



## *SMART DENTAL UPDATES*

Dear Doctor,

Greetings from Micro Labs Limited. We are happy to bring you “**SMART DENTAL UPDATES**” which contains latest and interesting news in the field of Dentistry.

This issue contains

- Sinonasal Melanoma: A systematic review of the prognostic factors
- Impact of malocclusion on self-esteem (SE) & orthognathic quality of life (OQOL) amongst students
- Esthetic Implant Supported Restoration using Digital Custom Impression Technique

Should you require any specific article or medical information, please feel free to contact us at [medicalservices@microlabs.in](mailto:medicalservices@microlabs.in)

Looking forward to your valuable feedback

Best Regards,  
Medical Team, Micro Labs Limited

## Sinonasal Melanoma: A systematic review of the prognostic factors

Mucosal melanomas are uncommon lesions that arise from melanocytes, presenting an aggressive clinical behaviour and a poor prognosis. Approximately 50% of all mucosal melanomas are located in the head and neck region. The aim of the present study was to integrate the available data on sinonasal melanoma into an updated comprehensive review of their clinical, histological, therapeutic, and prognostic factors.

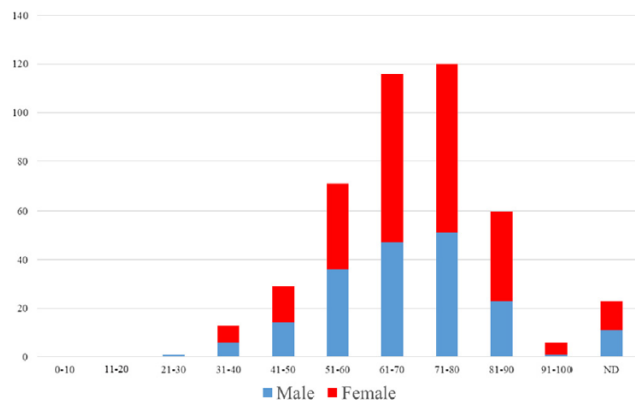
An electronic search was undertaken in March 2018 in multiple databases. Eligibility criteria included publications with sufficient clinical, histological, and immunohistochemical information to confirm the diagnosis. Seventy-three publications (439 cases) were included.

**Sinonasal melanoma is a neoplasm with a poor prognosis.**

The lesion was more prevalent in females than in males. There was a higher prevalence in the seventh and eighth decades of life. The lesions mainly presented as epistaxis and commonly involved the nasal cavity.

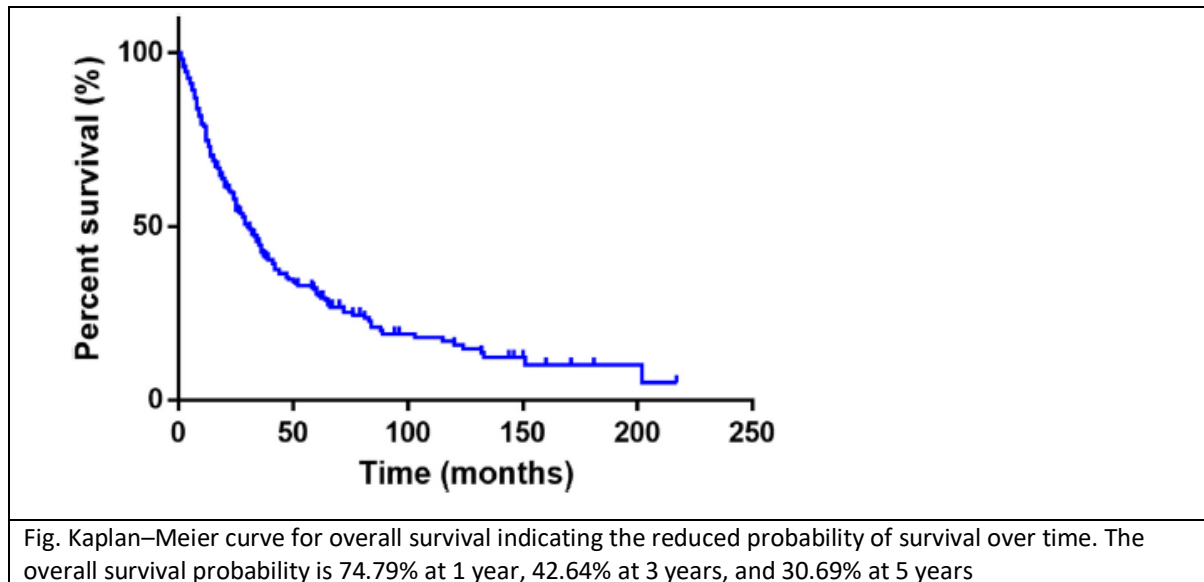
Age (>67.6 years;  $P=0.0012$ ), primary location (middle turbinate;  $P=0.0112$ ), disease stage (advanced disease stage;  $P=0.0026$ ), treatment (radiotherapy;  $P=0.0111$ ), recurrence (recurrence presented;  $P=0.0137$ ), and distant metastasis

(distant metastasis presented;  $P=0.0011$ ) were independently associated with a lower survival rate.



