

INTERDISCIPLINARITY APPROACHES IN CONTEXT OF COMPLEX INTRAORAL REHABILITATION TREATMENT AT YOUNG PATIENTS WITH SOCIAL ANXIETY -CLINICAL EXAMINATION –PART 1

Clinical examination –part 1.

Lucian Stefan Burlea¹⁺, Laura Elisabeta Checherita^{*2}, Ovidiu Stamatina⁺¹, Onofrei Bianca Andreea³⁺, Magda Barleanu^{*1}, Magda Cuciureanu⁴⁺, Maria Antonela Beldiman¹⁺, Ana Ciubara⁵⁺, Liana Aminov²

1. University of Medicine and Pharmacy “Grigore T. Popa” Iasi, Faculty of Dental Medicine, third department of dental medicine .

2. University of Medicine and Pharmacy “Grigore T. Popa” Iasi, Faculty of Dental Medicine, second department of Odontology-Periodontology- Fixed Restorations

3. University of Medicine and Pharmacy “Grigore T. Popa” Iasi, Faculty of Dental Medicine, First Department of dental medicine ,surgery , oral medicine .

4. “Grigore T. Popa” Iasi, Faculty of General Medicine, Pharmacology Department, Clinical pharmacology and algesiology.

5. University of Medicine and Pharmacy Galati „Dunarea de jos ”, Department Of Psychiatric And Mental Disorders .

*Corresponding authors e-mail:

- Laura Elisabeta Checherita , PhD, Second Department of Dental Medicine, Odontology-Periodontology- Fixed Restoration ,laura.checherita@umfiasi.com.

-Magda Barleanu* DMD, PhD – Third Department Faculty of Dental Medicine, UMF Iasi, Romania e-mail:magdabarleanu@umfiasi.ro

+These authors have the same scientific contribution.

Abstract

Social anxiety is one of the most common psychological disorders along with depression and generalized anxiety. Avoiding eye contact, persistent fear of being judged and negatively evaluated by others, and social isolation are just some of the specific features of this type of anxiety. As part of the complex oral rehabilitation treatment, we also faced such a case which involved a lot of attention and time, but to which was also added the joint and muscle pathology, superposing with the social the dental treatments anxiety , the patient needing a special complex treatment approach .

Keywords : psychological disorders, clinical examination , complex treatment approaches, social anxiety at young patients , interdisciplinarity.

Introduction

Numerous ordinary scenarios can cause anxiety, such as presenting a presentation or taking an exam, speaking in front of an audience, or going to a social gathering where we don't know many people. While these activities might not seem important to those without social anxiety, they pose significant

obstacles for those who do. How can social anxiety manifest itself? A strong fear that surfaced in social encounters and situations when we had to act in an appropriate way for others is known as social anxiety, sometimes known as social phobia, the constant fear of embarrassing oneself is a common feature of social anxiety.

Genetics are significant. An essential factor in the development of social anxiety is the mental health history of one's parents. A person may be more susceptible to anxiety problems later in life if their parents have symptoms of anxiety disorders themselves. Anxiety symptoms are more likely to appear in the family if the patient has had unpleasant or stressful experiences. Among these include arguments within the family, divorce, the untimely loss of a parent, and acts of physical and verbal abuse. Adverse encounters in social settings. Negative experiences in extended social situations are another component that contributes to the emergence of symptoms of social anxiety: the most obvious example is bullying at school, which is closely followed by victimization by peers or a lack of acceptability at work. Vulnerability to temperament Apart from the aforementioned factors, there exist several causes that are strongly associated with the patient's temperament and personality: Behavioral inhibition – many people exhibit this behavioral tendency characterized by withdrawal, fear and rejection when they are in a new or unfamiliar situation.

Social anxiety symptoms can appear in a variety of ways. A person's aversion to trying new things, their fear of others' opinions, their anxiety when attending social gatherings, and their rejection of circumstances that call attention to themselves are some of the most prevalent emotional reactions[1-5]. At the behavioral level, the reactions take the form of assurance behaviors (whispering, stammering, avoiding eye contact, avoiding situations where they will meet new people, and avoiding public meals and gatherings) as well as avoidance behaviors. Cognitively

speaking, the majority of patients will have intense anxiety about other people's perceptions, leading to thoughts of guilt, self-deprecation, and personal. This kind of generalized situations can be applied and verified often in dental offices having and recognizing very often these emotional patterns that become chronic and need interdisciplinary treatment[6-10].

