

**PP-190****Stages of humerus development in rabbit embryos and neonates**Y.A. Ahmed¹, F.A. Khalil¹, **M. Abdelsabour-Khalf¹**, E.A. Abdel Rahim², S.A. Soliman¹, G.K. Ali¹¹ *Faculty of Veterinary Medicine, South Valley University, Qena, Egypt*² *Faculty of Medicine, South Valley University, Qena, Egypt*

Long bone development occurs through endochondral ossification, which is preceded by three major events; chondrogenesis, growth cartilage formation and replacement by bone. The aim of the current work was to describe the main histological stages in long bone development. Bone samples collected from rabbit embryos during prenatal (12, 14, 15, 16, 18, 21, 24, 27) and postnatal (3 and 7) development were processed for microscopical examination. Limb buds appeared at the 12th day. Cartilage perimordia was formed at the 14th day. At the 15th day of gestation, cartilage template was developed and acquired the shape and position of the future humerus. At the 16th day, chondrocytes were organized into 3 distinct zones; resting, proliferating and hypertrophic zones. Epiphyseal physeal growth cartilage (EPGC) elongated, chondrocytes became more organized and Bone collar was formed at the 18th day. At the 21st day was characterized by the onset of the vascular invasion, formation of the medullary cavity and separation of proximal and distal extremities. Cartilage canals appeared at 21- day and continue with progress of the age. Primary ossification centre (POC) was detected for first time at the 24th day and EPGC became well define and more organized. Secondary ossification centre (SOC) could be observed at the 3th day and 7th day postnatal. The current results should be considered in molecular studies of endochondral ossification.