



Fig. 18. Mandibular joint (MJ) of a v.p.20 foetus. Appearance of upper and lower articular cavities (arrows) and the intervening fibrous disc indicates early morphogenesis of the MJ. Embryonic type condylar cartilage is hypertrophic, showing haphazard cellular organisation.

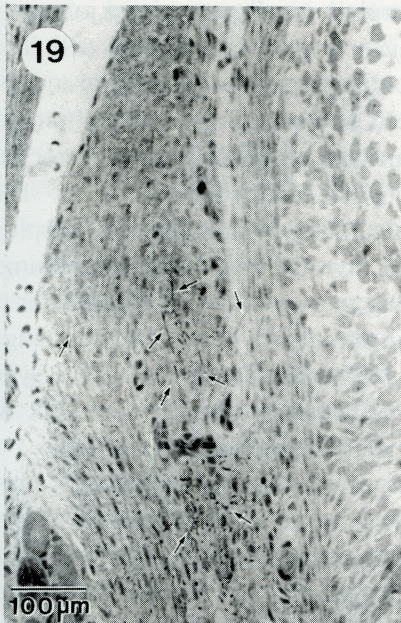


Fig. 19. The Mandibular joint (MJ) is morphologically completed during b.10-12.d. Many fine densely-stained fibers (arrows) are evident, particularly in the synovial osteochondral junction of the MJ.

lars came into occlusion during b.10-12.d and b.19-23.d, respectively. Concomitant light microscopy demonstrated full extension of joint cavities and the appearance of synovial villi, indicating the completion of the developing MJ at b.10-12.d. Light microscopy also revealed certain densely-stained fibers in the synovial osteochondral junction of the morphologically complete MJ (Fig. 19). Using transmission electron microscopy, osmiophilic fibers distributed between the abundant collagen fibers were identified as elaunin fibers containing numerous electron-dense microfibrils (Fig. 20). In the present study, age-related changes in the functional MJ of b.28.d mice were not observed.

Histological findings for the development of the IMJ, ISJ, SVJ and MJ are summarized in Table 1.

DISCUSSION

One study on the genesis of diarthroses has stressed that the mobility of joints is intimately associated with expansion of the synovial cavity, but has denied that embryonic movements occur while the future

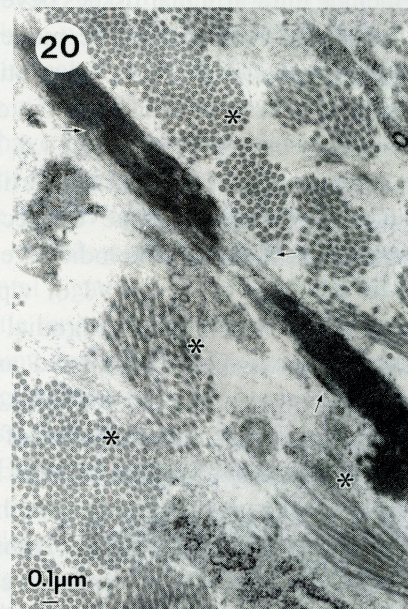


Fig. 20. Transmission electron microscopy showing many collagen fibers (asterisks) and elaunin fibers (arrows) in the Mandibular joint (MJ) subsynovial tissue of immature MJ in a b.28.d specimen.