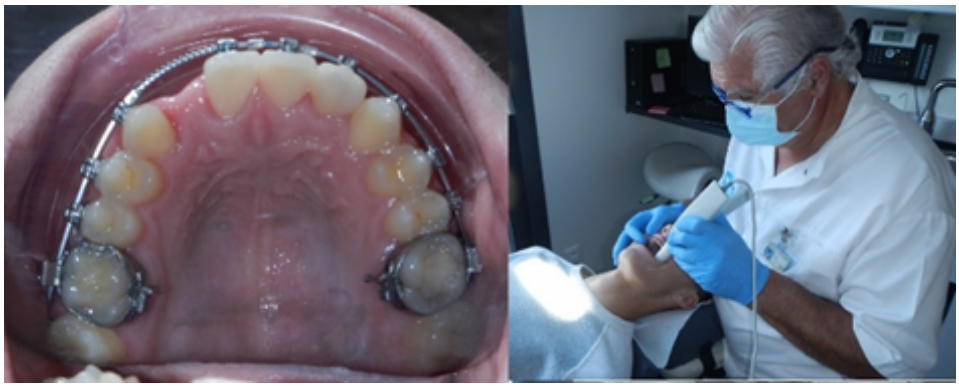

Figure 6: When the spaces are wide open; Digital impression using a trios 3d scanner

8. Choose Color/Tint

We choose the color A2 with the Vita Lumin Vacuum shade guide.

9. Reposition passive arches

We repositioned the arches without any activation, so that the space and tooth axes remain the same as it was at the time of the digital impression.

10. Measure mesiodistal diameter

The mesiodistal diameter of 22 was carefully measured with a caliper.

11. Create schematic for the laboratory

Together with software instructions transmitted (digitally) to the laboratory we always make a small manual drawing on a photograph. On the occlusal plane we specify to the technician the shape, the mesiodistal diameter, the color, the tint, the material: in this case, ceramic/zirconia.

12. Bond 10 days later

1) Examine bridge and test it

The cantilever bridge returned from the laboratory was examined and tried in the mouth. The fit on the "recipient" tooth (in this case 11) and the shape of 12 (mesiodistal diameter and color) were particularly checked. With all the parameters correct, we move on to the next step.

2) Sandblast with 50u alumina then with Cojet Sand on the buccal surface on the onlay (intrados)

The zirconium onlay is carefully sandblasted with a Danville Materials "Micro Etcher 2" sandblaster, first with 50 micron alumina and then with 3M Cojet Sand R. This process was performed to increases retention.

3) Apply silane

Ultradent or Espesil silane from 3M (coupling agent) to the intrados of the onlay.

4) Dry for one minute with dry air

This drying should be done with moisture-free air. We recommend using two

different syringes: one air/water syringe for irrigation and spray and one air-only syringe for drying (Attal and Tirlet, 2015) (Tirlet and Attal, 2015).

5) Sandblast the lingual surface of 11

6) Etch with 36% phosphoric acid on the lingual surface of 11

7) Rinse and dry 11

8) Apply the adhesive on zirconium intrados

We used Relyx XCEM on zirconium applied with a special syringe with the smallest tip available to obtain a thin layer which will be sufficient for the bonding.

9) Set up

We place and hold the onlay firmly on the palatal side of 11 with the pad of the index finger.

10) Light-cure

First cure the vestibular side by transillumination for one minute, then the pressure of the index finger can be released and the lingual side of the bonded onlay, and the incisal edge, can be illuminated for at least one more minute.

The product is dual and continues to cure after the initial light-curing.

11) Check the appearance

The result is then checked and the mesiodistal diameter and height are checked again.

12) Remove any excess adhesive

Mesial, distal and occlusal adhesive overhangs are frequently present and must be removed, oclusal with a flame-shaped diamond bur and then with the finest 3M orange Pop on abrasive disc. In the mesial region, where a "wooden wedge" can

sometimes be used, an interdental stick "Interdental Wedges" from R&S (blue or green) and a slow speed Popon abrasive disc (3M yellow fine grain discs).

13. Bond an attachment to the prosthetic tooth 12

Sandblast and etch the "added" prosthetic tooth.

13.1) The buccal ceramic surface of 12 is **sandblasted** with 50 u alumina and the buccal surface of 12 is etched with fluoridic acid applied for two minutes and then aspirated with care not to touch the gingival tissue/gum.

