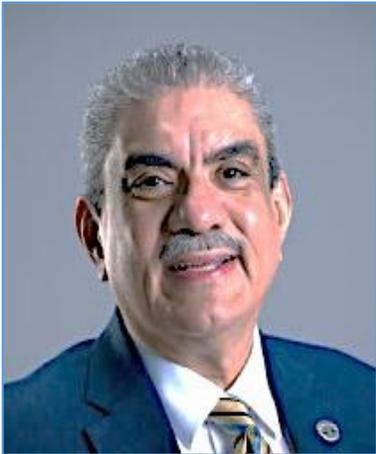


CONSERVATIVE MANAGEMENT OF PATIENT WITH REVERSIBLE MUSCULAR CONTRACTURE AND WITH OSTEOARTHRITIS

A case presentation



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ABSTRACT

The Masticatory or occlusal system, is an orthopedic system in nature; complex, adaptable and efficient and in charge of speech, respiration, mastication, sleep and swallow throughout our lives, all on which life depends. The system has 3 complex anatomical components; the 2 temporomandibular joints (TMJ), the neuromuscular and the interdental relationship and its supporting tissues that can be damaged in similar ways to those of the rest of the human body or present in comorbidity. The intention of this case presentation is to describe the conservative partial management in Phase I and Phase II¹ of a patient with a long history of

signs and symptoms of Temporomandibular Disorders (TMD)² including limitation of mandibular opening.

Keyword; muscular fibrosis, osteoarthritis, maladaptive interdental relationship, bruxism, premature contacts.

INTRODUCTION

This is a case of a 37 years old female patient (pt) owner of a nursery in our beautiful countryside and referred to my office by her general practitioner because he could not do dentistry. Her first appointment was October 31, 2018.

The **occlusal analysis**³ revealed;

1. *Chief Complaint;* “cannot open my mouth”.
2. *Medical History;* noncontributory, but she was always tired, aching and did not feel well.
 - a. Weight: known, 163 lbs.
 - b. Blood pressure; unknown. Taken in the office: 106/73 right arm.
3. The *sleep apnea questionnaire and the Epworth scale* in Spanish^{4,5} (fig. 1) was positive for non-repairing sleep, somnolence, about 7 hours sleep, difficulty trying to sleep, dry mouth and headaches in the morning.
4. *Dental history;* dental extractions because of fractures.
5. *Articular-muscular history;* History of 10 years with the actual chief complaints and were worsening. She could only open 2 fingers and had difficulty and pain eating or yawning. She referred a history of years with head, face, neck pain and whole body aches, all without treatment or diagnosis. She has had joint sounds for years.
6. *Muscular examination;* Palpation indicated pain and slight swelling of right masseter, temporal, SCM and trapezius muscles (fig. 2).
7. *Articular examination;* Both TMJ were painful on palpation and crepitation⁶ was heard during opening and lateral with the Doppler™.
8. *Range of motion examination;* Painful opening and closing in both TMJ, with a 13 mm inter incisal left side shift (fig. 3, 4 and 5).
9. *Posture examination;* Deviated omicron line and anterior posture of head (figs. 6 & 7).
10. *Interdental examination;* Lost incisal curve and deviated midline (fig. 5).
11. *Intraoral examination;* Multiple missing teeth and bone loss (figs. 8, 21, 22).
12. *Images examination;* Asymmetrical, flattened and irregular condyles with both angles of the mandible enlarged and deformed⁷. The airway seemed open, increased curvatures of cervical vertebrae and C 5 has an osteophyte (figs. 8 & 9).

The **diagnosis**^{1 & 2} were;

1. Arthritis and capsulitis of both TMJ.
2. R/O reversible or irreversible Muscular Contracture or Fibrosis
3. Myofacial Pain
4. Sleep and awake Bruxism⁸
5. Maladaptive Occlusion^{9, 10 11 & 12.}

The **Phase I treatment**^{13, 14 & 15} started December 12, 2018 with:

1. An initial session of 30 minutes with TENS by Bioresearch™ and delivery, in the resultant mandibular position, of a mandibular full coverage neuromuscular appliance (fig. 10) with anterior guidance and even contacts obtained with a Parkell II™ ribbon.
2. Use of the appliance 24 hours a day, removal only to eat and oral hygiene and follow up/adjustment appointments every 2 weeks for at least 2 months.
3. Home therapy (loaned) with the frequent use of first, a 20 mm diameter and then advance to a 30 mm opening screw (fig. 11). She was asked not to overdo it because of the condition and symptoms of both TMJ. I made these acrylic screws from silicone models taken from the ones used by my much respected teachers during my GPR at LSU School of Dentistry, back in 1981.