Patient follow-up was described in 280 cases. The mean duration of follow-up was 33.6 months (range 1–217 months). Of these 280 cases, 73 (26.1%) patients were alive without evidence of disease at the end of follow-up, 27 (9.6%) patients were alive with

disease, 154 (55%) patients had died of the disease, and 26 (9.3%) patients had died of other causes. The 5-year survival rate achieved was 30.69% (Fig.).



Recurrence was significantly correlated with age (>67.6 years;  $P=0.0021$ ), sex (males tended to present a higher recurrence rate than females;  $P=0.0051$ ), disease stage (stages III and IV presented a higher recurrence rate than stages I and II;  $P=0.0331$ ), and histological type (amelanotic lesions presented a higher index of recurrence than melanotic lesions;  $P=0.0095$ ). In conclusion, sinonasal melanoma is a neoplasm with a poor prognosis, presenting a 30.69% possibility of survival after 5 years.

Source: Pontes FSC et al. Int J Oral Maxillofac Surg. 2020 May;49(5):549-557.

### Impact of malocclusion on self-esteem (SE) and orthognathic quality of life (OQOL) amongst students

Malocclusion exerts both physical and emotional effects on laypersons, with increasing awareness of malocclusion and its aesthetic impairment, there must be psychological impact of malocclusion amongst students entering into a dental school. The null hypothesis proposed was increasing grades of the course results in higher self esteem and poorer quality of life amongst students pursuing on undergraduate course in dentistry. Aim: The aim was to determine the relationship between severity of

malocclusion, self esteem (SE) and orthognathic quality of life (OQoL) among female dental undergraduate students.

The study sample was divided batchwise into four groups according to the grades. Written questionnaires for SE and OQoL were given to 83 female undergraduate students with no craniofacial anomalies, medical problems, and history of previous orthodontic treatment. To

**Malocclusion does hamper the quality of life but increasing grades and cumulative**

determine the severity of malocclusion, the subjects were later examined for Dental Aesthetic Index (DAI) score. Descriptive statistics for DAI, SE and OQOL were performed and elements of each group were compared using ANOVA. Spearman Rank Correlation coefficient was done to measure the level of association between the variables.

While 3rd year students presented with higher DAI and least OQOL score, there was a statistically significant negative correlation between DAI and OQOL, indicating more negative psychological impact of malocclusion with learning. Interns had higher SE and maximum OQoL.

| Impact of malocclusion on self-esteem (SE) and orthognathic quality of life (OQOL) amongst dental undergraduate students |                 |                  |                  |                   |                       |                  |                 |                  |
|--------------------------------------------------------------------------------------------------------------------------|-----------------|------------------|------------------|-------------------|-----------------------|------------------|-----------------|------------------|
| BATCH                                                                                                                    | Sample Size (N) | DAI Score        | SE               | OQOL              | Social Aspects (OQOL) | Esthetics (OQOL) | Function (OQOL) | Awareness (OQOL) |
|                                                                                                                          |                 | Mean $\pm$ SD    | Mean $\pm$ SD    | Mean $\pm$ SD     | Mean $\pm$ SD         | Mean $\pm$ SD    | Mean $\pm$ SD   | Mean $\pm$ SD    |
| 2nd Year                                                                                                                 | 21              | 21.00 $\pm$ 7.76 | 25.90 $\pm$ 3.55 | 17.52 $\pm$ 9.49  | 6.05 $\pm$ 4.32       | 4.48 $\pm$ 3.56  | 1.86 $\pm$ 2.07 | 5.33 $\pm$ 4.19  |
| 3rd Year                                                                                                                 | 22              | 22.01 $\pm$ 5.36 | 27.55 $\pm$ 3.92 | 13.50 $\pm$ 10.30 | 4.00 $\pm$ 3.89       | 3.05 $\pm$ 2.11  | 1.46 $\pm$ 2.11 | 5.28 $\pm$ 4.48  |
| 4th Year                                                                                                                 | 19              | 22.74 $\pm$ 5.89 | 27.52 $\pm$ 3.77 | 17.26 $\pm$ 14.05 | 4.99 $\pm$ 4.66       | 5.57 $\pm$ 4.96  | 2.63 $\pm$ 4.00 | 4.26 $\pm$ 2.54  |
| Intern                                                                                                                   | 21              | 20.15 $\pm$ 6.53 | 30.52 $\pm$ 4.75 | 18.90 $\pm$ 18.10 | 6.77 $\pm$ 7.05       | 5.10 $\pm$ 5.35  | 2.05 $\pm$ 3.38 | 5.29 $\pm$ 4.52  |
| Total                                                                                                                    | 83              | 21.29 $\pm$ 6.33 | 27.96 $\pm$ 4.36 | 16.72 $\pm$ 13.29 | 5.40 $\pm$ 5.17       | 4.43 $\pm$ 4.17  | 1.90 $\pm$ 2.90 | 5.09 $\pm$ 4.08  |