The aim of this scientific work is to recognize the problematic of this aspect of general diagnosis due to the frequency of this societal anxiety and to appreciate the optimal way of approaching the complexity of interdisciplinary treatment being applied with caution and not to cause situations of accentuation of the pathology with long-lasting effects[11].

Material and methods

We have in observation ,20 cases of anxiety only of the social type were studied, selected from a total of 33 patients with anxiety in general, to whom anxiety questionnaires of the social type were applied, recognizing the pathology and their treatment, also, both psychiatric and dental, with the possibility of the interaction of the two types of social and dental anxiety. They were 12 men and 8 women, 10 from the urban and 10 from the rural areas of the city. The scale used to identify the type of anxiety and then to classify it in the social type of anxiety combined with stress and anxiety about the dental act has the following formula and has been translated and used freely on the internet and in the context of dental and interdisciplinary consultation. The scale has been used more for the age group 17 - 25 years with specific questions for young adults as well as for the pre-school group. The

representative case belongs to young adults over 18 years. The scale used is **Liebowitz Social Anxiety Scale: For Children & Adolescents (Lsas-Ca)** and **Liebowitz Social Anxiety Scale: For Adults (Lsas)**, also , anxiety and stress, anxiety ,scale of Dass

21The Liebowitz Social Anxiety Scale for Children & Adolescents (LSAS-CA) is a questionnaire developed by Dr. Michael R. Liebowitz, a psychiatrist and researcher (Fig.1) [12-15].

	FRICA	EVI TA RE
1. Vorbind cu colegii de clasă sau cu alții la un telefon		
2. Participarea la grupuri de lucru în sala de clasă		
3. Mîncarea în fața altora (de exemplu, școală, cantină, restaurante)		
4. Solicitarea unui adult pe care nu îl cunoști bine, cum ar fi un funcționar de magazin, director sau politist, pentru ajutor (de exemplu, pentru indicații sau pentru a explica ceva ce nu înțelegi)		
5. Oferirea unui raport verbal sau a unui prezentări în clasă (de exemplu, arătați și spuneați copiilor mai mici)		
6. Mergând la petreceri, dansuri sau activități școlare		
7. Scrierea pe tablă sau în fața altora		
8. Vorbind cu alți copii pe care nu îi cunoașteți bine		
9. Lăcșetii o conversație cu persoane pe care nu le cunoașteți bine		
10. Utilizarea băilor școlare sau publice		
11. Intrarea în clasă sau într-un alt loc (de exemplu, biserică, cantină, food court) când alții sunt deja așezați		
12. A avea convulsii și să acorde o atenție deosebită sau să fii central atenției (de exemplu, propria petrecere de naștere)		
13. Intrebări în clasă		
14.a. Răspunsul la întrebări în clasă		
15. Cîștin cu voce tare în clasă		
16. Efectuarea unui test		
17. Spunînd „nu” altora atunci cînd îți cer să faci ceva ce nu vrei să faci (cum ar fi să împrumutați ceva sau să uitați la temele tale)		
18. Spunînd altora că nu sunteți de acord sau că sunteți supărați pe ei		
19. Uitaîndu-te la oameni pe care nu îi cunoști bine în ochi		
20. Returnarea unui lucru într-un magazin		
21. Efectuarea unui sport sau interpretarea în fața altor persoane (de exemplu, clasă de gimnastică, recitalul școlii de dans, concert muzical)		
22. Participarea la un club sau o organizație		
23. Întîlnirea cu oameni noi sau străini		
24. Solicitarea permisiunii unui profesor de a părăsi sala de clasă (de exemplu, pentru a merge la baie sau la sălămă medicată)		

a)