13.2) Rinse, dry and apply silane

Then rinse for 30 seconds and dry, observing the vestibular surface of 12 that should be dry and whitened by the etching.

Espesil 3M or Ultradent silane (coupling agent) is then applied.

13.3) Dry for one minute

Always use dry air (specific syringe, respecting the recommended time) (Attal and Tirlet, 2015) (Tirlet and Attal, 2015).

13.4) Position the passive attachment

A "guide" wire (e.g. 016 or 018 steel) should be prepared.

A small archwire will be inserted into the grooves of brackets 21 to 14.

This guide is used to bond the attachment with Transbond XT composite on the intrados of the attachment and the "orthosolo" primer applied after the dry silane on the vestibular side of 12. Adjust with the guide wire. When the position is good the guide wire is pressed on both sides of the bracket to keep it in a good passive position and the light cure can then be performed for 30 seconds.

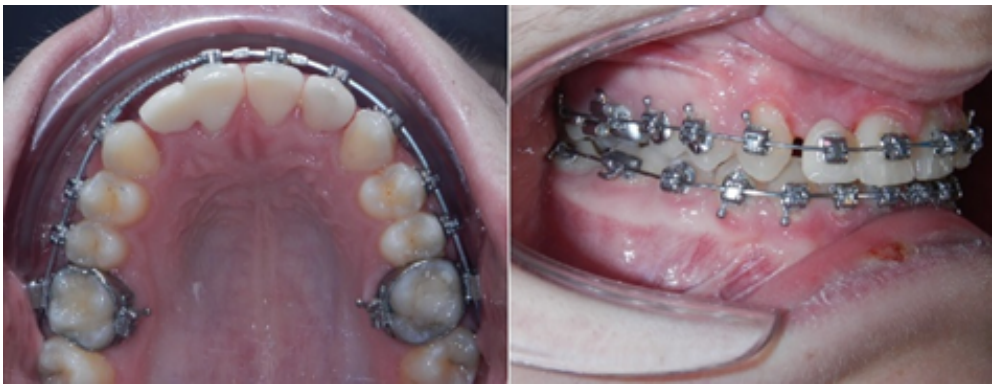

Figure 7: Bonding cantilever bridge on 11; Bonding an attachment to the prothetic tooth 12

14. Adjust the Bite

Although this is not yet the final bite, which will only be achieved at the end of orthodontic treatment, the necessary adjustments are still made by grinding with a diamond drill.

In propulsion, be sure that the steering is mainly on 21 and very little on 11 and especially not on 12

In laterality: make sure that there is no support on 11 and 12 and that the guidance is only done on the canine 13 on the working side of 14, 15 if a group function is sought.

15. Resume regular classic orthodontic treatment again

Continued treatment reverts to the usual orthodontic treatment, which should be completed by closing the spaces, especially distal to 12 (which was opened 2 mm more than necessary).

An interproximal reshaping is then carried out which is often very useful to perfect the occlusion and adjust the shape of the teeth.

If elevation shims have been placed, they should be ground down and intermaxillary elastics used if necessary.

Bite control and bite adjustment by grinding in centric occlusion, propulsion and laterality will be reviewed and corrected at each check-up appointment until removal and after removal of the orthodontic appliance to make the necessary adjustments.

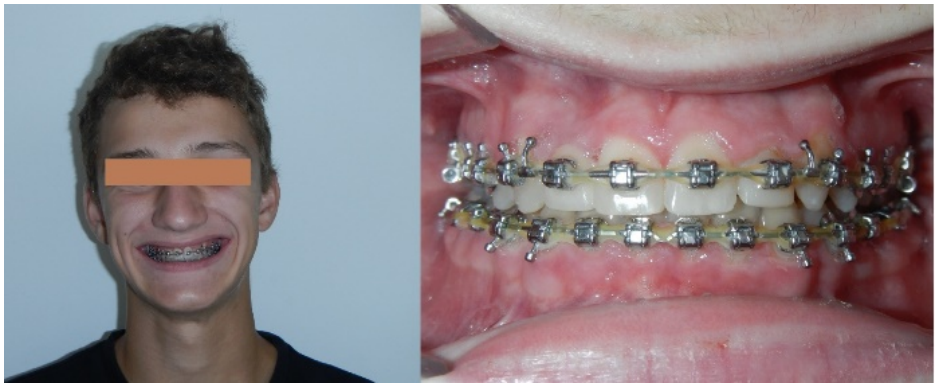

Figure 8: Closing the spaces especially distal to 12 - It becomes a regular classic orthodontic treatment again - patient with the same smile as others patients of his age

16. Retention

Retention is provided at the lower arch with a 33-43 bonded wire and a 1mm thick polycarbonate retainer to be worn for 3 hours a day and all night.