She complied and reported constant reduction of all signs and symptoms, good sleep¹⁶ and was fully asymptomatic by February 20, 2019. By then the goals for Phase I of pain control, bruxism cessation, elevation of the tongue, improved posture, wellbeing and partial restoration of mandibular opening to 25 mm were obtained. It can be observed in the post op photos in the postural adapted centric relation (PACR)¹⁷ or initial premature contact (figs.12,13, 14, 15, 16 & 17).

The discrepancy between PACR and MI indicated an Occlusal Equilibration as an initial **Phase II treatment**^{18,19} before sending the pt back to her referring Dentist for Prosthetic and Restorative rehabilitation. In March 8, 2019 I did the case presentation, she understood and accepted it. It was done in March 22, 2019, with 2 tune ups in April 4 and April 24, 2019 and progressive loading of the system with gradual removal of the appliance. She was instructed to visit her Dentist ASAP for the Rehabilitation, to maintain the appliance for possible relapses and to call us ASAP if signs or symptoms reappear. She was also taught to continue and measure with the opening therapy with the tongue blades technique (fig. 23).

SUMMARY

The Temporomandibular Disorders² can be painful, incapacitating, move or wear teeth, alter the sleep, the general health and wellbeing. Their sign and symptoms can be perplexing; its diagnosis can be difficult or can present with comorbidity with other medical conditions. The alternatives of Phase I relieve pain and restore or improve muscular and articular function. The Phase II alternatives, rehabilitate the altered occlusal table.

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FIGURES

Figure 1

D. EXPLORACION POR APNEA DEL SUEÑO:

La Apnea Obstructiva del Sueño es un común y peligroso Desorden del Sueño, que se caracteriza por el colapso repetitivo aérea durante el sueño, causando una suspensión dañina de la respiración. Este y otros Desordenes del Sueño están muy re con los Desordenes de la Masticación. Sus consecuencias incluyen las siguientes condiciones: mal sueño, baja en la productividad laboral, somnolencia, accidentes automovilísticos, hipertensión arterial, arritmias cardíacas, diabetes, derrames cerebrales.

Su respuesta veraz y minuciosa a las siguientes preguntas, nos dará una idea si Usted padece de este problema y PODRIAM AYUDARLE. Por favor circule o escriba lo solicitado en donde aplique y al final del documento, la fecha de hoy y su firma.

1. RONQUIDO. **Le han dicho que:**
 - a.) Ronca muchas noches (Más de 3 veces a la semana). SI NO
 - b.) Es su ronquido alto (Se puede oír entre paredes o puertas). SI NO
2. SUSPENDE LA RESPIRACION O SE AHOGA AL DORMIR: SI NO
3. LA MEDIDA DE SU CUELLO:
 - Menos de 16 pulgadas (Si Usted usa Small o Medium en camisa) SI NO
 - Más de 16 pulgadas (Si Usted usa Large o mas en camisa) SI NO
4. ESTA USTED EN TRATAMIENTO POR PRESION ARTERIAL ALTA O DIABETES: SI NO
5. ESTA CANSADA, SE DUERME O ESTA ADORMECIDO DURANTE EL DIA:
 - a.) Inactivo o desocupado: SI NO
 - b.) Manejando, en transporte o en un semáforo o tranque SI NO