#### Spearman's Rank Correlation between Batch, DAI, SE and OQOL

|      |                      | Batch | DAI   | SE   | OQOI  |
|------|----------------------|-------|-------|------|-------|
| DAI  | Spearman Correlation | 0.19  | 1.000 | 0.16 | -.25* |
|      | Sig. (2-tailed)      | 0.45  | .     | 0.67 | 0.02  |
| SE   | Spearman Correlation | .31** | 0.16  | 1.00 | -.39  |
|      | Sig. (2-tailed)      | 0.00  | 0.69  | .    | 0.18  |
| OQOI |                      |       | -.25* | -.29 | 1.00  |
|      | Sig. (2-tailed)      | .71   | .02   | 0.18 | .     |

\*Correlation is significant at the 0.05 \*\*Correlation is significant at the 0.01 level; \*\*\*Correlation is significant at the 0.001 level

ANOVA results showed only statistically significant difference between the groups for SE indicating more armour proper with training and maturity. However, no significant correlation was noted between SE and OQoL. Malocclusion does hamper the quality of life but increasing grades and cumulative understanding also influence the self esteem amongst dental undergraduates.

Source: Nausheen K et al. Intl Dental J Stu Res. 2020;8(1):14-17

## **Esthetic Implant Supported Restoration using Digital Custom Impression Technique**

The success of an implant is not just its successful integration in bone. The success of the implant is realized when it is restored by an esthetic, well contoured restoration which supports and harmonizes with the surrounding teeth and soft tissue over the long term and maintains tissue health. It is prudent in the esthetic zone to develop the soft tissue around the implant to mimic natural soft tissue contours and to create the most natural emergence profile.

**Predictable esthetic results can be achieved without using conventional impressions and casts**

The following case report describes a technique that uses intra-oral scanning (Trios 3, 3Shape, Copenhagen, Denmark) and benchtop lab scanning (E3, 3Shape, Copenhagen, Denmark) to create digital files for the fabrication of a screw retained implant supported all ceramic crown. The dental implant (Straumann Roxolid® SLActive® Bone Level, Narrow CrossFit® Platform, Straumann® Basel, Switzerland) at site #9 was uncovered with connective tissue grafting to the site. A screw retained provisional crown was fabricated using a temporary coping for a Straumann Bone Level, Narrow Crossfit platform (Straumann® Basel, Switzerland) and composite resin (Filtek™ Supreme Ultra Universal, 3M United States). The screw retained provisional crown was delivered to the patient at the time of uncovering of the implant. It required three additional visits at an interval of 2-3 weeks to acquire the desired soft tissue contours and emergence profile of the provisional crown.

The digital impression was made following the technique that uses intra oral scans with an intra-oral scanner and an extra-oral scan with a lab scanner. The process is completed in 4 steps to record the external and internal contours of the provisional restoration as well as angulation and orientation of the dental implant.

Obtain an intraoral surface scan before the provisional crown/abutment is removed. Scan the soft tissue profile immediately after the provisional crown is removed. The soft tissue profile is locked in the scan using the locking tool. Place the scanbody (Straumann Cares® Scanbody, Narrow Crossfit platform, Straumann®, Basel, Switzerland) and scan for the depth, angulation and orientation of the dental implant. Scan the provisional crown extra-orally using the intra-oral scan or benchtop lab scanner. The benchtop scanner was used only for provider’s convenience. Generate Standard Tessellation Language (STL) files from all the scans and electronically send to the dental laboratory for the fabrication of the final restoration. In the Dental Laboratory, all the STL files are imported into the CAD software. They are aligned and layered. In this case, the restoration was milled in IPS E. Max CAD, Ivoclar Vivadent, Inc. and cemented on the Straumann Bone Level, Variobase® abutment Narrow Crossfit platform, Straumann® Basel, Switzerland. The final implant supported screw retained crown was returned to the provider for insertion.

|                                                                                     |                                                                                      |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  |  |
| <p>Emergence profile of the soft tissue after removing the provisional crown</p>    | <p>Second intraoral scan of the soft tissue and digitally locking the profile</p>    |

|                                                                                    |                                                                                     |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|   |   |
| Straumann Cares® NC Scanbody in place for the third intraoral scan                 | Final all ceramic screw retained crown                                              |
|  |  |
| Final restoration in place.                                                        | Implant site# 9 after the desired emergence profile has been acquired               |

The technique presented here describes how the clinical information is captured using custom digital impression scans which are transferred to the dental laboratory to achieve the most esthetically pleasing final restoration. Innovations in digital dentistry have evolved rapidly over the past few years so that it is now possible to use this technology and predictably transfer information. Hence, predictable esthetic results can be achieved without using conventional impressions and casts.

Source: Dhingra A et al. J Prosthodont. 2020 May. doi: 10.1111/jopr.13200. Online ahead of print



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