

VARIANT ANATOMY OF TEMPOROMANDIBULAR JOINT MAJOR BONE STRUCTURES IN ADULT POPULATION

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INTRODUCTION

There is a lot of special emphasis placed currently on studying the morphological and functional features of the temporomandibular joint in normal and pathological conditions [1–3]. Basic data concerning the temporomandibular joint morphological structure and function can be obtained from works by many experts [4–6]. At the same time, there has been interrelation identified for occlusal, muscular and articular factors, joining in a single balanced mechanism, which, if disturbed, contributes to pathology development, including in the temporomandibular joint [7–12]. Therefore, awareness of the major dimensional features and the shape types of the basic bone structures appears relevant.

Aim of study

to identify the dimensional features and shape types of the basic bone structures in the temporomandibular joint in adults.

MATERIALS AND METHODS

The structural features of the temporomandibular joint major bone elements were studied on 103 adult skull preparations from the scientific craniological collection of the Human Anatomy Department, V.I. Razumovsky Saratov State Medical University. Measurements were made for the articular tubercle, the mandibular fossa and the mandible head.

RESULTS AND DISCUSSION

The inner-outer dimension of the articular tubercle (the distance from the inner to the outer poles) was

23.95±0.12 mm, while the antero-posterior size (the distance between the anterior and posterior sides) was 9.28±0.13 mm. The inner-outer size was 2.5 times that of the antero-posterior one.

The articular tubercle height was 10.31±0.15 mm. The height of the articular tubercle was 1.5 times the height of the postglenoid tubercle. The minimum height of the articular tubercle was 5.5 mm, the maximum height being 15.8 mm. Depending on the articular tubercle height, the following types of its shape were identified: flattened (up to 7 mm), moderately prominent (from 7 to 12 mm), prominent (more than 12 mm).

The moderately prominent type of the articular tubercle (9.92±0.10 mm), which accounted for 65.1% of the observations, was the most common. The prominent type of the articular tubercle (13.21±0.13 mm) was detected in 23.3% of the cases. Less common was the flattened type of the articular tubercle (6.56±0.08 mm), which accounted for 11.6% of the cases.

The inner-outer size of the mandibular fossa was 23.5±0.27 mm, while the antero-posterior was 14.24±0.11 mm. Depending on the mandibular fossa width in the anterior-posterior direction, the following shapes were identified — narrow (up to 12 mm), medium-width (from 12 to 15 mm), wide (more than 15 mm). The mandibular fossa depth reached 10.31±0.15 mm. Depending on the mandibular fossa depth, the following types of its shape were identified — shallow (up to 7 mm), medium-depth (from 7 to 12 mm), deep (more than 12 mm).

The inner-outer size of the mandible head was 20.50±0.45 mm, whereas the antero-posterior size was 9.51±0.11 mm. The inner-outer size was 2.1 times that of the antero-posterior. The minimum width of the mandible head in the antero-posterior direction was 5.3 mm, and the maximum — 14 mm.

Depending on the mandible head width in the antero-posterior direction, the following types of its shape were identified — small (up to 8 mm), medium-width (from 8 to 11 mm), large (more than 11 mm). The most common was the medium-width mandible head, which accounted for 66.1% of the cases. The small type of the mandible head was observed in

18.4% of the cases. Less frequent was a large mandible head, which was to be observed in 15.5% of the cases.

CONCLUSION

Given the above, the temporomandibular joint of an adult person features certain regularities in its structural elements shape and size, which may be different, while knowing these could allow more accurate pathology diagnostics, as well as planning and assessing the treatment effectiveness.

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