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## **DEVELOPMENT OF HUMAN RIBS**

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**Relevance.** The ribs develop from the mesenchymal costal processes of the thoracic vertebrae. They become cartilaginous during the embryonic period and ossify during the fetal period. The original site of union of the costal processes with the vertebra is replaced by costovertebral joints these are the plane type of synovial joint. Accessory ribs, usually rudimentary, result from the development of the costal processes of cervical or lumbar vertebrae. These processes form ribs in the thoracic region, the most common type of accessory rib is a lumbar rib, but it usually cause no problems. Cervical ribs occur in 0.5 to 1% of people. A cervical rib is attached to the seventh cervical vertebra and may be unilateral or bilateral. Pressure of a cervical rib on the brachial plexus or the subclavian artery often produces symptoms.

**Aim:** to study the development and structure of ribs in relation to the adjusted anatomical structures.

**Materials and methods.** Material for the study included 32 human embryo in the gestational ages of 8 to 12 weeks of embryogenesis from "Minsk City Gynecology Hospital". The embryos are 8 - 12 weeks of age after fixation in 96% alcohol and dehydration in acetone was stained by Alcian Blue/Alizarin Red. Blue/Alizarin Red.

**Results and discussion.** The ribs develop as ventrolateral mesenchymal processes of sclerotomes. They develop from the mesenchyme of somites. These mesenchymal strands elongate and grow lateral and then ventral body wall in the chest. Conversion of the mesenchyme origins of ribs to the cartilage occurs first at dorsal end, spreading further in the ventral direction until all rib does not transformed in hyaline cartilage. At this time, the dorsal end of the rib is converted into the joint head of the rib, which by means of a primary joint connects to the vertebral body. The costal processes of the vertebral origins are formed not only in the thoracic region, but in the rest of the vertebrae, but in these places they are preserved in a rudimentary form, variously modified. Sometimes in the form of anomalies observed excess ribs in the cervical or in the lumbar regions.

### **Conclusions.**

1. The cartilaginous origin of the ribs are found throughout the vertebral column.
2. Further, a part of them are saved as separate anatomical structures (ribs), others are part of the transverse processes of the vertebrae.