	FRICA	EVI TA RE
1. Vorbind cu colegii de clasă sau cu alții la un telefon		
2. Participarea la grupuri de lucru în sala de clasă		
3. Mîncarea în fața altora (de exemplu, școală, cantină, restaurante)		
4. Solicitarea unui adult pe care nu îl cunoști bine, cum ar fi un funcționar de magazin, director sau politist, pentru ajutor (de exemplu, pentru indicații sau pentru a explica ceva ce nu înțelegi)		
5. Oferirea unui raport verbal sau a unui prezentări în clasă (de exemplu, arătați și spuneați copiilor mai mici)		
6. Mergând la petreceri, dansuri sau activități școlare		
7. Scrierea pe tablă sau în fața altora		
8. Vorbind cu alți copii pe care nu îi cunoașteți bine		
9. Lăcșetii o conversație cu persoane pe care nu le cunoașteți bine		
10. Utilizarea băilor școlare sau publice		
11. Intrarea într-o clasă sau într-un alt loc (de exemplu, biserică, cantină, food court) când alții sunt deja așezați		
12. A avea convulsii și să acorde o atenție deosebită sau să fii central atenției (de exemplu, propria petrecere de naștere)		
13. Intrebări în clasă		
14.a. Răspunsul la întrebări în clasă		
15. Cîștin cu voce tare în clasă		
16. Efectuarea unui test		
17. Spunînd „nu” altora atunci cînd îți cer să faci ceva ce nu vrei să faci (cum ar fi să împrumutați ceva sau să uitați la temele tale)		
18. Spunînd altora că nu sunteți de acord sau că sunteți supărați pe ei		
19. Uitaîndu-te la oameni pe care nu îi cunoști bine în ochi		
20. Returnarea unui lucru într-un magazin		
21. Efectuarea unui sport sau interpretarea în fața altor persoane (de exemplu, clasă de gimnastică, recitalul școlii de dans, concert muzical)		
22. Participarea la un club sau o organizație		
23. Întîlnirea cu oameni noi sau străini		
24. Solicitarea permisiunii unui profesor de a părăsi sala de clasă (de exemplu, pentru a merge la baie sau la sălămă medicată)		

b)

DASS21		Name:	Date:
Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.			
The rating scale is as follows:			
0	Did not apply to me at all		
1	Applied to me to some degree, or some of the time		
2	Applied to me to a considerable degree or a good part of time		
3	Applied to me very much or most of the time		
1 (0)	I found it hard to wind down	0	1 2 3
2 (0)	I was aware of dryness of my mouth	0	1 2 3
3 (0)	I couldn't seem to experience any positive feeling at all	0	1 2 3
4 (0)	I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion)	0	1 2 3
5 (0)	I found it difficult to work up the initiative to do things	0	1 2 3
6 (0)	I tended to over-read to situations	0	1 2 3
7 (0)	I experienced trembling (e.g. in the hands)	0	1 2 3
8 (0)	I felt that I was using a lot of nervous energy	0	1 2 3
9 (0)	I was worried about situations in which I might panic and make a fool of myself	0	1 2 3
10 (0)	I felt that I had nothing to look forward to	0	1 2 3
11 (0)	I found myself getting agitated	0	1 2 3
12 (0)	I found it difficult to relax	0	1 2 3
13 (0)	I felt down hearted and blue	0	1 2 3
14 (0)	I was intolerant of anything that kept me from getting on with what I was doing	0	1 2 3
15 (0)	I felt I was close to panic	0	1 2 3
16 (0)	I was unable to become enthusiastic about anything	0	1 2 3
17 (0)	I felt I wasn't worth much as a person	0	1 2 3
18 (0)	I felt that I was rather touchy	0	1 2 3
19 (0)	I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart rate increase, heart missing a beat)	0	1 2 3

c)

Fig. 1. Anxiety scale used for our reserch team translated in romanien . (**LIEBOWITZ SOCIAL ANXIETY SCALE: FOR CHILDREN & ADOLESCENTS (LSAS-CAa,)**and adults ,b)and **Dass 21 scale,c**).The Liebowitz Social Anxiety Scale for Children & Adolescents (LSAS-CA) is a questionnaire developed by Dr. Michael R. Liebowitz, a psychiatrist and researcher)

CLINICAL CASE PRESENTATION- PART 1 EXAMINATION .

I. Subjective clinical examination

II. Patient data Name: D.T. First name: L-G Age: 27 years old Gender: F Profession: Student-kinetotherapy Address: Iasi-Harlau.
Anamnesis : Reason for presentation presentation: The patient came to us to find a solution to fill the space left by the extraction of a molar first fort'hs cadran ,masticatory physionomichal disfunction.
Personal general physiological and pathological history: No

physiological or pathological history to declare **Personal dental history:** Recent simple edentation and multiple caries. **Living and working conditions:** Rational diet in terms of food (proteins, carbohydrates, lipids). Meal regularity is preserved, with carbohydrate consumption between meals Alcohol consumption: rare Drug consumption: none .Does occasional smoke.