In the upper arch, we recommend wearing the lmm polycarbonate retainers at least 3 hours a day and all night.

We draw the patients' attention to this point, that the polycarbonate splint retainer, in addition to its role in supporting the stability of the treatment, also plays a role in protecting the teeth against mechanical stresses, and abrasion, and is therefore likely to increase the life of the bridge, and reduce the risk of fracture.

Similarly, we recommend that patients wear the trays during "high-risk" sports, such as combat sports, team sports or sports with a risk of falling (such as climbing or horseback riding).

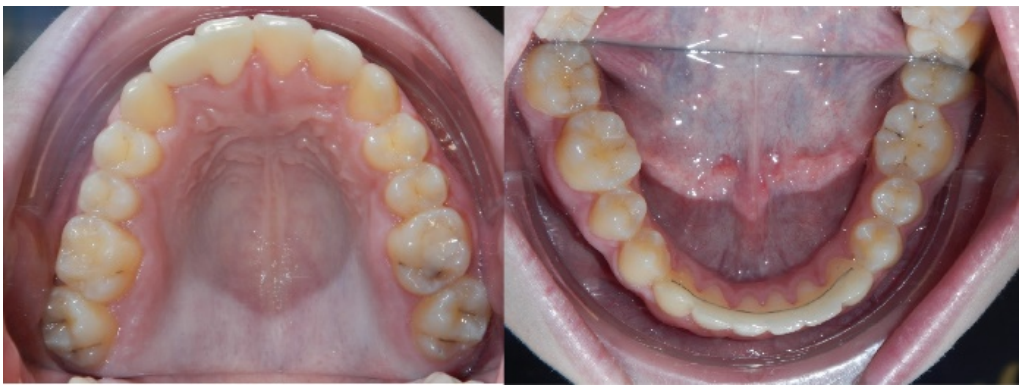

Figure 9: Final result: occlusal views

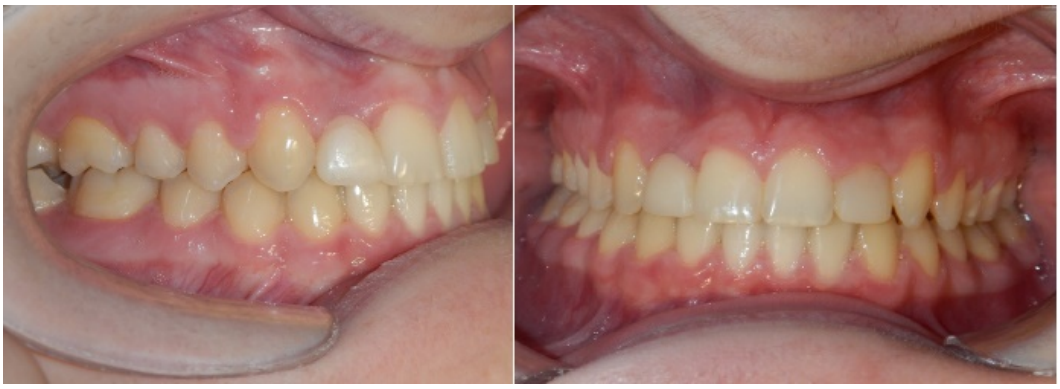

Figure 10: Final result: right lateral and frontal views

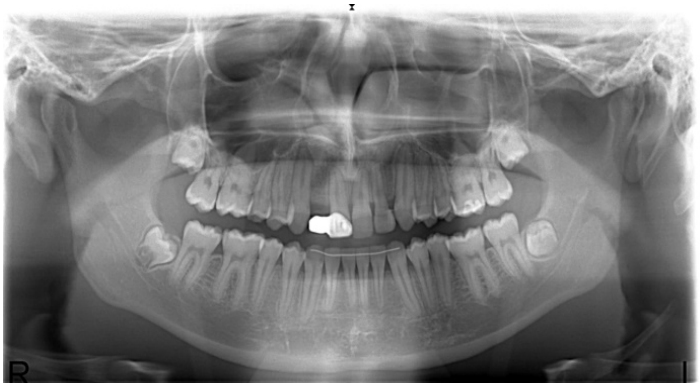

Figure 11: Final panoramic x-ray with cantilever bridge on 11 12 - The axes of tooth are correct

