Human temporomandibular joint morphogenesis

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SUMMARY

Temporomandibular joint morphogenesis was studied.
Ranging in age of fetuses examined was from 6 to14 weeks'gestation.

Our results showed the condyle so first element that appear between 6° and 8° week (condylar blastema). After a week appear temporal elements. Disk appear at the same time of glenoid blastema and it reaches an advanced differentation before of the condyle and temporal element, so these don't effect machanical compression on mesenchyma where we find the disk. So we think that the disk result of genetic expression and it isn't the result of mechanical compression. The inferior joint cavity appear to 12 week. The superior joint cavity appear to 13-14 week.

In conclusion, the appearance of the condyle is the first event during TMJ morphogenesis, with its initial bud, in form of a mesenchymal thickening, becoming detectable between the sixth and eight week of development, when all the large joints of the limbs are already well defined.

INTRODUCTION

The morphogenesis of the temporomandibular joint (TMJ) has been the subject of numerous studies, from the research by Kiellberg, in the beginning of the twentieth century, continued by Vinogradoff 1910, Harpmann (1938), Symons (1952), Moffett 1952-66 that were followed by studies by Furstman 1963, Youdelis 1966, Hamilton (1972), Couly (1979), Sarnat Lasckin (1979), and the more recent ones by Keith (1982), Wong (1985), Loreille (1988) and also some of our own (Valenza et al., 1993; Couley, 1979; Symons, 1952).

Although this considerable number of studies does indicate a persistent interest on this subject, probably motivated by the pursuit of a better understanding of the many functional disorders that affect TMJ during postnatal life that haven't