Fig. 2.General examination ,face ,profile / Fig 2. Extraoral examination , face , profile antropometric measurements .

II. Objective clinical examination General

Patient Comments Height: 1m60 Weight: 50kg Psychic state: disbalanced but in treatment.Head and body posture status: The head is in normal alignment with the body .

includes the following steps: 1) Inspection of the face .2) Profile inspection 3) Superficial palpation of the skin 4) Deep palpation.5) ATM review.

III.Local objective clinical examination .Extraoral The extraoral examination

1)**Inspection of the face** . The outline of the face is oval .Skin integrity and coloration are normal Appearance of natural facial pits are normal (Fig.2)

Symmetry of the face on the vertical plane

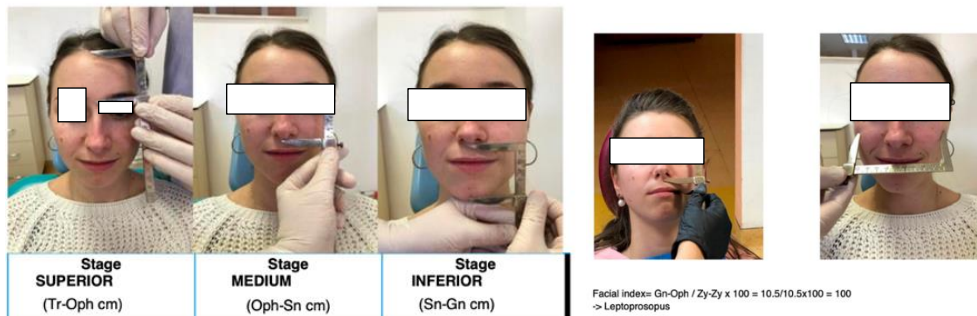


Fig 3. Extraoral examination symmetry of the face. Tr- Oph=5.6. 5; Oph-Sn =5.3 Sn -Gn=5.5; Facial indexes . measurements , leptoprosop.

Leonardo Da Vinci Method Compare the floor dimension middle and lower floor middle floor measurement: Nasion – SubNasal = 5.1 cm Measurement of the lower floor: SubNasal – Gnation = 5.5 cm

Modified Leonardo Da Vinci Method Compare the floor dimension middle and lower floor middle floor measurement: Ophrion – SubNasal = 5.3 cm Measurement of the lower floor: SubNasal – Gnation = 5.5 cm .



Fig 4.Face Inspection: Symmetry Assessment ;

Boianov Method Compare distance Cheilon – Cheilon and Stomion distance – Nation Measurement of Ch – Ch = 5.7 cm Measurement of St – Gn =4.3 cm

distance Stomion–Gnation. Interpupillary distance measurement = 6.3 cm. Measurement of St – Gn =4.3 cm.(Fig 3,4)

Inspection of the face: Assessment of symmetry : **Modified Boianov method** compare the distance Inter-pupillary with

2) **Profile inspection**(fig.5) : Nasolabial angle = 88° The goniac angle = 100° Lip ratio = normal .

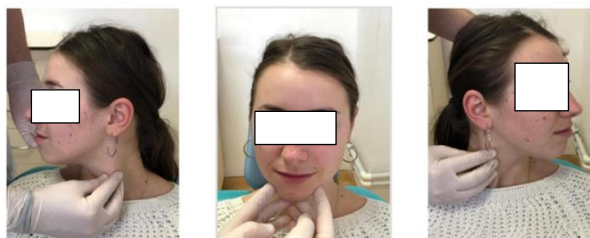


Fig .5 Profile inspection-measurement and palpations.

3)**Superficial palpation of the skin** : Evaluation of tactile sensitivity using a compress, we symmetrically appreciate a change in sensitivity while stroking. The patient has no loss or increase in sensitivity. Temperature and humidity: Normal.

4) **Deep palpation: bone contours** : Integrates continue not painful(fig 6).

1) **Deep palpation: Trigeminal points , limfnodes , -normal.**(Fig 7,8)



Fig .6 Deep palpation bone contours.



Fig .7.Trigeminal points- palpation examination technique .