E. ESCALA EPWORTH DEL SUEÑO:

6. SE SIENTE CON SUEÑO O SE DUERME DURANTE:
 - a.) Sentado o leyendo b.) Viendo la TV c.) Sentado en eventos d.) Como pasajero por una hora e.) Descansando una cuando puede f.) Sentado o conversando g.) Sentado luego del almuerzo sin licores h.) Durante un tranque o semáforo
7. DESDE CUANDO RONCA O LE HAN DICHO QUE LO HACE: _____
8. CUANTAS VECES SE DESPIERTA DURANTE LA NOCHE: _____
9. LE HAN DICHO QUE DEJA DE RESPIRAR: SI NO
10. TIENE DIFICULTAD PARA DORMIRSE: SI NO
11. SE DESPIERTA CON DOLOR DE CABEZA SI NO
12. SE DESPIERTA CANSADO O ESTA ASÍ DURANTE EL DÍA: SI NO
13. LE DUELE LA CABEZA CON LICOR: SI NO
14. HA TENIDO APNEA DEL SUEÑO: SI NO
15. LE HAN HECHO UN ESTUDIO DEL SUEÑO: SI NO
16. LE DIFICULTA RESPIRAR POR LA NARIZ: SI NO
17. TIENE ALGUN PROBLEMA DEL CORAZON: SI NO
18. TIENE PRESION ALTA o DIABETES: SI NO COMO LE TRATAN _____
19. TIENE PERDIDA DE LA MEMORIA: SI NO
20. SUFRE O ES TRATADO POR DEPRESION: SI NO COMO LE TRATAN _____
21. TIENE TURNOS DE TRABAJO Y SUEÑO: SI NO
22. A QUE HORA SE ACUESTA: 9:00
23. A QUE HORA SE LEVANTA 6:30
24. DURANTE SU SUEÑO, LE HAN DICHO QUE:

a.) Ronca Fuertemente:	Siempre	Mucho	Poco	Nunca	<input checked="" type="checkbox"/>
b.) Se ahoga, le dificulta respirar o deja de respirar:	Siempre	Mucho	Poco	Nunca	<input checked="" type="checkbox"/>
c.) Se despierta por problemas respiratorios:	Siempre	Mucho	Poco	Nunca	<input checked="" type="checkbox"/>
d.) Se voltea frecuentemente:	Siempre	Mucho	Poco	Nunca	<input checked="" type="checkbox"/>
e.) Patea o mueve las piernas con frecuencia:	Siempre	Mucho	Poco	Nunca	<input checked="" type="checkbox"/>
25. CUANDO SE DESPIERTA DE SU SUEÑO REGULAR, CON QUE FRECUENCIA TIENE:

a.) Dificultad para abrir la boca:	Siempre	Mucho	Poco	Nunca	<input checked="" type="checkbox"/>
b.) Boca seca:	Siempre	Mucho	Poco	Nunca	<input checked="" type="checkbox"/>
26. DESPIERTO Y EN LO SIGUIENTE, SE SIENTE CON SUEÑO O SE DUERME:

a.) Después de comer:	Siempre	Mucho	Poco	Nunca	<input checked="" type="checkbox"/>
b.) Leyendo o viendo la TV:	Siempre	Mucho	Poco	Nunca	<input checked="" type="checkbox"/>
c.) En la escuela o su lugar de oración:	Siempre	Mucho	Poco	Nunca	<input checked="" type="checkbox"/>
d.) En su trabajo:	Siempre	Mucho	Poco	Nunca	<input checked="" type="checkbox"/>
e.) Manejando o como pasajero:	Siempre	Mucho	Poco	Nunca	<input checked="" type="checkbox"/>
27. SE LE DIFICULTA RESPIRAR POR LA NARIZ:

a.) Durante el día:	Siempre	Mucho	Poco	Nunca	<input checked="" type="checkbox"/>
b.) Durante el sueño:	Siempre	Mucho	Poco	Nunca	<input checked="" type="checkbox"/>
28. TOMA BEBIDAS ALCOHOLICAS O SEDANTES:

a.) Durante el día:	Siempre	Mucho	Poco	Nunca	<input checked="" type="checkbox"/>
b.) Para poder dormir:	Siempre	Mucho	Poco	Nunca	<input checked="" type="checkbox"/>
29. LE HAN EFECTUADO, HA HECHO O HA TENIDO LO SIGUIENTE:

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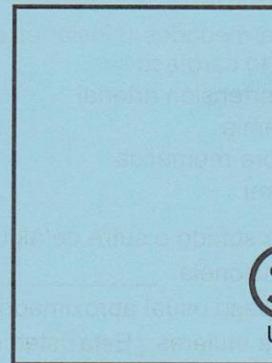


Figure 2



Figure 3.



