MICRO LABS LIMITED

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

- Pyogenic Granuloma: A Case Report
- Herbst Miniscope Orthodontic Appliance in Class II Individuals
- Complications of Dental Trauma and Associated Factors

Should you require any specific article or medical information, please feel free to contact us at medicalservices@microlabs.in

Looking forward to your valuable feedback

Best Regards,
Medical Team, Micro Labs Limited

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Pyogenic Granuloma: A Case Report

A 51-year-old male patient reported with the chief complaint of growth on right upper gum region for past 6 months. He gave history of the growth was initially smaller in size which slowly increased to the present size. It was associated with bleeding on touching and difficulty in mastication and speech.

On intra-oral examination, there was a single, sessile growth on right upper gingiva covering the labial surface of region. The color of growth was red with focal pale areas and firm in consistency with tender on palpation (Figure).

A provisional diagnosis of pyogenic granuloma was established. The patients were advised routine blood investigations and planned for surgical excision. After the written consent of the patients, surgical excision was performed under local anaesthesia. After providing adequate local anaesthesia, the growth was held with forceps. The specimens were fixed in 10% formalin and sent for histopathological examination. The H&E stain specimens showed fibrovascular connective tissue stroma with numerous dilated endothelial lined blood vessels filled with RBC'S and budding endothelial cells. Presence of chronic inflammatory cell infiltrate predominantly lymphocytes were also seen. The overlying epithelium was stratified squamous and a portion of which was ulcerated. The histopathological features suggestive of pyogenic granuloma.

Emphasis to be given on biopsy and histopathological examination of Pyogenic Granuloma

Pyogenic granuloma is a benign condition commonly seen in the oral cavity. Surgical excision of the lesion and removal of irritation is the treatment of choice. The other treatment modalities are Nd:YAG laser, flash lamp pulsed dye laser, cryosurgery, intra lesional injection of ethanol or corticosteroid and sodium tetradecyl sulfate sclerotherapy. The clinician must have a detailed knowledge in practice and emphasis to be given on biopsy and histopathological examination of the lesions.

Source: Gopal KS et al. Intl J Appl Dent Sci 2020; 6(1): 214-216

Herbst Miniscope Orthodontic Appliance in Class II Individuals

Class II malocclusion is a commonly encountered orthodontic codniction. It affects about 33% of the population, with a mandibular retrusion in almost 80% of patients. Due to the difficulty in assessing this aspect using cephalometry, aesthetic evaluation is commonly used to diagnose retrusion of the mandible.

The Herbst appliance advanced the lower jaw soft tissues

One possible treatment for Class II patients with mandibular retrusion is the Herbst appliance. Based on the "Bite Jumping" principle, this device acts by stimulating the condylar growth and remodeling of the glenoid cavity into a lower and forward position. In this way, a correction of the dental relationships and an improvement of skeletal harmony are possible.

This study evaluated the profile changes following orthopedic/orthodontic treatment with the Herbst Miniscope® appliance in subjects affected with Class II malocclusion with mandibular retrusion. A total of 44 patients presenting a skeletal Angle Class II malocclusion (ANB > 4°) due to mandibular retrusion and a cervical maturation stage between CS2 and CS3 were included in the study. Of these 44 patients, 22 (mean age 11.9 ± 1.3, HBT group) were treated using the Herbst appliance, while 22 (mean age 10.6 ± 1.3, CTR group) were followed for a 12-month observational period. A cephalometric tracing was performed at the beginning of treatment (T0) and after 12 months (T1).

In both groups there was a significant advancement of soft tissue pogonion (HBT = 3.5 ± 3.0 mm, $p < 0.001$; CTR = 2.2 ± 2.9 mm, $p < 0.001$), but the difference between the two groups was not significant ($p = 0.172$). On the contrary, both groups had a significant advancement of the mandibular sulcus (HBT = 3.7 ± 2.8 mm, $p < 0.001$; CTR = 1.2 ± 2.2 mm, $p < 0.001$) and a lower lip protrusion (HBT = 3.45 ± 2.51 mm, $p < 0.001$; CTR = 1.7 ± 2.7 mm, $p = 0.008$), but in both cases the HBT group showed a statistically significant greater increase in sulcus protrusion ($p = 0.002$) and lower lip protrusion ($p = 0.029$) than controls. There were no statistically significant effects on the upper jaw.