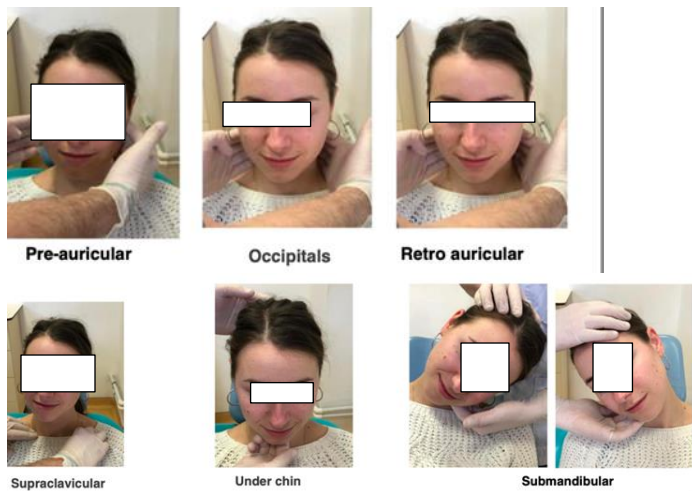


Fig .8.Extraoral examination - limfnodes palpation.

Muscle groups: not painful on palpation (Fig. 9).

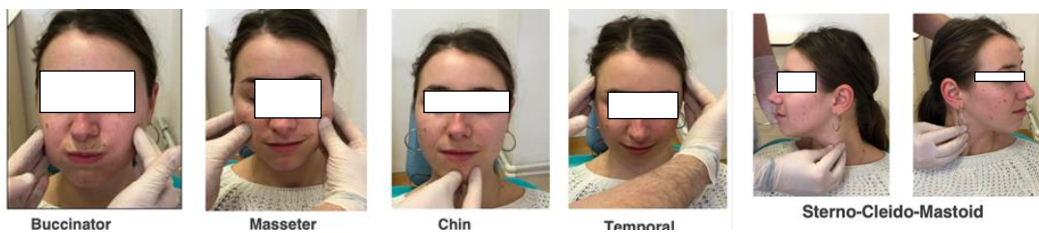


Fig.9. Sequential mandibular muscle palpation (muscle buccinators, masseteres temporalis, STM)

5) ATM examination : **Statique:** Inspection (front and side). Pretragian regions = modification absent. Chin position = Normal. The symmetry of the face is respected Palpation Pre-tragal regions = Sensitivity absent. Chin compression = Sensitivity absent (Fig.10).

Dynamic Inspection: Method used: Is done by asking the patient to open and close the mouth evaluating the trajectory movements of the chin Excursion: Chin excursion (from profile and face) Front: on the midline in the mid-sagittal plane Profile: convex forward and continuous excursion . **Dynamic Palpation** Method used: -The patient opens and closes the mouth and at the same time places the

index finger in the external auditory canal and the pre-auricular.

Examination of the oral orifice . • Lip texture (by palpation)= Normal • Lip contour= Symmetrical • Lip height= -L.sup- St= 0.9cm - L.inf-St= 1.2cm • Cupid's arch bow= flat • Filter of upper lip= Normal • Cleft lip= closed, length 5.4 • Amplitude of opening= Normal • Absence of any pathological changes(Fig 11).

III. LOCAL OBJECTIVE CLINICAL EXAMINATION INTRA-ORAL :

Examination of the labiojugal mucosa: • Integrity= Integral • Coloration= Normal • Joint line= Absent • Stenon Canal= Normal (normal saliva) • Fordyce's corpuscle= Absent —> Absence of any pathological lesions.



Fig .11. Intraoral examination (maxillary and mandibular arch disposition).

Intra-Oral of the maxillary area parameters. Examination of the maxillary vestibule • Absence of any modifications • Alveolo-Jugal fold = straight = short, thin, single, with a base of medium implantation, with a medium insertion in relation to the top of the ridge. • Left= short, thin, single, with a base of medium implantation, with a medium insertion in relation to the top of the crest. Upper labial frenulum = long, thick, medium implantation base, with a low insertion relative to the top of the ridge. —> the vestibule is free without formations pathological. Intra-oral mandibular area. Examination of the mandibular vestibule • Absence of any modifications • Alveolo-Jugal fold = straight =

short, fine, single, with a medium implantation base, with a medium insertion in relation to the top of the ridge. left = short, thin, single, medium implantation base, with medium insertion from the top of the ridge. • Lower labial frenulum= medium length, thin, with medium implantation base, with medium insertion in relation to the top of the ridge. • —> the vestibule is free without formations pathological.