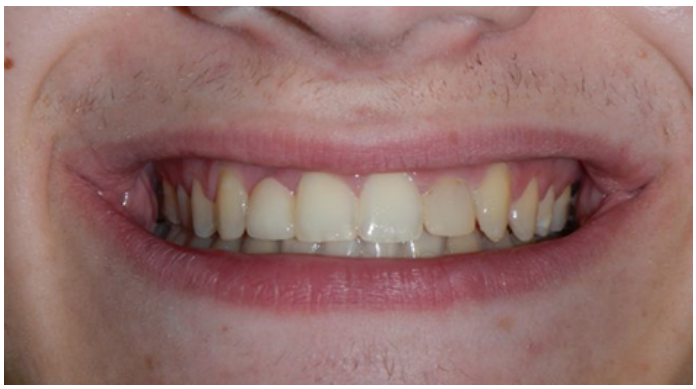

Figure 12: Final result: wider smile

III. DISCUSSION

1. Why a bonded bridge?

There are a few reasons to select this treatment option:

1) Avoid keeping unsightly spaces for too long (Anweigi *et al.,* 2013).

2) Avoid removable prosthesis, which are sometimes a hindrance to treatment due to conflicts generated during orthodontic tooth movements and are a physical and psychological handicap for the patient (Anweigi *et al.,* 2013).

3) Avoid retaining temporary tooth-bearing brackets and attachments while waiting for an implant or prosthetic solution (Anweigi *et al.,* 2013) (Attal and Tirlet, 2015) (Tirlet and Attal, 2015) .

4) Avoid placing implants too early (Huanca Ghislanzoni *et al.,* 2017) (Hwang and Wang, 2006) (Hwang and Wang, 2007) (Bernard *et al.,* 2004) .

2. Why a single tooth bonded bridge?

Several studies have shown that there is much less breakage and detachment when the bridge is "cantilevered" to a single tooth (van Dalen et al., 2004) (Dagba and Makhoul, 2019) (Kern and Gläser, 1997) (Kern, 2017) our experience in over 200 cases in 30 years has confirmed this.

3. Finally, why replacement during orthodontic treatment and not when treatment is complete?

1) First, to allow for the earliest possible aesthetic and psychological replacement (Anweigi *et al.,* 2013) (about 6 months) as soon as there is sufficient space and the correct dental axes. Without waiting for the end of the treatment, for example when the Class II is not completely corrected, so that the patient is aesthetically and psychologically more confortable. This

method allows treatment to continue without problems many months after the cantilever bridge has been placed and then perfectly integrated into the patient's mouth with the fixed brackets, as if the patient had a natural tooth.

2) Secondly, this allows for a better "finish" since allowing for a better adjustment of the shape and mesiodistal diameter of the replaced tooth. The tooth can be ground and modified during treatment, especially by interproximal reshaping, whereas at the end of treatment there is no possibility of adapting the spaces of the incisal edges and torques, as can be done during treatment (Dagba and Makhoul, 2019).

3) Thirdly, strength and durability of these bonded cantilever bridges during treatment. It turns out that dislocations and breakages are rare (Botelho *et al.,* 2014) (Djemal *et al.,* 1999) (Kern and Sasse, 2011) (Kern, 2017) (Kern, 2018) Statistics on our treated cases are 1 case in 100 for bridge fractures and 1 case in 50 for dislocations.

In these cases, the patient is warned that he must wear his polycarbonate splint retainer at all times, day and night, as they are the reference for his teeth.

In case of detachment, loss or fracture of the cantilever bridge, the missing tooth is temporarily replaced by an "immediate" splint, which is made in emergency and will be worn permanently. This allows the gap to be filled aesthetically and prevents unwanted tooth movement.

A new tooth preparation, a new impression and a new bonded bridge will be made 10 days later.

IV. CONCLUSION

In conclusion, the opening of agenesis spaces when chosen as a treatment will result in a wider, generally more esthetic, smile. We believe that the replacement of incisors by a bonded cantilever bridge while undergoing orthodontic treatment is a very good solution for the young patients.