Figure 4.



Figure 5.



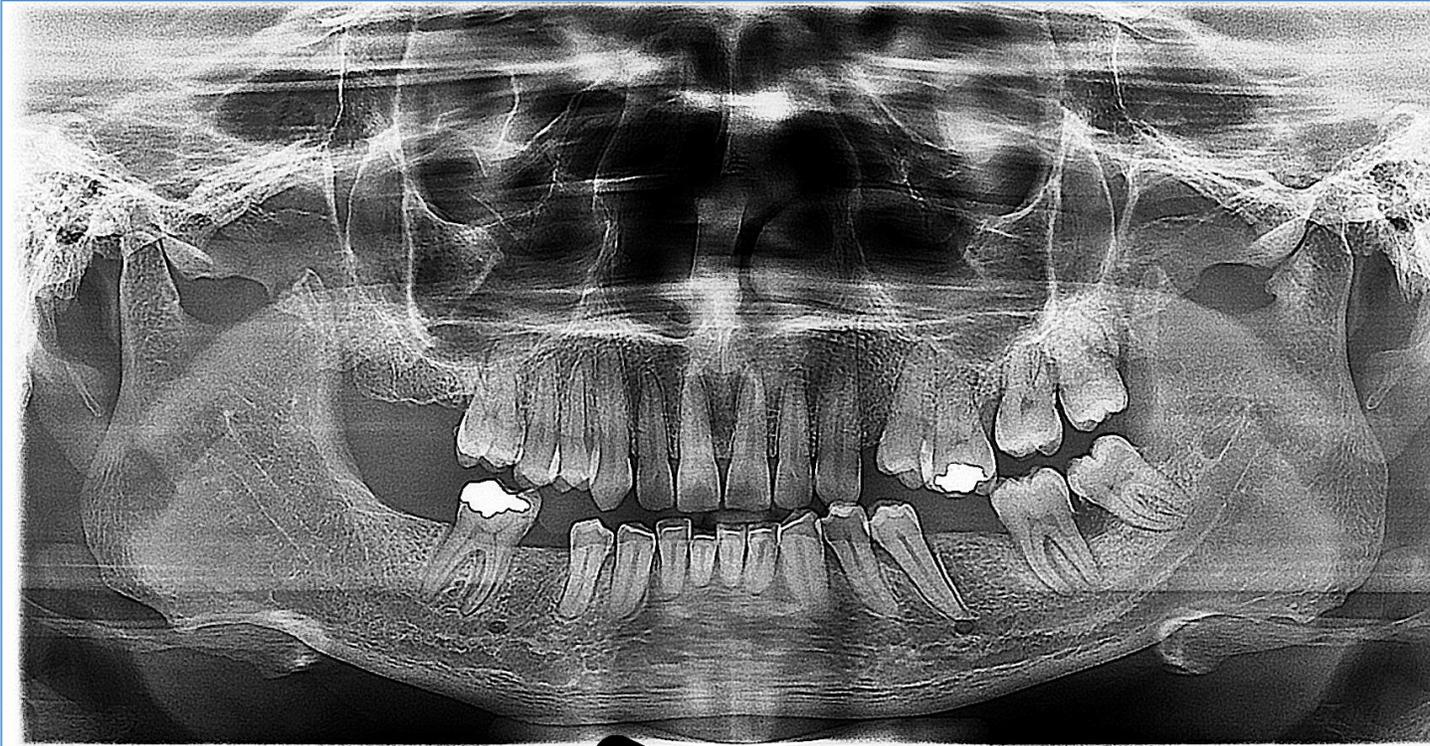
Figure 6.



Figure 7.