Local intra-oral mandibular : Examination of the dento-alveolar arch mandibular area. The mandibular arch describes a shape: semi-ellipse, symmetrical. She is toothless:- Class III Kennedy without modification Missing tooth = 4.6 .Condition of the remaining teeth = integral

Maxillary intra-oral area. Examination of the dento-alveolar arch maxillary area. The maxillary arch describes a shape: semi-ellipse, symmetrical. She has no tooth loss. Condition of the remaining teeth = Integral.

Examination of the dento-alveolar arch-mandibular - prosthetic space present.

The edentulous crest is: - Normal - regular - Atwood Class 3 - Height, width and amplitude are normal.

Intraoral static occlusion parameter :1. Occlusal area: - Maxilla: natural, intact, continuous - Mandibular: natural, discontinuous 2. Curve of Spee: - Straight: medium, irregular, discontinuous - Left: medium, regular, continuous 3. Wilson curve: irregular, interrupted, average 4. Frontal curvature: - Maxillary: Natural, continuous,

medium, regular -Mandibular: Natural, continuous, regular. 5. Support Cusps: Integral, natural, average cusps except on 46 . 6. Guiding Cusps: Integral, natural, average cusps except on 46. 7. Anterior guidance: Continuous, natural, medium height, medium inclination, cingulum present. 8. Occlusal plane: Present (Fig .12).

Dynamic occlusion parameter • Examination of protruding contacts Propulsion movement, Test position: No presence of interference.No Christensen phenomenon. Examination of dental contacts laterally“ edge to edge” The lower teeth slide laterally on the inner surfaces of the vestibular cusps of the maxillary teeth, or on the palatal surface of the maxillary canine. Lateral group function: guidance by the lateral teeth: Ok No presence of interferences (Fig.13).

	Molar G	Canine G	Incisor	Canine R	Molar R
Sagittal			2mm overjet		
Transverse	/	/	latero deviation 1mm to the right	Vestibularized	/
Vertical	/	/	Overbite 3mm	/	/



Fig .12 Static occlusion , parametric occlusion.Angle Key raports)

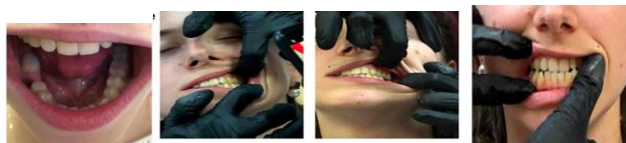


Fig 13. Dynamic occlusion parameter (protrusion , laterality,right left).

IV.LOCAL OBJECTIVE CLINICAL EXAMINATION MANDIBULO-CRANIAL RELATIONS

PR • Articular landmark= Condyles centered in the glenoid cavity • Muscular Mark= Balanced contraction masticatory muscles. • Bone Marker = Sn Gn ≥Sn N

;free way space.1,2 mm • Tooth mark= Headroom, 2.6mm • Labial marker= in contact without effort. • Lingual Mark= Donders space present .

CR —> induced by the RAMFJORDE method • Articular landmark= Condyles centered in the glenoid cavity • Muscle

Mark= Contraction balanced masticatory muscles. • Bone Marker = Levels indicated by antropometric measurements Sn Gn = Sn

N • Tooth mark = Punctate, multiple .(Fig 14)



Fig.14 Examination mandibulo-cranial relations,centric relation(cr) and posture relation(pr).

V.PARACLINICAL EXAMINATION .

Radiography protocol made in the context of realizing the relevant conclusions vis-a-vis the clinical examination and in order to identify the initial diagnosis (Fig.15; Fig.16; Fig.17) .



Fig .15. Paraclinical examination ,ortopantomography(OPG).the presense of the third molar that can be a risc factor and the prostetichal space that is identified on OPG.



Fig .16.Paraclinical examination,clinical modality to obstein model study ,model study .



Fig .17. Paraclinical examination, the modalities for analyzing the TMJ disfunction caused by incipient edentation- are not significant the modifications -

Collected and correlated radiographics representations can help the practitioners to establish a diagnosis as accurate as possible for such special actual cases, trying to go through the clinical stages more quickly, but also analyzing some strategies to eliminate the increase for anxiety.