This is a simple solution, fixed, easy, aesthetic and fast (6 months of orthodontic treatment than 10 days from impression to bonding) and it's comfortable. This allows us to recommend the total abandonment of removable replacement prostheses in favor of the cantilever bridge during orthodontic treatment.

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VI. APPENDICES

1. Final Work Proposal

UNIVERSIDADE FERNANDO PESSOA

RECEBIDO NA SEC. GERAL EM: ..... / .....
PELO(A) FUNCIONÁRIO(A): .....
REGISTO SEC. FAC. Nº.: .....

PROPOSTA DE TRABALHO FINAL

EXMO[A]. SR[A]., DIRETOR[A] DE FACULDADE,

NOME: PERNET PATRICK, Nº. ALUNO(A): 40547

CURSO: INTEGATED CYCLE, DO ANO, NO ANO LETIVO: 2020/2021

VEM APRESENTAR UMA PROPOSTA DE TRABALHO FINAL CUJO O TEMA É: REPLACEMENT OF INCISOR BY BONDED CANTILEVER BRIDGE DURING ORTHODONTIC TREATMENT A CASE REPORT

AS PALAVRAS-CHAVE PARA POSTERIOR PESQUISA DO TRABALHO[1], QUANDO APLICÁVEL, SÃO (SEPARADAS POR ';'): .....

ORIENTADO PELO(A) DOCENTE (NOME / Nº DOC. IDENTIFICAÇÃO [BI/CC])[2]: PROF. DOUTORA MONICA MORAES PINHO

☐ PRETENDO APENAS REALIZAR PESQUISA BIBLIOGRÁFICA.

☒ PRETENDO REALIZAR PESQUISAS / INQUÉRITOS / RECOLHA DE DADOS. EM ANEXO SEGUE A DOCUMENTAÇÃO A APRESENTAR À COMISSÃO DE ÉTICA DA UFP.

DATA: 26 / 06 / 2021 ..... ASSINATURA DO(A) ALUNO(A)

DECLARAÇÃO DO(A) DOCENTE ORIEN

EU, ...

DECLARO QUE ACEITO ORIENTAR O(A) ALUNO(A) ACIMA IDENTIFICADO, NA ELABORAÇÃO DO TRABALHO FINAL PROPOSTO.

DATA: ..... / ..... / .... ASSINATURA DO(A) ORIENTADOR(A)

[1] DADOS PARA PESQUISA NA PLATAFORMA **RENATES** REGISTO NACIONAL DE TESES E DISSERTAÇÕES.
[2] DADOS OBRIGATÓRIOS PARA INSERÇÃO NA PLATAFORMA **RENATES** REGISTO NACIONAL DE TESES E DISSERTAÇÕES.

Q43-0

2. Form for submitting a research project to the Ethics Committee of the University Fernando Pessoa

Formulário para a submissão de um Projeto de Investigação à Comissão de Ética da Universidade Fernando Pessoa

Preencha, por favor, todos os itens do formulário

Nome do investigador: PERNET Patrick

Licenciatura/Mestrado/Doutoramento/ Outro:

Título do estudo (por favor ter em consideração a adequação do título aos objetivos e metodologia do estudo): Replacement of incisors by bonded cantilever bridge during

Nome do orientador e do co-orientador (caso se aplique): Dotoura Monica MORAD PINHO

Carta do Orientador (Anexada)

Carta do Co-Orientador (Anexada) – (caso se aplique)

1. ***Objetivos do estudo:***

Case report

2. O seu estudo é:

Qualitativo ☒ ***Quantitativo*** □ ***Ambos*** □

3. ***O contexto do estudo***

Indique o local onde o estudo se realizará e o seu período de duração (em meses):

Departement d'orthopedie dento maxillo faciale(dr Kerbrat) Service de stomatologie et chirurgie maxillo faciale Hopital de la Salpetriere 12 boulevard de l"Hopital 75012 PARIS 40 mois

Cabinet d"orthodontie 27 rue des grandes faulx 70000 Vesoul France 40 mois

4. ***Os participantes no estudo:***

4.1 Descreva detalhadamente os potenciais participantes do estudo

The patient male 14 years old with agenesis of incisivor 12.

