

CEPHALOMETRIC ANALYSIS ON HYPOPLASTIC MAXILLA

B.DZIPUNOVA, N.TOSHESKA-SPASOVA, V.RADOJKOVA-NIKOLOVSKA, M.DZIPUNOVA



Ss. Cyril and Methodius Skopje

Faculty of Dentistry Skopje, Dental Clinical Center St. Panteleimon Skopje, Republic of North Macedonia

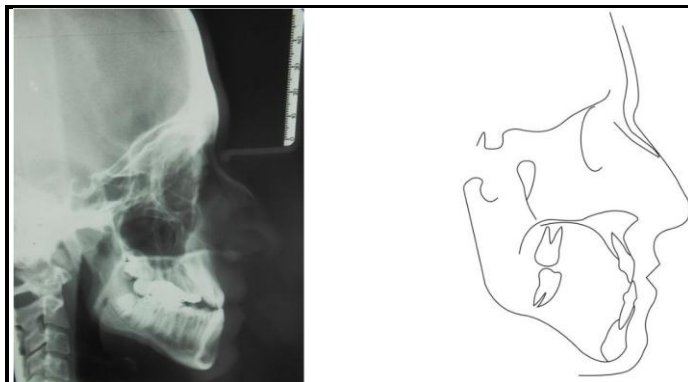
Maxillary hypoplasia is characterized by transversal, sagittal, and vertical maxillary deficiency. Sometimes it presents as an isolated skeletal imbalance, but is often an accompanying feature of class III malocclusion. 30-40% of individuals with excessive mandibular growth show some degree of maxillary underdevelopment which greatly worsens the clinical feature of malocclusion and emphasizes facial disharmony. The volume reduction of the maxilla also generates disturbance of the orofacial functions, change in the type and intensity of the functional forces on the TMZ and increased tonus of the posterior part of the m.temporalis.

THE AIM OF THE STUDY was to investigate the morphological features of the craniofacial complex in subjects with hypoplastic maxilla.

MATERIAL and METHOD The study included 20 patients with class III malocclusion of both sexes, and the results were compared with the same number of subjects with normal occlusion. We studied the following **parameters: angles SNA, SNB, ANB, ANPg, SN / SpPl** (angle of facial inclination), **FH/NA** (angle of maximal depth), **S-CF-Ba** (angle of posterior growth of the maxilla), **N- CF-A** (maximal elevation angle), **S-CF-Snp** (maximal posterior elevation angle), **ANPg, Sna-Snp** (maxillary length) **maxillary incisor position, N-Sna and N-Gn** (upper and total frontal height).

	Investigated FEMALE gr.		Controlled gr.		T test	p
	X	SD	X	SD		
SNA	78,15	2,45	80,3	4,3	1,4102	0,1755 *
SNB	79,9	2,16	77,5	4,1	1,598	0,1274 *
ANB	-1,65	1,375	2,8	0,58	9,4105	0,0001 ***
ANPg	-2,2	2,1	1,95	1,54	1,8575	0,0001 ***
A → NPg	-2,7	2,4	1,85	1,56	5,0138	0,0001 ***
SN / SpPl	7,95	4,8	8,15	3	0,1104	0,913
Sna – Snp	51,3	3,19	54,1	3,2	1,953	0,06 *
N-CF-A	62,55	4,04	59,9	3,5	1,5358	0,142 *
FH / NA	85,6	3,0	85,4	3,6	0,1346	0,894
S-CF-Snp	140,4	9,1	136,4	6,1	1,1505	0,265 *
S-CF-Ba	66,5	3,2	65,65	2,75	0,6287	0,5375
11 / SN	104,2	7,2	102,2	4,8	0,7122	0,4855
11 / NA	24,15	4,6	21,6	4,2	1,2742	0,2188*
11 → NA	4,6	1,3	4,95	1,5	0,5378	0,597
N – Sna	54,65	4	49,95	3,0	2,9195	0,0092 **
N - Gn	123,3		112,9	5,9	3,3892	0,0033 **

	Investigated MALE gr.		Controlled gr.		T test	p
	X	SD	X	SD		
SNA	76,1	2,4	80,5	1,9	3,9648	0,014 **
SNB	78,9	3,8	77,3	2	1,0517	0,3107
ANB	-3	2,3	3,25	0,7	7,1743	0,0001 ***
ANPg	-4,5	2,4	2,75	2,2	6,3069	0,0001***
A → NPg	-4,5	2	2,44	1,9	7,0183	0,0001 ***
SN / SpPl	11,06	2,9	10,0	3,3	0,6727	0,5121
Sna – Snp	52,9	5,4	55,1	2,6	1,052	0,3106 *
N-CF-A	65,1	4,4	61,0	1,9	2,3483	0,034 **
FH / NA	89,62	5,7	85,4	2,2	1,9174	0,0758 *
S-CF-Snp	144,9	6,8	142,8	7,7	0,5649	0,581
S-CF-Ba	71,87	2,7	74,5	6,4	1,0881	0,2949 *
11 / SN	100,9	9,8	97,2	5,1	0,9359	0,365
11 / NA	25,06	7,5	17,06	4,5	2,5872	0,0215 **
11 → NA	8,3	6,2	2,5	1,3	2,5812	0,0218**
N – Sna	58,3	4,3	54,5	3,0	2,0252	0,624**
N - Gn	131,25	10,2	122,5	10,8	1,6648	0,1182 **



CONCLUSIONS: The results of the examination showed: maxillary retrognathia, skeletal class III, concave facial profile, decreased maxillary length, increased anterior and posterior maxillary height and increased anterior face height. The values of the examined parameters are essential for the therapy plan and the choice of the therapeutic means, in order to achieve maxillary attraction, good occlusion, function and aesthetics. Palatine expansion and facial mask therapy are the method of choice for patients with sagittal and transverse maxillary insufficiency. The benefit would include widening the maxilla, correcting the cross bite, increasing the length of the arch, and moving the maxillary complex down and forward.