	CTR							HBT							
	T0		T1			DIFF		T0		T1			DIFF		HBT vs. CTR
	Mean	SD	Mean	SD	*p*	Mean	SD	Mean	SD	Mean	SD	*p*	Mean	SD	*p*
Soft tissue points															
PRN	85.4	3.6	87.6	3.7	0.000	2.3	2.3	87.0	4.5	89.7	4.5	0.000	2.5	1.5	0.702
A_S	78.3	4.4	79.7	3.8	0.026	1.3	2.8	78.0	4.7	80.3	4.3	0.000	2.2	1.9	0.230
SN	77.0	4.0	78.2	3.5	0.005	1.2	2.0	77.8	4.3	80.0	3.9	0.000	2.1	1.7	0.128
ULS	80.7	4.7	82.5	3.5	0.016	1.8	3.6	81.6	4.9	83.8	4.4	0.000	2.1	2.1	0.724
LLI	78.6	5.5	80.7	4.4	0.008	2.1	3.4	78.6	4.2	82.8	4.1	0.000	4.3	3.1	0.030
Sub	71.9	5.0	73.4	4.6	0.017	1.5	2.8	72.2	3.9	76.5	4.4	0.000	4.6	3.5	0.002
PG_S	75.1	5.4	77.7	4.7	0.001	2.8	3.7	76.4	5.0	80.5	5.1	0.000	4.4	3.8	0.173
Hard tissue points															
A	64.3	3.4	65.2	3.6	0.063	0.9	2.4	65.0	3.5	66.4	3.3	0.001	1.5	1.8	0.371
B	62.5	4.6	64.1	4.2	0.009	1.7	2.9	63.2	3.8	67.0	3.9	0.000	4.0	3.5	0.018
PG	65.0	5.1	67.5	4.7	0.006	2.7	4.7	66.3	4.5	70.4	4.4	0.000	4.3	4.0	0.247
U1	72.1	4.8	73.5	3.8	0.011	1.5	2.7	71.9	3.3	73.7	3.7	0.000	1.8	1.7	0.693
L1	65.4	4.6	66.8	4.1	0.007	1.4	2.5	64.7	3.6	70.3	3.8	0.000	5.7	3.5	0.000
U6	32.9	3.6	34.8	3.4	0.003	1.9	2.8	33.8	3.6	33.3	2.9	0.317	−0.4	2.0	0.003
L6	31.3	3.7	33.4	3.5	0.000	2.3	2.5	32.1	3.9	37.0	3.6	0.000	5.0	3.2	0.003

Source: Martina S *et al.* Dent. J. 2020, 8(1), 27; https://doi.org/10.3390/dj8010027

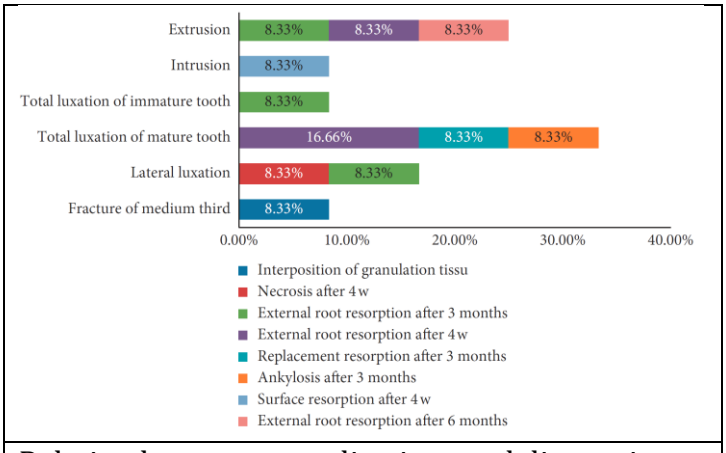
Complications of Dental Trauma and Associated Factors

Traumatic dental injuries (TDIs) of permanent teeth occur frequently in children and young adults. Crown fractures and luxations are the most commonly occurring ones of all dental injuries. The study evaluated the association between the incidence of complications of dental traumatisms and factors related to trauma and the occurrence of complications.

Immediate consultation and treatment could improve long-term prognosis of the injured tooth

In this longitudinal retrospective study 125 traumatized teeth were evaluated. The sample is taken from patients consulting the dentistry service at the hospital Sahloul Sousse between 2014 and 2017. Criteria for including a patient were presence of a permanent incisor affected by a subluxation, intrusion, lateral luxation, extrusion, or avulsion injuries associated or not with concomitant dentoalveolar injuries. Data were collected using a questionnaire. The information about etiology of trauma, delay of consultation, orientation of the patient, kind of injury, and emergency treatment and complications were obtained from the patients' records.

The incidence of complications was 8%: external root resorption was present in 70% of cases, surface resorption was observed in 10% of cases, and replacement resorption in 10%, ankylosis in 10%. About pulpal complications, pulp necrosis was found after 4 weeks of follow-up, as well as the internal root resorption after one year. The most common cause of the trauma was the fall (40%). The majority of patients came for emergency consultation within "1 to 3 days," and the coronary fracture without pulp exposure was the first diagnosis (20.60%). Statistical analysis showed no significant relationship between the cause of the trauma and the complication (P=0.577) and between the delay of consultation and complication (P=0.143). However, an association between consultation time and patient orientation was found (P=0.009). Dental trauma causes both periodontal and pulp complications. Longer the delay of consultation the more complications accumulate.



Relation between complications and diagnosis.

Source: Kallel I et al. Intl. J Dentistry. 2020. 2020:1-8. ID 2968174 https://doi.org/10.1155/2020/2968174