4.2 Indique os critérios de inclusão e de exclusão

4.3 Os participantes são capazes de dar o seu consentimento informado, livre e esclarecido?

Sim ■ Não □ Se Não, indique o motivo:

São indivíduos ou grupos vulneráveis? ☐

5. Descreva o procedimento de acesso ao grupo de participantes

Personal case that i showed to the doctors Kerbrat and Goudot .We have had reflections,discussion and interviews about this difficult case between dr Pernet,Dr Goudot,Dr kerbrat

6. Descreva o procedimento para garantir a obtenção de um consentimento verdadeiramente informado, livre e esclarecido.

Inteview with the patient and his parents then signing of the publication agreement

Anexe o(s)formulário(s)de Consentimento Informado *(consultar o link.....)*

7. ***Os métodos e os instrumentos usados*** na recolha dos dados

Assinale o que se aplica ao seu estudo:

Não há recolha de dados sensíveis □

Há recolha de dados sensiveis (exemplo: dados sobre saúde)

O estudo implica a recolha e/ou processamento de dados pessoais sensíveis, tais como:

a) saúde ■
b) estilo de vida sexual □
c) opinião política □
d) convicção religiosa ou filosófica □
e) envolve processamento de informação genética? □
f) Envolve processamento de dados pessoais previamente recolhidos (uso secundário -- Recordamos que tem de haver permissão para uso secundário dos dados) □
g) Outros □

8. Indique como recolherá os dados :
   a) análise de documentos ou consulta de arquivos ■
   b) entrevistas
   c) testes □
   d) escalas □
   e) observações ■
   f) questionários □
   g) processos □
   h) Outros □__Quais:_____

i) Indique e Anexe os instrumentos que serão usados, descrevendo os procedimentos na sua aplicação.

non applcable

j) Indique a autoria dos mesmos e o procedimento de obtenção de autorização por parte dos autores (caso se aplique)

non applicable

k) **Explique como garante a confidencialidade e o anonimato dos dados recolhidos, incluindo informação sobre o armazenamento dos dados e o seu destino depois de concluído o estudo:**

We hide the upper part of the face
We erase the patient's personal data

Termo de Responsabilidade

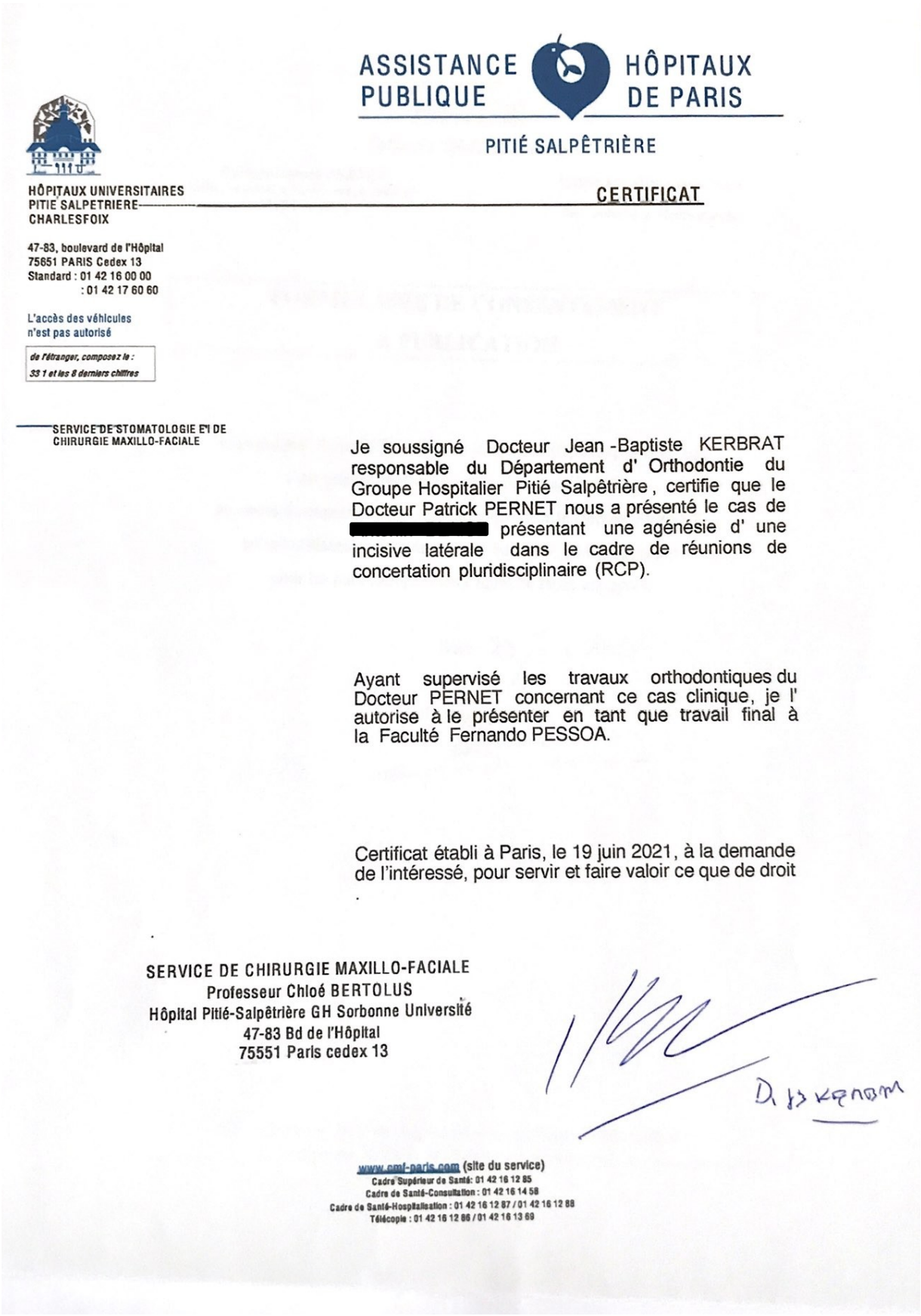
Eu, abaixo assinado, na qualidade de investigador responsável, declaro por minha honra que as informações prestadas são verdadeiras e que todo o processo de investigação decorrerá de acordo com o projeto de investigação submetido à Comissão de Ética.