REFERENCES

1. Goldin P. R., Manber T., Hakimi S., Canli T., Gross J. J., Neural bases of social anxiety disorder: Emotional reactivity and cognitive regulation during social and physical threat. *Arch. Gen. Psychiatry* 66, 170–180 (2009).
2. Cremers HR, Roelofs K. Social anxiety disorder: a critical overview of neurocognitive research. *Wiley Interdiscip Rev Cogn Sci.* 2016 Jul;7(4):218-32.
3. Yang X., et al. , Network analysis reveals disrupted functional brain circuitry in drug-naive social anxiety disorder. *Neuroimage* 190, 213–223 (2019).
4. Kessler R. C., et al. , The global burden of mental disorders: An update from the WHO World Mental Health (WMH) surveys. *Epidemiol. Psychiatr. Soc.* 18, 23–33 (2009). - PMC – PubMed
5. Shu J., Hassell S., Weber J., Ochsner K. N., Mobbs D., The role of empathy in experiencing vicarious anxiety. *J. Exp. Psychol. Gen.* 146, 1164–1188 (2017).
6. Liebowitz, Michael R. Liebowitz Social Phobia Scale. *Modern Problems of Pharmacopsychiatry* 22 (1987): 143-171.)
7. Morrison A. S., et al. , Empathy for positive and negative emotions in social anxiety disorder. *Behav. Res. Ther.* 87, 232–242 (2016).
8. Bögels S. M., et al. , Social anxiety disorder: Questions and answers for the DSM-V. *Depress. Anxiety* 27, 168–189 (2010). - PubMed
9. Kleinknecht R. A., Dinnel D. L., Kleinknecht E. E., Hiruma N., Harada N., Cultural factors in social anxiety: A comparison of social phobia symptoms and Taijin kyofusho. *J. Anxiety Disord.* 11, 157–177 (1997). - PubMed
10. Norasakkunkit V., Kitayama S., Uchida Y., Social anxiety and holistic cognition: Self-focused social anxiety in the united states and other-focused social anxiety in Japan. *J. Cross Cult. Psychol.* 43, 742–757 .
11. Nishikawa Y., Laposa J. M., Regev R., Rector N. A., Social anxiety and fear of causing discomfort to others: Diagnostic specificity, symptom correlates and CBT treatment outcome. *Behav. Cogn. Psychother.* 45, 382–400 (2017).
12. Antony, M. M., Bieling, P. J., Cox, B. J., Enns, M. W., & Swinson, R. P. (1998). Psychometric properties of the 42-item and 21-item versions of the Depression Anxiety Stress Scales in clinical groups and a community sample. *Psychological Assessment*, 10(2), 176.
13. Lovibond, S.H.; Lovibond, P.F. (1995). *Manual for the Depression Anxiety Stress Scales* (2nd ed.). Sydney: Psychology Foundation (Available from The Psychology Foundation, Room 1005 Mathews Building, University of New South Wales, NSW 2052, Australia
14. Henry, J. D., & Crawford, J. R. (2005). The short-form version of the Depression Anxiety Stress Scales (DASS-21): Construct validity and normative data in a large non-clinical sample. *British Journal of Clinical Psychology*, 44(2), 227-239.
15. Cao R, Lai J, Fu X, Qiu P, Chen J, Liu W. Association between psychological stress, anxiety and oral health status among college students during the Omicron wave: a cross-sectional study. *BMC Oral Health.* 2023 Jul 10;23(1):470. doi: 10.1186/s12903-023-03151-3. PMID: 37424009; PMCID: PMC10332074.

16. Zhang S, Wang Z, Chang R, Wang H, Xu C, Yu X, Tsamslag L, Dong Y, Wang H, Cai Y. COVID-19 containment: China provides important lessons for global response. *Front Med.* 2020;**14**(2):215–219.
17. Huang Y, Wang Y, Wang H, et al. Prevalence of mental disorders in China: a cross-sectional epidemiological study. *Lancet Psychiatry.* 2019;**6**(3):211–224. doi: 10.1016/S2215-0366(18)30511-X
18. on C, Hegde S, Smith A, Wang X, Sasangohar F. Effects of COVID-19 on college students' mental health in the United States: interview survey study. *J Med Internet Res.* 2020;**22**(9):e21279. doi: 10.2196/21279.
19. Hayashi K, Izumi M, Mastuda Y, Isobe A, Akifusa S. Relationship between anxiety/depression and oral health-related quality of life in inpatients of convalescent hospitals. *Odontology.* 2019;**107**(2):254–260. doi: 10.1007/s10266-018-0394-x.