

Reply to Letter to the Editor

To the Editor:

First of all we would like to thank Dr Kemaloğlu for emphasizing some important questions rising from our paper “Relationship between nasal obstruction and cranio-facial growth: an experimental model”.

We agree with Dr Kemalolu regarding the typing mistake in Table I, where the values reported in the 4th and 5th rows have been erroneously inverted (L1-0, Group B = 1, 21 while L2-0, Group B = 1, 31); this is clearly a typing mistake as our results are correctly described in the text at page 129 in the Results section.

We would like to emphasize the original aim of our paper that is mentioned at the end of the discussion (page 130, 2nd paragraph) in which we state “Interestingly, unilateral occlusion determines a homolateral contraction of the anterior transverse diameter L2-0, which seems to be compensated for by an expansion of the functionally preserved side L1-0”. In fact in the present paper, we were more interested on the results of a unilateral rather than a bilateral nasal occlusion.

Anyway, as reported in Siena and in the present paper we found an increase of the overall maxillary transversal diameter in our bilaterally obstructed rats. Therefore the sentence at page 130 should be therefore read without the word width (and we really cannot explain how this word fell into the sentence), but this does not modify at all the validity and the significance of our results.

The differences of our results concerning the cranio-facial width compared with the results of other researchers will be hereby further discussed.

Ramadan (1984) found a reduced maxillary transversal diameter between the two bony tubercles on the maxillary alveolus at the level of the second premolar teeth in a group of rabbits. Our experience and the literature data showed that this measure is extremely variable as it is influenced by several factors such as diet, occlusion and is poorly related to the upper maxillary bone growth. Furthermore, it is hazardous to compare data obtained in rats and rabbits.

The paper of Harvold (1972) deals mainly with mandibular growth in a group of Rhesus monkeys and therefore his findings are not comparable with our ones.

Gross (1974) is the only researcher that employed rats as we did and therefore our and his results are comparable. He found a reduction of the overall transverse maxillary width in both monolaterally and bilaterally occluded rats without measuring the two hemifacial segments. We instead, considering the two hemifacial diameters, observed that if the diameter of the occluded side effectively underwent a reduction, the contralateral non occluded side underwent a sort of compensatory increase of the corresponding diameter. The whole resulted in Gross’s data in an overall reduction of the transversal maxillary diameter, while in our data the diameter resulted even increased if compared to controls.

The explanation to such findings could be that, while in humans, in which maxillary growth is predominantly in height, oral breathing and nasal obstruction cause an increase in maxillary length and probably a reduction of the overall transversal diameter, in rats, in which the maxillary growth is predominantly in length, oral breathing

and nasal obstruction may cause an opposite maxillary development.

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