CIIS | CENTRE FOR INTERDISCIPLINARY RESEARCH IN HEATH

USE OF A CLINICAL DECISION SUPPORT SYSTEM IN REHABILITATION WITH DENTAL IMPLANTS AND ANALYSIS OF CLINICAL OUTCOMES

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1 - INTRODUCTION

International Team for Implantology (ITI) developed SAC Assessment Tool (SAC) to evaluate the complexity and potential risk in a surgical / prosthetical rehabilitation with dental implants, classifying it in…

Straightforward, **A**dvanced and **C**omplex.

2 - AIM

- Analyze SAC Assessment Tool results in implant-supported rehabiliations performed in the University Dental Clinic;
- Study the relation between each variable of this tool and the clinical success;
- Analyze clinical results: sucess/survival rate / mech. & biolog. comp.

3 - MATERIAL AND METHODS

- STUDY: longitudinal and retrospective observational study approved by the Ethics Committee.
- SAMPLE: patients who underwent implant-supported prosthetic rehabilitation at the University.
- TWO-STEP ANALYSIS OF VARIABLES: diagnosis and post-treatment.
- DIAGNOSIS: analysis of the variables identified by SAC Assessment Tool, in surgical /prosthetic aspects.
- POST-TREATMENT: analysis of clinical results of the treatments performed in the electronic clinical records of the University.
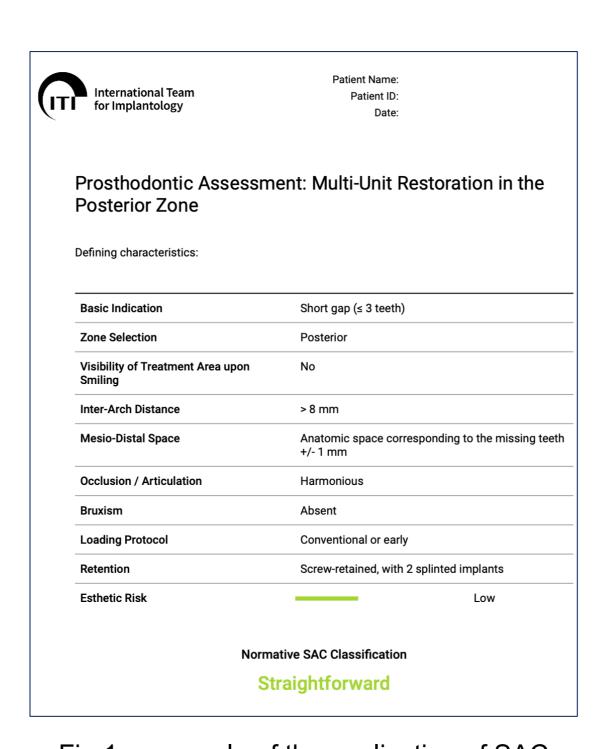- VARIABLE ANALYSIS: descriptive and inferential statistical analysis (p<0.05).

Fig.1 – example of the application of SAC Assessment Tool

4- RESULTS

- SAMPLE: 78 patients - 56,4% (n=44) ♀ ; 43,6% (n=34) ♂.
- AGE GROUPS: 46-65 anos (61,6%; n=48) / More surgical evaluations
- More healthy patients / No periodontal disease / Medium-high expectations / Sufficient oral hygiene / Non–smokers / Good access.
- SURGICAL EVALUATION: 78 patients / 131 edentulous spaces ; more straightforward and advanced evaluations / single units / low esthetic risk / low risk of complications / conventional loading protocol / screwed retention.
- PROSTHETIC EVALUATION: 38 patients / 58 edentulous spaces – more straightforward evaluations / single units / low esthetic risk.
- Surgical evaluation variables (majority) showed statistically significant relationship with SAC result. Prosthetic evaluation variables did not.

RESULTS OF THE APPLICATION OF SAC ASSESSMENT TOOL IN A SAMPLE OF A UNIVERSITY DENTAL CLINIC

SAC Surgical variables	Is there a relationship with SAC final result?
Age	No
Gender	No
Patient's Expectations	Yes*
General Medical Status	Yes*
Periodontal Status	No
Oral Hygiene and Compliance	No
Smoking Habits	Yes*
Access	No
Basic Indication	Yes*
Esthetic Relevance	Yes*
Lip Line	Yes*
Gingival Biotype	Yes*
Shape Tooth Crowns	Yes*
Infection at Imp. Site	Yes*
Bone Level Adj Teeth	Yes*
*p-value < 0,05, Fisher's exact test	

SAC Surgical variables	Is there a relationship with SAC final result?
Rest. Status of Teeth	Yes*
Width of Edent. Span	Yes*
Soft Tissue Anatomy	Yes*
Placement Protocol	Yes*
Socket Morphology	No
Tooth Site	Yes*
Socket Integrity	Yes*
Bone Volume	Yes*
Loading Protocol	Yes*
Treatment Modality	Yes*
Anatomical Risk	Yes*
Esthetic Risk	Yes*
Complexity	Yes*
Risk of Complications	Yes*
Additional Complexity	Yes*
*p-value < 0,05, Fisher's exact test	

SAC Prosthodontic Variables	Is there a relationship with SAC final result?				
	Post. ST	Ant. ST	Post. MU	Ant. MU	Edentulous
Patient's Expectations	No				
Oral Hygiene and Compliance	No				
Basic Indications	No				
Treatment Area	Yes*				
Treatment Site	Yes*				
Prosthesis Type	No				
Retention Type	No				
Opposing Arch	No				
Esthetic Relevance	Yes*				
Lip Line	Yes*				
Gingival Biotype	Yes*				
Shape of Tooth Crowns	Yes*				
Restorative Status of Neighboring Teeth	Yes*				
Soft Tissue Anatomy	Yes*				

*p-value < 0,05, Fisher's exact test
Post: posterior ; Ant: anterior ; ST: single tooth ; M - multi-unit

SAC Prosthodontic Variables	Is there a relationship with SAC final result?				
	Post. ST	Ant. ST	Post. MU	Ant. MU	Edentulous
Inter-Arch Distance	No		No		No
Mesio-Distal Space	No	No	No	No	
Loading Protocol	No	No	No	No	No
Bruxism	No		No	No	No
Prov. Impl.-Sup. Rest.	Yes*	No	Yes*	No	No
Interim Rest. Healing	Yes*	No	No		No
Retention	No	No	No	No	No
Oclusion			No	No	No
Intermaxillary Relationship	No			No	
Number of Implants					
Esthetic Risk	Yes*				
Additional Complexity	No				
Age	No				
Gender	No				

*p-value < 0,05, Fisher's exact test
Post: posterior ; Ant: anterior ; ST: single tooth ; M - multi-unit

5 - CONCLUSIONS

- SAC Assessment Tool can be a very important tool in the evaluation of implant-supported prosthetic rehabilitations.
- The variables that showed a statistically significant relationship with the final result of the SAC Assessment Tool demonstrate the importance of their inclusion in this tool.
- The final result of SAC Assessment tool is related to the clinical outcome of the treatment.

FINANCIAL SUPPORT

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