Assinatura do Investigador: PERNET Patrick

Data: 29/06/2021

ATENÇÃO: este formulário deverá ser descarregado e preenchido off-line. Em seguida, deverá ser gravado como pdf e enviado por mail (como anexo) para a Direção da sua Faculdade, juntamente com a carta do orientador. As Direções das Faculdades enviarão o documento para a Comissão de Ética.

3. Permission for use the clinic case



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n'est pas autorisé

de l'étranger, composez le :
33 1 et les 8 derniers chiffres

SERVICE DE STOMATOLOGIE ET DE
CHIRURGIE MAXILLO-FACIALE

CERTIFICAT

Je soussigné Docteur Jean-Baptiste KERBRAT responsable du Département d' Orthodontie du Groupe Hospitalier Pitié Salpêtrière, certifie que le Docteur Patrick PERNET nous a présenté le cas de [redacted] présentant une agénésie d' une incisive latérale dans le cadre de réunions de concertation pluridisciplinaire (RCP).

Ayant supervisé les travaux orthodontiques du Docteur PERNET concernant ce cas clinique, je l' autorise à le présenter en tant que travail final à la Faculté Fernando PESSOA.

Certificat établi à Paris, le 19 juin 2021, à la demande de l'intéressé, pour servir et faire valoir ce que de droit

SERVICE DE CHIRURGIE MAXILLO-FACIALE
Professeur Chloé BERTOLUS
Hôpital Pitié-Salpêtrière GH Sorbonne Université
47-83 Bd de l'Hôpital
75551 Paris cedex 13

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Cadre de Santé-Hospitalisation : 01 42 16 12 87 / 01 42 16 12 88
Télécopie : 01 42 16 12 86 / 01 42 16 13 69

4. Patient consent form

Cabinet d'ORTHODONTIE

Docteur Patrick PERNET
Ancien assistant à l'Université de Paris VI
N° 70 1 00 681-9

Médecin Spécialiste en Stomatologie
Qualifié en
Orthopédie Dento-Maxillo-Faciale

FORMULAIRE DE CONSENTEMENT
A PUBLICATION

Je soussigné, Antonin BLAISE, né le 19/03/2003, donne mon accord pour [redacted]es prises au cours de mon traitement orthodontique chez le Docteur PERNET, soient utilisées comme documents éducatifs, pédagogiques et pour les publications scientifiques de façon anonyme.

Date : 23 Juin 2021

Signature :

Cabinet d'ORTHODONTIE - 27, rue des Grandes Faulx - 70000 VESOUL
Téléphone : 03 84 76 55 15 - Télécopie : 03 84 75 86 88