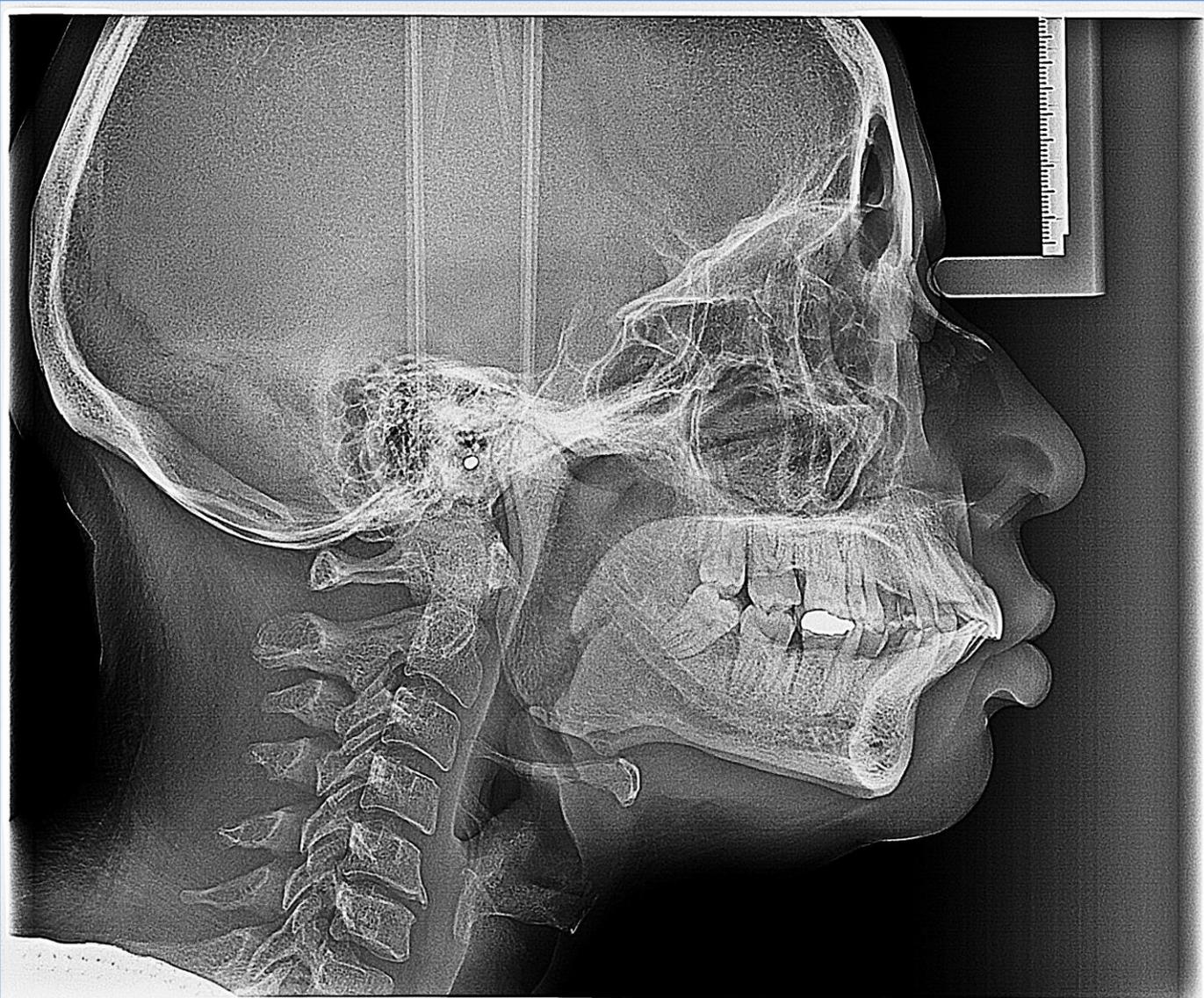


Figure 8.



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Figure 9.



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Fecha/Hora: 6/11/18 10:02:19 a. m.

Figure 10.



Figure 11.



Figure 12.



Figure 13.



Figure 14.



Figure 15.



Figure 16.



Figure 17.



Figure 18.



Figure 19.



Figure 20.



Figure 21.



Figure 22.



Figure 23.

